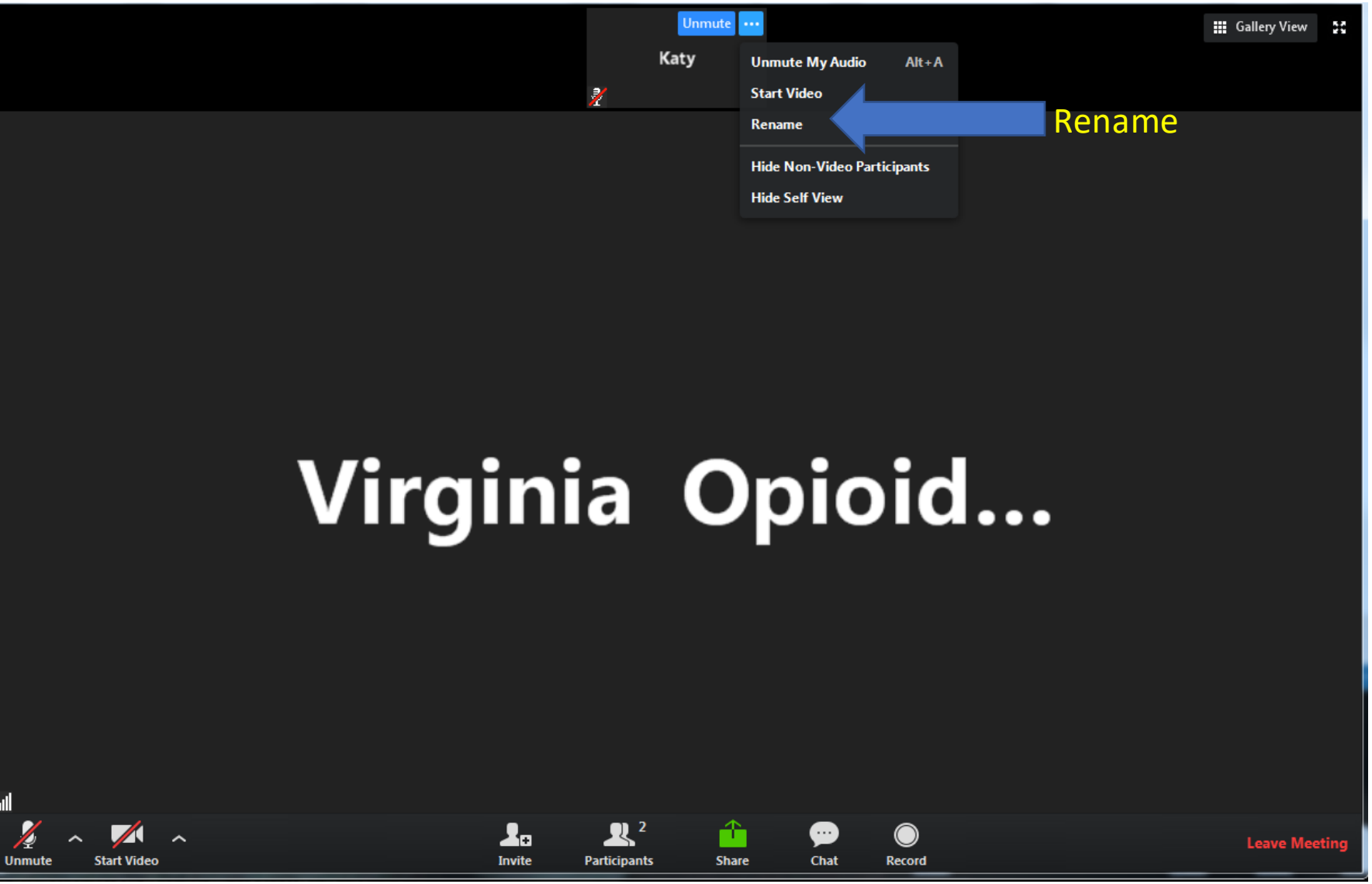
Virginia Opioid Addiction ECHO* Clinic

December 3, 2020

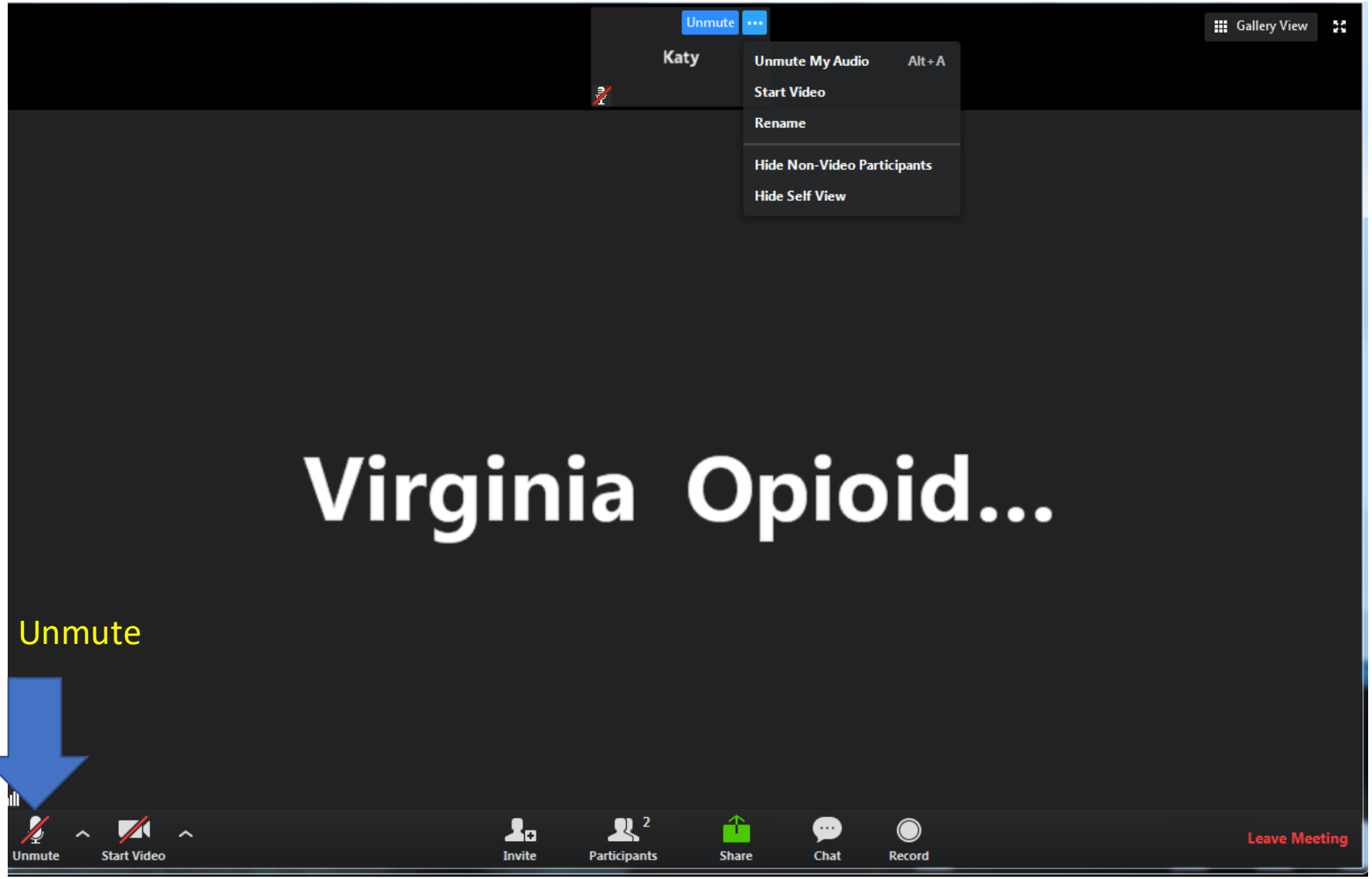
*ECHO: Extension of Community Healthcare Outcomes

Helpful Reminders



