Lab Meeting 25 Overview:

The December 17th, 2020 Therapeutics Lab Meeting focused how COVID-19 has impacted treatment of substance use disorders (SUDs) and individuals experiencing SUDs. To begin the call, Dr. Amy Abernethy of the Food and Drug Administration (FDA) engaged Dr. Patrice Harris of the American Medical Association (AMA) Opioid Task Force in a conversation about realizations and changes made during the pandemic related to substance use, health equity, and access to treatment. Next, we heard from Jessica Hulsey of the Addiction Policy Forum about the work they are doing to understand how patients and caregivers are impacted by pandemic-related stressors. Finally, there were three quick presentations from Dr. Angela Huskey of Millennium Health, Dr. Efstathia Polychronopoulou of UTMB Health, and Dr. Danielle Schlosser of Verily Life Sciences focused on various efforts using data to understand how the pandemic is disrupting care and impacting those with substance use disorders.

COVID, Opioid Use and Health Disparities

*Please Note: These questions and answers have been paraphrased*

**Dr. Abernethy:** What are the changes you have seen as a result of COVID-19?

**Dr. Harris:** There are many issues surrounding opioid use and drug overdoses that pre-date COVID. We have seen COVID bring many issues into stark reality, such as health equity, our mental health and public health infrastructures, etc. COVID has certainly demonstrated that gaps and barriers that exist in services for those who have Substance Use Disorders (SUD). Additionally, COVID has brought barriers to care such as disruptions in services. Where there are disruptions there are also opportunities for adapting care, exploring different payment models, relaxing antiquated regulations, etc. to address inequities and improve care.

**Dr. Abernethy:** Have all communities been impacted the same by COVID, or does it look different across communities?
Dr. Harris: Yes. We have seen a disproportionate impact on communities of color, particularly those that become hospitalized with COVID. However, this is not because of race, rather because of racism and the lack of attention to all the structural and social determinants of health that have led us to where we are today. Pre-COVID, there is no difference in SUDs across racial & ethnic groups; however, there has been inequities across these groups regarding access to care.

Dr. Abernethy: What are some opportunities and solutions you have seen during COVID to advance the care of people with SUDs? And other examples you think we have learned in the context of the pandemic?

Dr. Harris: Telehealth, telephone, etc. have been helpful in midst of the pandemic, especially as CMS [Center for Medicare and Medicaid Services] relaxed regulations regarding the use of platforms such as Skype for care and ensured there was equity in payment for telehealth vs. in-person visits. Additionally, SAMHSA [Substance Abuse and Mental Health Services Administration] & DEA [Drug Enforcement Agency] relaxed regulations around take-home doses of buprenorphine and requirements for in-person prescribing of Medication-Assisted Treatment (MAT). At the state-level there have also been efforts during the pandemic to address barriers to SUD care. In Maine, they increased the limit on needle exchange programs from a 1-to-1 exchange which allowed individuals to get more clean syringes at one visit. These changes also aimed to reduce the risk of exposure to COVID by limiting the times individuals with SUD needed to leave home or use public transportation to get clean needles. While these changes have been positive, it is important to keep in mind those who lack access to technology, broadband, or cannot afford cellular data as these are barriers to things like telehealth. It is important to keep inclusivity and barriers in mind as we propose solutions. Going forward, it is important these changes continue to be informed and re-evaluated using data to ensure they are having the positive impact that was intended.

Dr. Abernethy: You hit on an important point about evidence-informed policy making. Are there some example datasets we should look towards, or example experiments we should contemplate as we think about the impact of the pandemic and impact of healthcare delivery flexibility seen during the pandemic?

Dr. Harris: We need to build a robust surveillance system to get real-time data. This will be essential for taking public health approach and looking upstream to addressing the overdose crisis, or really any public health emergency. We know we need to broaden our scope beyond opioids as we see more overdose deaths from illicitly manufactured opioids and synthetic fentanyl, cocaine, etc. We need a robust surveillance system to get real-time data on these issues so we can target interventions based on what we are observing in the data. We also need to have a more robust data infrastructure for race and ethnicity, zip-code level data, etc. that further helps us target our interventions.

Collision of SUD and COVID-19: Patient and Caregiver Perspectives
Jessica Hulsey, the Addiction Policy Forum

About the Addiction Policy Forum
• The Addiction Policy Forum is a patient advocacy group representing patients who have had or are experiencing any SUD, and their families.
• Large focus on patient led and involved research. Aiming to connect patients and families with researchers, collect data, end stigma, improve treatment, and translate science to get new developments to those who need it.

