Emerging Perspectives in Addiction Psychiatry

Ayana Jordan, MD, PhD
Barbara Wilson Associate Professor of Psychiatry
Associate Professor, Dept of Population Health
New York University Grossman School of Medicine
Pillar Co-Lead, Institute for Excellence in Health Equity
New York University Langone Health
PI, Jordan Wellness Collaborative
Disclosures

- There are no conflicts of interest.
- I receive funding from the NIH (NIAAA, NIDA), SAMHSA, and FORE.
Learning Objectives

1. To understand the **three tenants** of Screening Brief Intervention and Referral to Treatment (SBIRT) in great detail

1. To review all the **FDA approved Medications for Addiction Treatment (MAT)** with a focus on Medications for Opioid Use Disorder (MOUD)

1. To provide an overview of at least **three psychedelics** being studied in research to **treat mental health illnesses**, including substance use disorders
Pretest Survey
Screening Brief Intervention and Referral to Treatment (SBIRT)

**SBIRT**: comprehensive, integrated, public health approach to the delivery of early intervention and treatment for persons with SUDs, and those at risk for developing these disorders
Screening Brief Intervention and Referral to Treatment (SBIRT)

- Able to **quickly assess** the severity of substance use and identify appropriate level of treatment
- Brief intervention **focuses on increasing insight and awareness** regarding substance use and **motivation** toward behavioral change
- Referral to treatment provides those identified as **needing more extensive treatment with access to specialty care**

Screening Brief Intervention and Referral to Treatment (SBIRT)

Screening
Normal routine in medical/community settings
IDs ppl with alcohol/other substance problems.
Interview or self-report.
Common Instruments: AUDIT, ASSIST, DAST

Brief Intervention
Moderate Risk:
Motivational discussion to raise individuals’ awareness of their substance use and consequences to motivate behavioral change.

Brief Treatment
Moderate to High Risk:
Motivational discussion and client empowerment + assessment, education, problem solving, coping mechanisms, and building a supportive social environment.

Referral to Treatment
Severe Use:
Referral to treatment provided. Proactive process to care for individuals more extensive treatment than SBIRT provides.

SBIRT, Columbia University Department of Psychiatry. Published November 5, 2020.
https://www.columbiapsychiatry.org/research/research-areas/substance-use-disorders/education/sbirt
SBIRT (Short Demonstration)

Link to Video: https://www.youtube.com/watch?v=g2v2sfwQ84
Screening Brief Intervention and Referral to Treatment (SBIRT)

Primary Care Centers  Hospitals  Other Community Settings

Provide excellent opportunities for early intervention with people at-risk to misuse substances and for intervention for persons with SUDs
Screening Brief Intervention and Referral to Treatment (SBIRT)

- **Cost-effective**
- Has shown positive outcomes
  - **Decrease** harmful alcohol use by 39% and lower illicit drug use by 68%
  - **Decrease** overall healthcare costs by reducing ED visits and inpatient admissions
  - **Increase** rates of employment and improve general health
- Late-stage intervention is expensive, and patients often develop comorbid health conditions


A Big Problem...

- 2 million people in the U.S. have opioid use disorder (OUD)
- Nearly 130 people die every day from an opioid overdose
- 80,411 deaths from an opioid overdose in 2021
...that’s **undertreated**

Methadone And Buprenorphine Are Associated With Reduced Mortality After Nonfatal Opioid Overdose

**RETRSEPECTIVE COHORT, MASSACHUSETTS PUBLIC HEALTH DATASET, 2012-2014**

17,568 opioid overdose survivors with ambulance or hospital encounter

Only 3 in 10 receive MOUD* over 12 months of follow-up

Mortality at 12 months: 4.7 deaths / 100 person-yrs

Association of MOUD* with mortality:
- Methadone: 53%
- Buprenorphine: 37%
- Naltrexone**: limited by small sample

*Meditation for Opioid Use Disorder


@DrAyanaJordan
Why is OUD undertreated?