- Rename your Zoom screen, with your name and organization

Helpful Reminders



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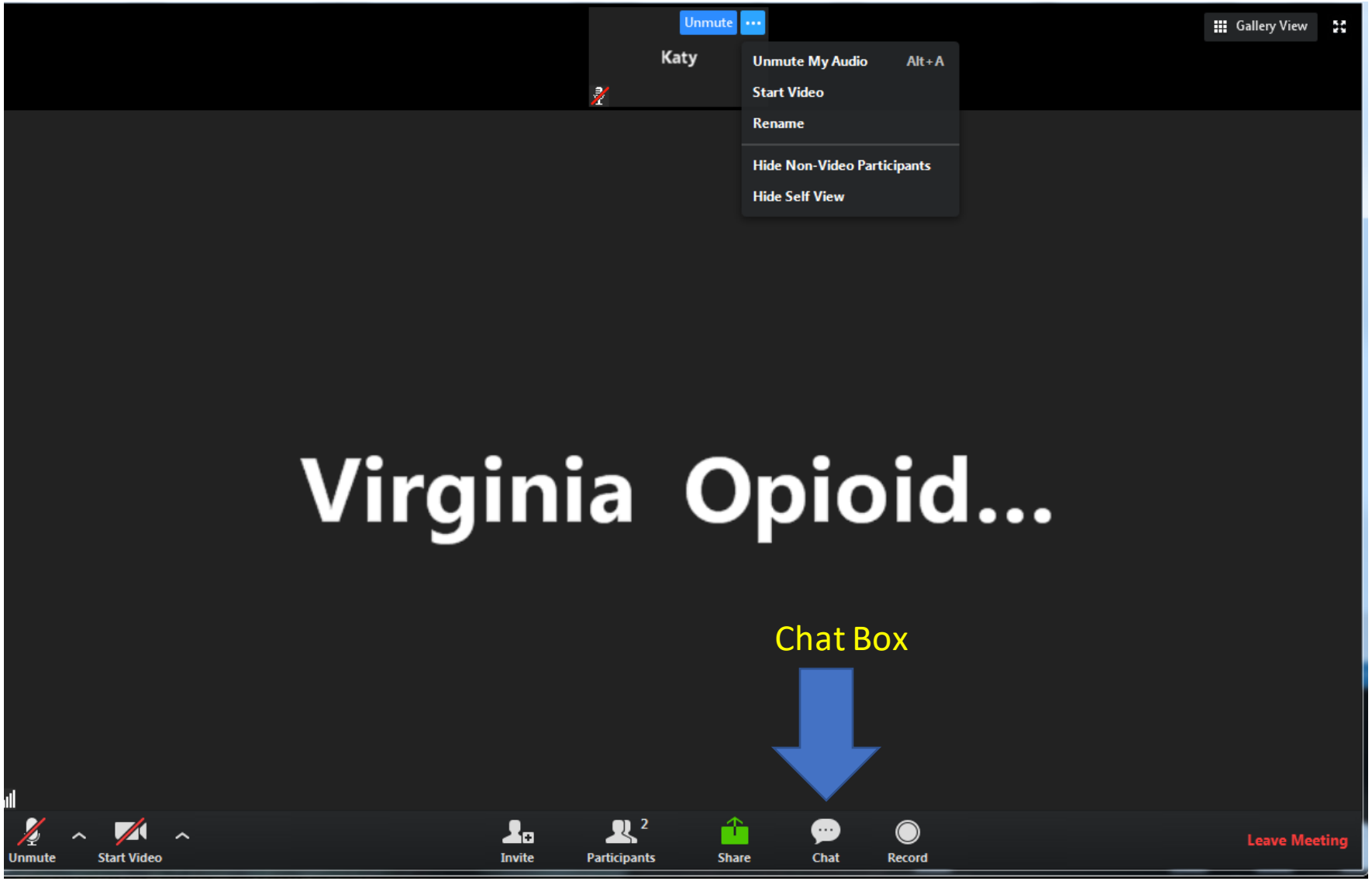
- If joining by telephone audio only, *6 to mute and unmute