Survey: COVID-19 Pandemic Impact on Patients, Families and Individuals Recovering from Substance Use Disorders (SUDs)
• Those with SUDs are at higher risk of COVID infection and worse outcomes. This survey intended to tell a story about what is happening among patients, survivors, and families dealing with SUD during COVID (April to May 2020).
  o Survey Population: 1,079 individuals from 46 states who are in recovery (54%), a family member of someone with SUD (40%), in treatment (8%), or actively using (11%).
  o Most respondents (67%) reported polydrug use, meaning more than one substance of issue was reported.
    ▪ This survey takeaway was particularly important as there is a tendency to emphasize abuse of one substance. Rather, we should listen to what patients are struggling with and it is clear from this survey that one of those things is polysubstance use.
  o 1/3 reported changes or disruptions in their treatment and/or recovery services
    ▪ Some positives reported – telehealth, curbside pick-up Rx, take-home MAT prescriptions
      • Some negatives reported – unable to access syringes, lack of social connection in support groups, MAT disruption, feeling unsafe going to get care
  o Patient perspectives from the survey show that the pandemic has created more triggers for those with SUD or in recovery (i.e., isolation, stress, loneliness, lack of community connection).

Survey: Trust in Healthcare and COVID-19 Vaccine Readiness Among Individuals With SUD
• Patients with SUDs express hesitancy toward healthcare systems because they often experience stigma, even from providers. SUD patients also report some of the most positive experiences of healthcare systems.
• The goal of this survey was to understand vaccine hesitancy and perspectives of care during COVID-19.
  o Survey Population: Interviewed 87 Participants (all patients)
  o Willingness to Take a Vaccine for COVID-19
    ▪ 53% expressed some willingness, 45% saying yes right away, 8% said they would be willing to take it at a later date.
  o Trust in Doctors & Healthcare Providers & Sources of Information
    ▪ Pre-Pandemic 79% of respondents said they trust doctors, during pandemic only 52% reported trust in doctors.
    ▪ Participants reported they use doctors/providers (80%), family members (17%), and TV/newspapers (13%) as sources of information for health decisions.
Impact of COVID on SUD and Recovery

- 65% of respondents reported negative impact – relapse, increased triggers, overdose
- 20% respondents reported increased substance use since COVID began

Key Questions

- Understanding the effects of changes in treatments & services
- Effects of isolation and loneliness
- Addressing Stress, Anxiety & Boredom
- Clinician telehealth versus virtual recovery support
  
  - Important to remember telehealth and virtual recovery support are not the same thing. Online recovery support, peer engagement, etc. do not necessarily equate to the successes of telehealth (there is still isolation, boredom, lack of peer support/face-to-face interaction that remain challenges for those in recovery even with virtual care).

Increase of Substance Abuse Since COVID-19

Dr. Angela Huskey, Millennium Health

National Drug Use Trends – Millennium Health’s Emerging Threat Intelligence (ETI) Program

- ETI database – 15 million samples, 4 million patients, average of 41 years old, 55% female
  
  - Specimens tested come from clinical settings such as pain management clinics, SUD treatment programs, and primary care offices.
  
  - Reporting occurs in real-time and on an ongoing basis which allows reporting of aggregate drug use trends at the national, regional, state, and zip-code level ahead of other sources.

Signals Report COVID-19 Special Edition: Significant Changes in Drug Use During the Pandemic

- Nationally, unadjusted positivity rates increased during COVID-19 for all four drugs evaluated (cocaine, fentanyl, heroin, methamphetamine).

Analysis of Drug Test Results Before and After the U.S. Declaration of a National Emergency Concerning the COVID-19 Outbreak

- After the US National Emergency Declaration in March 2020, there was a steep increase in drug test positivity compared to the period before the pandemic.
  
  - 19% more likely to test positive for cocaine, 67% for fentanyl, 33% for heroin, 23% for methamphetamine.

Adjusted UDT (spell out?) Positivity Rates for 2013-2020

- Increases in rates of drug use during the pandemic have been maintained – specifically for fentanyl and methamphetamine.
- Rates of using heroin and cocaine have fallen below the rates seen prior to the pandemic.