<table>
<thead>
<tr>
<th>Patient Listed</th>
<th>Clinician Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stigma</td>
<td>Stigma</td>
</tr>
<tr>
<td>Lack of knowledge</td>
<td>Lack of knowledge</td>
</tr>
<tr>
<td>Cost</td>
<td>Time Constraints</td>
</tr>
</tbody>
</table>

Evidence Brief: Barriers and Facilitators to Use of Medication for Opioid Use Disorder,| Evidence Synthesis Program.  
### Medications for Addiction Treatment

<table>
<thead>
<tr>
<th>Opioid Use Disorder</th>
<th>Alcohol Use Disorder</th>
<th>Tobacco Use Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buprenorphine</td>
<td>Acamprosate</td>
<td>Bupropion</td>
</tr>
<tr>
<td>Methadone</td>
<td>Disulfiram</td>
<td>Nicotine Replacement Therapy</td>
</tr>
<tr>
<td>Naltrexone</td>
<td>Naltrexone</td>
<td>Varenicline</td>
</tr>
</tbody>
</table>

Naloxone is a full opioid antagonist used to reverse opioid overdose.
Pharmacology Overview

Agonist (Methadone)

Antagonist (Naltrexone, Naloxone)

Opioid effect

Respiratory depression

Withdrawal

Partial Agonist (Buprenorphine)

Dose of Opioid

@DrAyanaJordan
Benefits of Medications for OUD

- Mortality
- Risk of overdose
- Risk of injection-associated infectious diseases
- Criminal charges
- Opioid use
- Treatment retention
- Employment
- Family stability
- Pregnancy outcomes

“They started using again once they weaned off methadone. I guess they failed treatment!”

“When they came off the insulin, their sugars went back up, I guess we need to put them back on insulin.”
## Medications for Opioid Use Disorder

<table>
<thead>
<tr>
<th></th>
<th>Methadone</th>
<th>Buprenorphine + Naloxone</th>
<th>Buprenorphine</th>
<th>Injectable Buprenorphine</th>
<th>Implanted Buprenorphine</th>
<th>Naltrexone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mechanism of Action</strong></td>
<td>Full opioid agonist</td>
<td>Partial opioid agonist</td>
<td>Partial opioid agonist</td>
<td>Partial opioid agonist</td>
<td>Partial opioid agonist</td>
<td>Full opioid antagonist</td>
</tr>
<tr>
<td><strong>Doses</strong></td>
<td>Usual daily dosage: 80-120mg oral liquid daily</td>
<td>2-24mg daily sublingual tablet or film; or buccal film</td>
<td>2-24mg daily sublingual tablet or film; or buccal film</td>
<td>100-300mg subcutaneous injection monthly</td>
<td>Implant every 6 months</td>
<td>50mg oral tablet daily 380mg IM injection monthly</td>
</tr>
<tr>
<td><strong>Side Effects &amp; Relative Contraindications</strong></td>
<td>• Constipation</td>
<td>• Nausea</td>
<td>• Nausea</td>
<td>• Nausea</td>
<td>• Nausea</td>
<td>• Current opioid use</td>
</tr>
<tr>
<td></td>
<td>• Sedation</td>
<td>• Constipation</td>
<td>• Constipation</td>
<td>• Constipation</td>
<td>• Constipation</td>
<td>• Decompensated cirrhosis</td>
</tr>
<tr>
<td></td>
<td>• Diaphoresis</td>
<td>• Sedation</td>
<td>• Sedation</td>
<td>• Sedation</td>
<td>• Sedation</td>
<td>• Liver functions tests &gt;5 times the upper limit of normal</td>
</tr>
<tr>
<td></td>
<td>• Nausea/vomiting</td>
<td>• Precipitated withdrawal (if full agonist opioids present)</td>
<td>• Precipitated withdrawal (if full agonist opioids present)</td>
<td>• Precipitated withdrawal (if full agonist opioids present)</td>
<td>• Injection site pruritus</td>
<td>• Use with caution with compensated cirrhosis</td>
</tr>
<tr>
<td></td>
<td>• Prolonged QT and rarely torsades de pointes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Inadequate muscle mass for injectable formulation</td>
</tr>
<tr>
<td></td>
<td>• Respiratory depression and overdose especially if combined with other sedatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>Only available at federally regulated opioid treatment programs</td>
<td>Requires waiver to prescribe in office-based settings</td>
<td>Requires waiver to prescribe in office-based settings</td>
<td>Requires waiver to prescribe in office-based settings</td>
<td>Requires waiver to prescribe in office-based settings</td>
<td>Only extended- release formulation shown to improve treatment retention and decrease opioid use</td>
</tr>
</tbody>
</table>
Alcohol Use

- Morbidity: Increased risk of stroke, liver cirrhosis, alcoholic hepatitis, and cancer
- Decreased QOL:
  - Increase in motor vehicle crashes, falls, drownings, burns
  - Increase in violence: homicide, suicide, sexual assault
- Alcohol contributes to poisonings or overdoses from opioids
- 1-in-10 Americans over the age of 12 have AUD