Helpful Reminders



- Please type your full name and organization into the chat box
- Use the chat function to speak with IT or ask questions

VCU Opioid Addiction ECHO Clinics

VCU Health
VCU School of Medicine

VDH Virginia Department of Health | VDHLiveWell.com

Virginia Department of Behavioral Health & Developmental Services

- Bi-Weekly 1 hour tele-ECHO Clinics
- Every tele-ECHO clinic includes a 30 minute didactic presentation followed by case discussions
- Didactic presentations are developed and delivered by inter-professional experts
- Website Link: www.vcuhealth.org/echo

Hub and Participant Introductions

VCU Team	
Clinical Director	Gerard Moeller, MD
Administrative Medical Director ECHO Hub	Vimal Mishra, MD, MMCi
Clinical Experts	Lori Keyser-Marcus, PhD Courtney Holmes, PhD Albert Arias, MD Salim Zulfiqar, MD Megan Lemay, MD Katie Adams, PharmD
Didactic Presentation	Sandra Mullen, PharmD
Program Manager	Bhakti Dave, MPH
Acute Telehealth Manager	Tamera Barnes, MD
IT Support	Vladimir Lavrentyev, MBA

- Name
- Organization

Reminder: Mute and Unmute screen to talk

*6 for phone audio

Use chat function for Introduction

What to Expect

I. Didactic Presentation
   I. **Sandra Mullen, PharmD**
II. Case presentations
   I. Case 1
      I. Case summary
      II. Clarifying questions
      III. Recommendations

III. Closing and questions

Lets get started!

Didactic Presentation

Disclosures

Sandra Mullen, PharmD has no financial conflicts of interest to disclose.

There is no commercial or in-kind support for this activity.

ADHD with Co-Occurring Stimulant Use Disorder: Focus on the Evidence

Sandy Mullen, PharmD, BCPP
Clinical Pharmacy Specialist – Child and Adolescent Psychiatry
Virginia Commonwealth University (VCU) Health
Richmond, VA

Learning Objectives

1. Illustrate the neurobiological relationship between attention-deficit/hyperactivity disorder (ADHD) and stimulant use disorder (StUD).
2. Choose rating scales and assessment tools to support accurate monitoring of ADHD with StUD.
3. Construct pharmacotherapeutic regimens for ADHD in individuals with comorbid StUD.

ADHD DSM-5 Diagnostic Criteria

- Prevalence
  - Children and adolescents: 7-11%
  - Adults: 4-5%
  - With substance use disorder (SUD): 19-27%

- Diagnostic Criteria
  - Six (or more) symptoms of inattention or hyperactivity/impulsivity have persisted for a minimum of six months
    - For individuals 17 years or older, only 5 or more symptoms are necessary
  - Symptom onset should occur by age 12 years
  - Symptoms negatively effect social, academic and/or occupational functioning

ADHD: https://www.nimh.nih.gov/health/statistics/attention-deficithyperactivity-disorder-adhd. Accessed 8/23/21
World Psychiatry. 2003;2(2):104-13.
American Psychiatric Association 2013. *(DSM-5) Diagnostic and statistical manual of mental disorders*, 5th edition. Washington, DC: American Psychiatric Press, Inc.

Stimulant Formulations

Immediate-release (IR) formulations	Extended-release (ER, XR) formulations	Novel ER formulations
- Amphetamine sulfate - Dextroamphetamine (d-AMP) - Dexmethylphenidate (dex-MPH) - Methylphenidate (MPH) - Mixed amphetamine salts (AMP)	- MPH-ER - AMP-XR - d-AMP-XR - dex-MPH-XR - MPH-controlled delivery - MPH-long-acting - MPH-osmotic release oral system (OROS)	- AMP-XR orally disintegrating tablet (ODT) - AMP-XR suspension - Lisdexamfetamine - MPH-ER chewable - MPH-XR multilayered bead - MPH-XR ODT - MPH-ER-PM (bedtime) - MPH-XR suspension - MPH transdermal patch - Mixed salts of single entity amphetamine - Serdexmethylphenidate/dex-MPH

DailyMed at https://dailymed.nlm.nih.gov/dailymed/index.cfm

Non-stimulant ADHD Mediations

- Norepinephrine reuptake inhibitors

	Atomoxetine	Viloxazine
Age	≥ 6 years or older; adults	6-17 years of age
Dosage range	≤ 70 kg: 18-40 mg (max: 1.4 mg/kg/day) > 70 kg: 40-100 mg (max: 100 mg)	100-400 mg (max: 400 mg)
Onset	2-4 weeks	1 week
Time to peak	1-2 hours	5 hours
Duration	24 hours	24 hours
Metabolism	Oxidation via CYP450 2D6, glucuronidation	CYP450 2D6, UGT1A9, UGT2B15