Fentanyl Analog Positivity During COVID
• Shows that COVID’s effect on drug-use is not uniform – some drugs are used more through the pandemic (Fentanyl), others have been used less (Carfentanil).

**Adjusted Positivity Rates and Percent Change Non-Prescribed & Illicit Substance in Population Prescriber Methadone**

• Patients receiving MAT who tested negative for their prescribed methadone had a higher rate of positivity for 12 drugs compared to those who tested positive for their prescribed methadone.
• Fentanyl was also common in those who tested positive for their prescribed methadone.

**The Impact of Substance Use Disorder on COVID-19 Outcomes**

*Dr. Efstathia Polychronopoulou, UTMB Health*

**Background**

• Individuals with SUD could be at higher risk for COVID-19 complications.
  o SUD adversely impacts cardiovascular, respiratory, and immune system health.
  o Individuals with SUD are more likely to have poor access to health care.
  o COVID-19 linked to acute respiratory failure and cardiovascular manifestations.

**Study Objective:** Evaluate the impact of SUDs on the risk of hospitalization, mechanical ventilation, and mortality among adult patients with COVID-19.

• The study used aggregated EMR data from TriNetX and was conducted from the end of February 2020 to the end of June 2020 during the first wave of the pandemic in the US.
• **Cohort Definition:** US adults with a diagnosis or positive COVID-19 test before June 30, 2020 and at least one healthcare visit in the prior 12-months.
• Included alcohol, drug, and tobacco SUD diagnoses in the definition of SUD.
• Two propensity matched cohorts for SUD and Non-SUD COVID patients:
  o Age, Gender, Race/Ethnicity, Diabetes, Obesity → Cohort 1
  o “” + Hypertension, COPD, Cerebrovascular disease, Ischemic heart disease → Cohort 2
• **Results**
  o In the first cohort, a patient population with similar characteristics, substance use was a risk factor for all three observed outcomes (hospitalization, ventilation, and mortality).
  o In the second cohort, there was greater risk for hospitalization and ventilation among those with SUD. Risk for mortality was similar between the non-SUD and SUD groups.
• **Conclusions**
  o In COVID patients, SUD increases the risk of adverse outcomes.
  o After matching on cardiovascular and respiratory diseases, risks were attenuated, indicating likely mechanistic pathways.
  o Continued research is needed to inform clinicians and public health experts on delivery of care for this population.

**A tech-enabled recovery ecosystem**

*Dr. Danielle Schlosser, Verily Life Sciences*
• Creating a suite of patient, partner, and analytic products, focused on individuals with SUD, with the goal of improving patient outcomes.
• Verily works closely with OneFifteen, a tech-enabled system of care that offers SUD treatment, rehabilitative housing, and wrap-around services located in Dayton, OH, an area hit particularly hard by the opioid crisis.

COVID & Overdose Deaths in the US Relative to Montgomery County, OH
• In 2017 in the US, there were 70,000 overdose deaths, compared to 300,000 COVID deaths in 2020.
  o The number of COVID-19 deaths and overdose deaths during 2020 in Montgomery County, OH were almost exactly the same (306 vs. 301).
• There have been more accidental overdose deaths in Montgomery County, OH in 2020 than there were in 2019 and 2018.
• OneFifteen Program is seeing an uptick in patient volume and high demand throughout the pandemic.
• Demographics of patient population:
  o 33 y/o, Female, experiencing homelessness, 52% unemployed, most single – 71.3%
• About 50% of the population has an SUD related to alcohol or opioids.

Survival Curve - Staying in Treatment Program – All Patients
• The probability of patients being in treatment overtime decreases – after 30 days there is a 77% retention rate, after 60 days 67%, 90 days 58%, and 300 days 29%.
• Uninsured is strong indicator/predictor of patients leaving treatment program

Summary of Trends
• In the Midwest, the opioid epidemic appears to be trending toward a second wave.
• Demand for services is very high and placing demands on programs to adapt to COVID-19 to enable remote access to care.
• Drop out is influenced by insurance status, despite care teams working to establish coverage for patients. This reflects the dire need to address the social determinants of health for patients seeking care.
• Policy changes enabling virtual MAT and other behavioral health services are catalyzing adoption of telehealth. Examples include:
  o Removing geographic and originating site restrictions
  o Relaxing the 2008 Ryan White Act restrictions, which required in-person face-to-face visits to be prescribed MAT.