# Medications for Alcohol Use Disorder

<table>
<thead>
<tr>
<th></th>
<th>Oral Naltrexone</th>
<th>Injectable Naltrexone</th>
<th>Acamprosate</th>
<th>Disulfiram</th>
<th>Topiramate</th>
<th>Gabapentin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mechanism of Action</strong></td>
<td>Antagonist at opiate receptors</td>
<td>Antagonist at opiate receptors</td>
<td>Unknown; modulates glutamate</td>
<td>Inhibits breakdown of acetaldehyde by inhibiting the enzyme, aldehyde dehydrogenase</td>
<td>Unknown, exerts action at GABA and glutamate receptors</td>
<td>Unknown, action at calcium channels indirect effects on GABA concentration</td>
</tr>
<tr>
<td><strong>Doses</strong></td>
<td>50mg, scored (i.e. cut in half) Take daily</td>
<td>380mg IM Every 4 weeks</td>
<td>333mg; Take two tablets 3 times a day</td>
<td>250mg (125mg-500mg) Take daily</td>
<td>200mg (up to 300mg)</td>
<td>300-600 mg Take in divided doses 2-3 times a day</td>
</tr>
<tr>
<td><strong>Side effects</strong></td>
<td>Nausea, Headache, Dizziness, Fatigue, Nervousness, Anxiety</td>
<td>Nausea, Headache, Dizziness, Fatigue, Nervousness, Anxiety, Pain at injection site</td>
<td>Diarrhea</td>
<td>Disulfiram-ethanol reaction, Rash, Drowsiness, Metallic taste, Liver toxicity</td>
<td>Sedation, Cognitive dysfunction, Dizziness, Paresthesia</td>
<td>Fatigue, Insomnia, Headache</td>
</tr>
<tr>
<td><strong>Relative contraindications</strong></td>
<td>Current opioid use, Acute hepatitis or liver failure</td>
<td>Current opioid use, Acute hepatitis or liver failure</td>
<td>Severe kidney disease (CrCl &lt; 30mL/min)</td>
<td>Psychosis or impaired cognition, Severe coronary artery disease</td>
<td>History of kidney stones, Risk of metabolic acidosis, Acute angle glaucoma</td>
<td>Potential for misuse and diversion, Dose adjusted in kidney disease</td>
</tr>
</tbody>
</table>
Tobacco Use

- **Cigarette smoking harms nearly every organ of the body**
  - Can cause cancer, heart disease, stroke, lung diseases, type 2 diabetes, rheumatoid arthritis
    - 80% to 90% of lung cancer deaths
    - Nearly 8 in 10 cases of COPD are caused by smoking
- **Affects the health of your teeth, gums, can cause tooth loss**
# Medications for Tobacco Use Disorder