- Alpha$_2$-agonists: clonidine extended-release, guanfacine extended-release
- Third-line option: bupropion, antidepressants, second generation antipsychotics

DailyMed at https://dailymed.nlm.nih.gov/dailymed/index.cfm

Assessment of CNS Stimulants 2013-2018

- US Medical Expenditure Panel Survey
- Five-year period of any person 19 years or older reporting any stimulant use
- Number of adults prescribed a medication increased: 2.3 to 4.1 million
- Overall exposure increased by 79.8%
- While 19-24 years had the highest utilization, 65-85 years had the largest increase by 167.7%
- Largest increase in exposure was in females: 1.3 to 1.8 million
- AMP prescriptions increased by 119.2% vs. 39.4% for MPH
- Limitations include self-report, survey, and possibly underestimation of stimulant exposure

BMJ Open. 2021;11:e048528.

Stimulant Use Disorder (StUD)

Substance Use Disorder (SUD) DSM-5 Criteria

- Recurring use of the substance with failure to complete school, home, or work obligations
- Inability to cut down or control use following one or more attempts
- Recurring substance use is associated with physically hazardous conditions
- Intense urge, desire, or craving for the substance
- Continued use of the stimulant despite negative impacts on interpersonal or social difficulties
- Tolerance occurring outside of medication supervision
- Withdrawal symptoms or need to use the same or another substance to alleviate withdrawal symptoms

American Psychiatric Association 2013. *(DSM-5) Diagnostic and statistical manual of mental disorders*, 5th edition. Washington, DC: American Psychiatric Press, Inc

2019 National Survey on Drug Use and Health (NSDUH)

Stimulant Use Disorders: 2015-2019

	Cocaine Use Disorder			Methamphetamine Use Disorder			Prescription Stimulant Use Disorder		
	Overall	2002	2019	Overall	2015	2019	Overall	2015	2019
12 or older	↓	0.6% (1.5 million)	0.4% (1 million)	↑	0.3% (684,000)	0.4% (1 million)	↔	0.2%	0.2% (558,000)
12-17	↓	0.4%	<0.05%	↔	0.1%	0.1%	↔	0.2%	0.3%
18-25	↓	1.2%	0.7%	↔	0.4%	0.4%	↔	0.5%	0.6%
26 or older	↓	0.6%	0.3%	↑	0.3% (539,000)	0.4% (904,000)	↔	0.1%	0.1%

National Survey on Drug Use and Health. 2019.

Relationship between ADHD and SUD

- Chance alone vs. bidirectional
- Shared genetic underpinnings, neurobiological substrates, and risk factors
- Different aspects of the same overarching disease state
- Hypotheses
  - Sensation-seeking – behaviors and traits
  - Sensitization – early stimulant exposure
  - Relief craving – dopamine dysregulation
  - Self-medication

Br J Clin Pharmacol. 2012;77:2:337-56.
JAMA Psychiatry. 2015;72(6):593-602

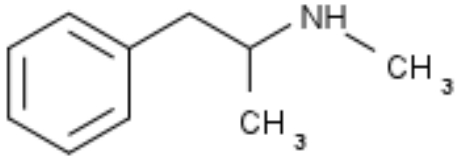
Shared Symptoms

Affect lability	Distractibility	Executive function deficits	Hyperverbal
Impulsivity	Inattention	Irritability	Restlessness/ psychomotor agitation

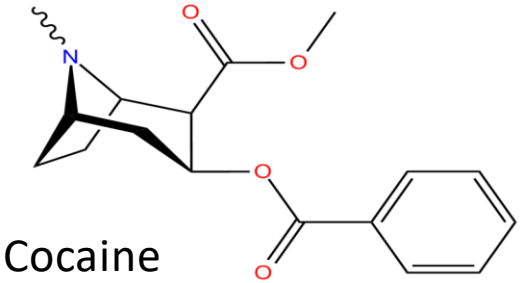
J Atten Disord. 2012;16(5 Suppl):3S-19S.
Postgrad Med. 2014;126(5):42-51

Methamphetamine vs. Cocaine vs. Prescription Stimulants

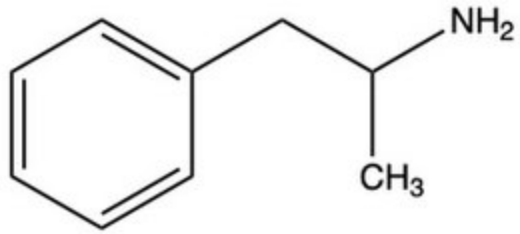
	Methamphetamine	Cocaine	Prescription Stimulants
Uses	ADHD, narcolepsy	Local anesthetic in some procedures	ADHD, narcolepsy, binge eating disorder
Duration	Longer duration	Shorter duration when smoked	Variable
Potency	Increased, highly addictive	Varies based on formulation	C-IIs → High potential for misuse
Half-life	12-24 hours	1 hour	Varies based on formulation
MOA	Blocks dopamine (DA) reuptake and increases DA, norepinephrine (NE), and serotonin (5-HT) release into the synapse	Blocks DA, NE, 5-HT reuptake Blocks sodium channels Excitatory amino acid stimulation	MPH: selectively inhibits DA and norepinephrine (NE) reuptake AMP: increases DA and NE in the synapse



Methamphetamine



Cocaine



Amphetamine

Adapted from: Public Meeting on Patient-Focused Drug Development for Stimulant Use Disorder. FDA. 2020.
Child Adolesc Psychaitric Clin N Am. 2016;25(3):461-47.

Risk Factors of StUD

- History of psychiatric disorder
- History of engaging in risky behaviors
- Lifestyle
- Unstable home environment
- Childhood trauma
- Misuse of other drugs
- Sex at birth

- Versus parental monitoring = protective factor

Child Adolesc Psychiatr Clin N Am. 2016;25(3):461-71.
BMC Pediatr. 2008;8:48

Diagnosis

Differential Diagnosis

- No specific treatment guidelines
- Assess ADHD before StUD
  - A period of abstinence or when symptoms have sufficiently stabilized is suggested
  - Structured interviews
  - Rating scales
- Detailed psychiatric history
- Thorough substance use history
- Physical exam/complete medical history
- Neuropsychological assessment, if necessary

Br J Clin Pharmacol. 2012;77(2):337-56.
Front Psychiatry. 2021;11:540837.ecollection
Eur Addict Res. 2020;26(4-5)223-32.

Measures for ADHD

Pediatric ADHD	- ADHD rating Scale-5 (clinician) - Conner's Rating Scale-3 (parent, teacher, adolescent versions) - Vanderbilt Assessment Scales (parent, teacher versions)
Adult ADHD	- Adult ADHD Self Report Scale (ASRS) - Conner's Adult ADHD Rating Scale - Wender-Utah Rating Scale - Adult ADHD Investigator Symptom Rating Scale
SAMHSA Advisory Screening Recommendations	- ASRS – screening tool; better for ADHD diagnosis - Wender-Utah Rating Scale – More sensitive to cocaine dependence than ASRS

Substance Abuse and Mental Health services Administration (SAMHSA) SAMHSA Advisory

Measures for SUD

Rating Scale	Description
Addiction Severity Index	Screens for the severity of use based on the patient's behavior and environment in the following areas: medical status, employment and support, drug use, alcohol use, legal status, family/social status, psychiatric status
Cocaine Selective Severity Assessment	Assesses signs and symptoms of cocaine abstinence
Severity of Dependence Scale	Assesses degree of psychological dependence across substance classes
Brief Substance Craving Scale	Assesses cravings for cocaine and other drugs of use/misuse
Brief Addiction Monitor-Revised	Assesses risk factors for substance use, protective factors that support sobriety, and drug and alcohol use Monitors progress and aids with treatment planning

J Subst Abuse Treat. 2020;118:108120epub
National Institute on Drug Abuse. Home | Data Share 2.0 (nih.gov)

SUD & StUD Treatment Options

- Behavioral Interventions
  - 12-step program and peer support groups
  - Acupuncture
  - Cognitive behavioral therapy
  - Contingency management
  - Individual and family therapy
  - Motivational Interviewing
- Pharmacotherapy
  - Anticonvulsants
  - Antidepressants
  - Antipsychotics
  - Disulfiram
  - Dopamine agonists
  - N-acetylcysteine
  - Opioid agonists
  - Stimulants/ADHD medications
  - Vaccines

PLoSONE. 2020;15(6):e0234809.
Substance Abuse and Mental Health Services Administration. Treatment of Stimulant Use Disorders. 2020.

Contingency Management and StUD

- Contingency management plus community reinforcement only intervention to consistently achieve acute abstinence
- Compared to treatment as usual
  - Abstinence was achieved at 12 weeks
  - Maintained through the end of treatment
- At long-term follow-up, the combination was more effective than treatment as usual, 12-step programs, non-contingent rewards, and supportive therapy
- Additive effect may occur when combined with pharmacotherapy or other non-pharmacologic treatment options

PLoS Med. 2018;15(12):e1002715.
PLoS ONE. 2020;15(6):e0234809.

Evidence-Based Medicine

Challenges to Medication Treatment

- When to initiate treatment?
  - ADHD treatment can help control StUD disorder
  - Diagnostic uncertainty
- Concern about misuse and diversion
  - Potential for misuse liability is low with extended-release formulations
- Unanswered questions of clinical trials
  - Population to enroll
  - How to measure treatment response
  - Study design
- Patient and caregiver perspectives may influence treatment decisions

Br J Clin Pharmacol. 2012;77(2):337-56.
Public Meeting on Patient-Focused Drug Development for Stimulant Use Disorder. FDA. 2020.

Pharmacotherapy for ADHD with StUD

- Reduce ADHD symptom burden
- Increase retention rates in substance use disorder treatment programs
- Improve functional outcomes
- Variable efficacy
- May require higher doses of stimulants

J Clin Psychiatry. 2021:82(2):29-35.

National Institute on Drug Abuse (NIDA) Clinical Trials Network

- 16-week, randomized trial of 303 adolescents with ADHD and non-nicotine SUD treated with MPH-OROS or placebo plus CBT
- Excluded – previous methamphetamine use or dependence
- Abstinence not required for participation; 70% reported current use
- No significant differences between groups for the reduction of ADHD symptoms or number of reported days of substance use
- Significant differences between groups for number of drug-free urine screens and parent-rated ADHD symptoms
- CBT and placebo effects may have impacted results

J Am Acad Child Adolesc Psychiatry. 2011;50(9):903-14.