<table>
<thead>
<tr>
<th></th>
<th>NRT patch</th>
<th>NRT gum</th>
<th>NRT lozenge</th>
<th>Bupropion</th>
<th>Varenicline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mechanism of Action</strong></td>
<td>Full agonist at nicotinic</td>
<td>Full agonist at nicotinic</td>
<td>Full agonist at nicotinic</td>
<td>Reuptake inhibitor at NE &amp; dopaminergic receptors, antagonist at nicotinic receptors</td>
<td>Partial agonist at nicotinic receptors</td>
</tr>
<tr>
<td></td>
<td>receptors</td>
<td>receptors</td>
<td>receptors</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Doses</strong></td>
<td>21mg, 14mg, 7mg</td>
<td>2mg and 4mg</td>
<td>2mg and 4mg</td>
<td>150mg daily for 3 days, then increase to 150mg bid</td>
<td>0.5mg day 1-3, 0.5mg bid day 4-7, then 1mg bid</td>
</tr>
<tr>
<td></td>
<td>&gt; 10 cigarettes daily: 21mg</td>
<td>1 piece Q1-2 hrs for 1st</td>
<td>1 lozenge Q1-2 hrs for 1st</td>
<td>Begin 1-2 wks before quit date</td>
<td>Begin 1 week before quit date</td>
</tr>
<tr>
<td></td>
<td>patch 4-6 wks then 14mg 2</td>
<td>6 wks, then 1 piece 2-4</td>
<td>6 wks, then 1 lozenge Q2-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>wks, then 7mg 2 wks</td>
<td>hrs for 3 wks, then 1</td>
<td>hrs for 3 wks, then 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; 10 cigarettes daily: 14mg</td>
<td>piece Q4-8hrs for 3 wks</td>
<td>piece Q4-8hrs for 3 wks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>for 6 wks, then 7mg for 2</td>
<td>“Park and chew” method</td>
<td>“Park and chew” method</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>wks</td>
<td>Max of 24 pieces/day</td>
<td>Max of 24 pieces/day</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Side effects</strong></td>
<td>• Local skin reaction</td>
<td>• Hiccups</td>
<td>• Nausea</td>
<td>• Insomnia</td>
<td>• Nausea</td>
</tr>
<tr>
<td></td>
<td>• Insomnia (can take off at</td>
<td>• Dyspepsia</td>
<td>• Hiccups</td>
<td>• Dry mouth</td>
<td>• Sleep disturbance</td>
</tr>
<tr>
<td></td>
<td>bedtime)</td>
<td>• Mouth soreness</td>
<td>• Heartburn</td>
<td>• Nervousness</td>
<td>• Headache</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Headache</td>
<td>• Nausea</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Seizures (risk is 0.1%)</td>
<td></td>
</tr>
<tr>
<td><strong>Relative contraindications</strong></td>
<td>• Severe eczema</td>
<td>• Should not eat or drink</td>
<td>• Should not eat or drink</td>
<td>• Seizure disorder</td>
<td>• Severe renal impairment</td>
</tr>
<tr>
<td></td>
<td>• Psoriasis</td>
<td>15 minutes prior to or</td>
<td>15 minutes prior to or</td>
<td>• Eating disorder</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>during use</td>
<td>during use</td>
<td>• Alcohol withdrawal</td>
<td></td>
</tr>
</tbody>
</table>
Psychedelics

Psychedelic drug helped people with alcohol use disorder reduce drinking, study shows
Psilocybin, the ingredient in magic mushrooms, along with talk therapy, showed significant benefit in the largest clinical trial of its kind.

Psychedelics could transform cigarette addiction treatment: ‘Metamorphosis’
By Adriana Diaz
February 27, 2023 | 5:14 pm | Updated

NIH invests $1.5M in psychedelics research for substance use disorders
Research teams can receive up to $700K for an initial two-year phase to develop their studies, followed by up to $500K per year for 3 more years of research
By Natalicio Saariva Canhil
Published May 11, 2023

@DrAyanaJordan
Psychedelic Treatments for Mental Health & Addiction

- Psychedelic-assisted treatments for mental health and substance use disorders
- Research has shown that:
  - **Psilocybin**: reduce sx of depression & anxiety
  - **Ayahuasca & LSD**: declines in self-reported use of alcohol, tobacco and cocaine, potential AUD treatment
  - **Ibogaine**: reduce opioid withdrawal symptoms
  - **Peyote**: potential AUD treatment

However, few people from REM backgrounds have benefitted from participation in psychedelic treatment research

- **lack** of cultural inclusivity and racial diversity
- **limited** participation in research trials
- **lack** of treatment access
- **stigmatization** of people with mental health disorders

**Concrete Examples of Decolonizing Psychedelic Medicine**

- Acknowledging the origins of psychedelic medicine and how these substances were initially used and are now being "borrowed" in Western medicine.

- Recruitment of women and racial and ethnic minoritized individuals in leadership positions and conferences related to psychedelic discovery.

- Investing in research community collaborations to ensure that racial and ethnic minoritized individuals are included in psychedelic studies and treatment options.

- Pairing minority participants with clinicians of the same ethno-racial background to improve the treatment process and recruitment efforts.

- Include people with lived experience in taking and administering psychedelics among racial and ethnic minoritized communities to ensure equitable participation.
## Acknowledgements

### NYU Langone Health
- Dr. Charles Marmar
- Dr. Don Goff
- Dr. Crystal Lewis
- Genesis Vicente
- Traci Norman
- Glenda Garcia
- Hira Hassan
- Anastasia Kagoro
- Ramzia Issa

| Kimberly Guy | Richard Youins |
| Dr. Christin Drake | Dr. Gordon Frankle |
| Dr. Gbenga Ogedegbe | Dr. Nadia Islam |
| Dr. John Rotrosen | Dr. Magdalena Cerda |
| Dr. Marc Gourevitch |
Audience Q&A
Posttest Survey
Thank You