Methylphenidate and Cocaine Use Disorders

MPH-IR	MPH-SR, Bupropion-SR	MPH-SR	MPH-SR
Cocaine dependence	Methadone maintenance	Cocaine use disorder	Cocaine dependence
12-wk, DB, PC + CBT	12, DB, PC + wkly CBT	2 phase study	14 wk, DB, PC + wkly CBT
Improvement in ADHD symptoms - No change on self-report - Improvement on clinician assessment	ADHD symptoms improved in Tx groups (no difference b/n groups)	ADHD sx worse in cocaine users with ADHD than without ADHD	ADHD sx improved in MPH-SR and PBO groups
No difference in cocaine use	No worsening of cocaine use	MPH-SR decreased positive subjective effects of cocaine	Decrease in positive urines and reduced cocaine use in MPH-SR group
MPH-IR safe with comorbid ADHD and cocaine use disorder	No advantage of MPH-SR over bupropion-SR. Both better than PBO	MPH-SR sage to use in cocaine use disorder with ADHD	Limited advantage of MPH-SR over cocaine

Exp Clin Psychopharmacol. 2002;10(3):286-94
Drug Alcohol Depend. 2006;82(2):158-67.
Drug Alcohol Depend. 2006;81(2):137-48.
Drug Alcohol depend. 2007;87(1):20-9.

MPH-OROS for ADHD in AMP Use Disorder

- 13-week, double-blind, placebo-controlled, parallel-group, randomized trial
- MPH-OROS vs. placebo in 24 patients
  - ADHD diagnosis
  - Abstinent of amphetamine use for 4 weeks (history of amphetamine dependence)
- No difference in reduction of ADHD symptoms in either group
- No significant difference in AMP use, cravings, or time to relapse or retention
- Side effects: headache and nausea
- Limitations: included exclusion of current or past use of any substance and requirement to remain abstinent for 4 weeks prior to study inclusion
- Conclusion: MPH-OROS well tolerated but limited benefit

Drug Alcohol Depend. 2010;108(1-2):130-3.

AMP-XR for Comorbid ADHD and Cocaine Use Disorder

- 13-week, randomized, double-blind, placebo-controlled trial of AMP-XR vs. PBO plus weekly CBT
- All ADHD measures had greater improvement in the active treatment groups
- The greatest reduction in cocaine positive weeks was seen in the AMP-XR 80 mg group. The AMP-XR 60 mg group was also significant compared to placebo
- Abstinence in the last 3 weeks was no different between the 80 and 60 mg groups
- Side effects: insomnia, anxiety, and dry mouth
- Conclusion: AMP-XR increased abstinence and improved ADHD symptoms

JAMA Psychiatry. 2015;72(6):593-602.

Secondary Analysis Focused on Temporal Relationship

- Measured bi-weekly ADHD improvement and weekly cocaine use abstinence during weeks 2-6
- ADHD improved first for 24% (n=30) of subjects before cocaine
- Cocaine abstinence was achieved first in 12% (n=5) of subjects before ADHD improvement
- Only 6% (n=8) of subjects achieved ADHD symptom control and cocaine abstinence at the same time
- ADHD improvement without cocaine abstinence occurred for 34% (n=43) of subjects
- Achieved cocaine abstinence but not ADHD symptom control in 6% (n=7) of subjects
- Limitation: observational study
- Conclusion: ADHD symptom resolution often precedes cocaine abstinence

Drug Alcohol Depend. 2018;188:135-40.

Atomoxetine for Cocaine Use and Adult ADHD

- 12-week, open-label trial atomoxetine with CBT
- Twenty subjects (n=19 male) with persistent ADHD and cocaine dependence
- Reduction of 30% on ARAS for 50% of subjects
- Cocaine use decreased over time; effects not statistically significant
- Side effects: nausea, mild headache, and mild dizziness
- Limitation: significant ADHD symptoms still present at study end, small sample size, high drop-out rate
- Conclusion: atomoxetine decreased ADHD in subjects with cocaine use disorder but did not impact cocaine use

ARAS = Adult ADHD Self Report Scale

J Dual Diagn. 2009;5(1):41-56.

Current Evidence Summary

- ADHD medications may improve ADHD symptoms but appear to be less effective for comorbid ADHD and StUD
- MPH appears to be less efficacious with comorbid StUD
- ADHD medications do not appear to exacerbate StUD, but limited impact on comorbid StUD
- ADHD medications produce a strong placebo effect on ADHD symptoms in the setting of comorbid StUD
- Psychosocial interventions may aid in the management of the StUD
- Misuse liability
- Generalizability of current research is difficult

Br J Clin Pharmacol. 2014;77(2):337-56.

Case

- A 22-year-old with a 15-year history of ADHD, combined presentation is seeking treatment of cocaine use disorder
- Uses crack cocaine daily despite multiple treatment programs including recent discharge after 6 months from an inpatient rehabilitation facility. Relapsed about 2 weeks ago.
- During middle school and high school, stimulant medications were prescribed. Denies any form of misuse of prescribed medications at that time. Last medication trial was mixed amphetamine salts extended-release 30 mg daily.
- No ADHD medication after graduation because did not follow-up with provider
- Current urine drug screen positive for cocaine and negative for all other substances
- Reports using cocaine to help with “focus”, not to get high

Case

- Started on lisdexamfetamine 30 mg daily
- Titrated to 60 mg daily during follow-up visits
- Consistently negative urine drug screens for cocaine, positive for amphetamine
- Does not ask for early refills
- Denies misusing prescription stimulant medication
- Denies any adverse effects or positive subjective effects
- Plan to continue medication at current dose and monitor urine drug screens

Summary

- Several hypotheses exist for the relationship of ADHD and StUD; however, the under function of dopamine is most understood
- Diagnosis should be based on individual assessment of each disease state
  - Clinician, parent, teacher, self-reported ADHD rating scales
  - Thorough diagnostic interview and history for stimulant use disorders
- Stimulant medications are recommended for comorbid ADHD and StUD
  - Earlier intervention may decrease development of SUD in adolescents and adulthood
  - Conflicting evidence exists for the effect on abstinence rates

Questions?

Thank you for attending!

ADHD with Co-Occurring Stimulant Use Disorder: Focus on the Evidence

Sandy Mullen, PharmD, BCPP
Clinical Pharmacy Specialist – Child and Adolescent Psychiatry
Virginia Commonwealth University (VCU) Health
Richmond, VA

Case Presentation #1
Shokoufeh Dianat, DO

- 12:35-12:55 [20 min]
  - 5 min: Presentation
  - 2 min: Clarifying questions- Spokes
  - 2 min: Clarifying questions – Hub
  - 2 min: Recommendations – Spokes
  - 2 min: Recommendations – Hub
  - 5 min: Summary - Hub

Reminder: Mute and Unmute to talk
*6 for phone audio
Use chat function for questions

Main Question

Selecting anxiety and PTSD treatment meds for 34 y.o. who has been self-treating w/ alcohol and has alcohol use disorder.

Demographic Information

Cis woman in her 30s, currently unemployed, recently lost employment (and lost insurance with it), was working at a bar. Is in a safe relationship with a supportive boyfriend. Lives in Hampton Roads area.

Physical, Behavioral, Mental Health Background

Long-standing anxiety symptoms (reports from age 3) and panic attacks, and multiple traumatic incidents in life (sexual assault, death of a parent) that have resulted in PTSD and PTSD-related insomnia (nightmares, hypervigilance when trying to fall asleep). Screens negative for mania or past manic episodes.

Started going to counseling when she was 12 y.o., was diagnosed at the time w/ ADHD and depression. At some point took sertraline for 5 years, thinks it made her anxiety worse, did not help. Got a rash with lamotrigine. Was prescribed clonazepam at some point, currently taking her sister's xanax (did not get specifics on dose).

Drinks 10, sometimes more, drinks per day. Feels like it is ruining her life. Would like to at least reduce the volume of alcohol. She has a therapist she sees who has encouraged her to initiate meds to help her reduce alcohol use. Pt has detoxed twice in inpatient setting, once stayed sober with AA for 9 months. Has not been sober in 2 years. Of note, mother has alcohol use disorder, sober x 12 years.

Patient has had passing suicidal ideation in the last 2 weeks, no intent or plan. Was hospitalized for a suicide attempt at age 15.

Past Interventions

Pt was going on a pre-planned vacation for 9 days, leaving on a trip with her boyfriend the next day.
We ordered labs, started clonidine 0.1 mg nightly, and planned to follow up with a treatment plan recommendation after her trip. We checked a CMP and TSH, which were notable for ALT 293, AST 462, normal renal function, normal TSH.

With her recent loss of employment and insurance, I encouraged her to sign up for Medicaid before leaving for her trip.

Future Treatment/ Patient Goals

Pt's treatment goal is to help control her anxiety and at least reduce her alcohol use.

Reminder: Main Question

Selecting anxiety and PTSD treatment meds for 34 y.o. who has been self-treating w/ alcohol and has alcohol use disorder.

Case Studies

- Case studies
  - Submit: www.vcuhealth.org/echo
  - Receive feedback from participants and content experts
  - Earn **$100** for presenting

The success of our telehealth program depends on our participants and those who submit case studies to be discussed during clinics. We recognize the following providers for their contributions:

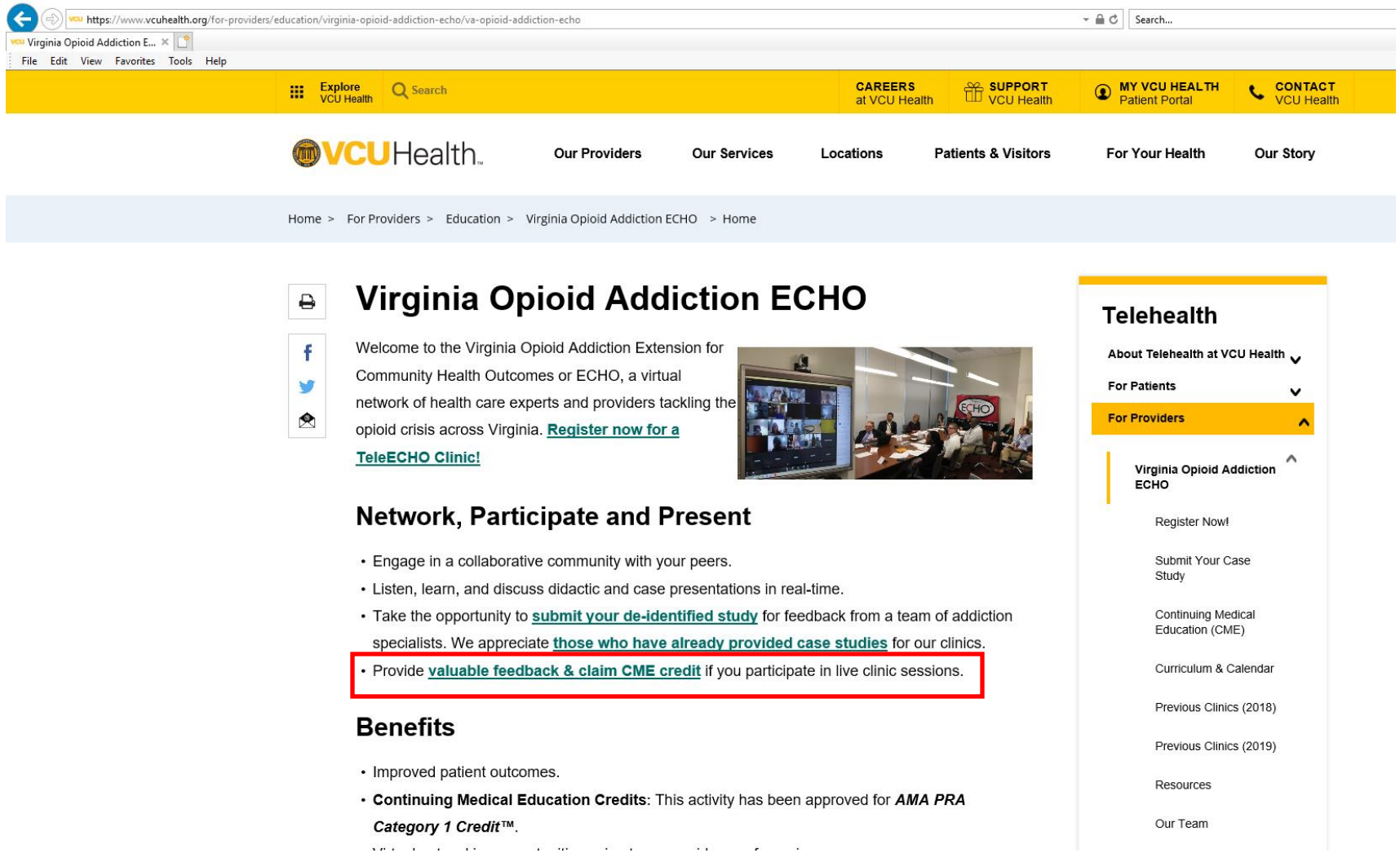
- **Ademola Adetunji, NP** from Fairfax County CSB
- **Tara Belfast-Hurd, MBA-PA** from Department of Behavioral Health and Developmental Services
- **Michael Bohan, MD** from Meridian Psychotherapy
- **Ramona Boyd, NP** from Health Wagon
- **Diane Boyer, DNP** from Region Ten CSB
- **Melissa Bradner, MD** from VCU Health
- **Kayla Brandt, B.S.** from Crossroads Community Service Board
- **Candace Fletcher, PharmD Candidate** from Hopkins Medical Association
- **Susan Cecere, LPN** from Hampton Newport News
- **Kimberly Dexter, DNP** from Hampton Newport News CSB
- **Candace Fletcher, PharmD** from Hopkins Medical Association
- **Michael Fox, DO** from VCU Health
- **Shannon Garrett, FNP** from West Grace Health Center
- **LaShawna Giles, MSW** from Hampton Newport News CSB
- **Sharon Hardy, BSW, CSAC** from Hampton-Newport News CSB
- **Kara Howard, NP** from Southwest Montana Community Health Center
- **Sunny Kim, NP** from VCU Health
- **Heidi Kulberg, MD** from Meridian Health
- **Thokozeni Lipato, MD** from VCU Health
- **Caitlin Martin, MD** from VCU Health
- **Jennifer Melilo, FNP** from Chesapeake Integrated Behavioral Health
- **Dawn Merritt, QMHP** from Eastern Shore CSB
- **Maureen Murphy-Ryan, MD** from AppleGate Recovery
- **Faisal Mohsin, MD** from Hampton-Newport News CSB
- **Jeromy Mullins, PharmD Candidate** from Hopkins Medical Association
- **Stephanie Osler, LCSW** from Children's Hospital of the King's Daughters
- **Davina Pavie, QMHP** from Hanover County CSB
- **Winona Pearson, LMSW** from Middle Peninsula Northern Neck CSB
- **Jennifer Phelps, BS, LPN** from Horizons Behavioral Health
- **Crystal Phillips, PharmD** from Appalachian College of Pharmacy
- **Jashanda Poe, MA** from Rappahannock Area CSB
- **Tierra Ruffin, LPC** from Hampton-Newport News CSB
- **Manhal Saleeby, MD** from VCU Health Community Memorial Hospital
- **Jenny Sear-Cockram, NP** from Chesterfield County Mental Health Support Services
- **Elizabeth Signorelli-Moore, LPC** from Region 1 CSB
- **Amber Sission, QMHP** from Eastern Shore CSB
- **Daniel Spencer, MD** from Children's Hospital of the King's Daughters
- **Linda Southall, QMHP** from Alleghany Highlands CSB
- **Cynthia Straub, FNP-C, ACHPN** from Memorial Regional Medical Center
- **Saba Suhail, MD** from Ballad Health
- **Michelle Tanner, LPC** from Hanover County CSB
- **Barbara Trandel, MD** from Colonial Behavioral Health
- **Bill Trost, MD** from Danville-Pittsylvania Community Service
- **Art Van Zee, MD** from Stone Mountain Health Services
- **Ashley Wilson, MD** from VCU Health
- **Sarah Woodhouse, MD** from Chesterfield Mental Health
- **Susan Mayorga, BA, CBIS** from Community Health Center of the New River Valley
- **Jordan Siebert, Peer Recovery Specialist** from Daily Planet Health Services

Claim Your CME and Provide Feedback

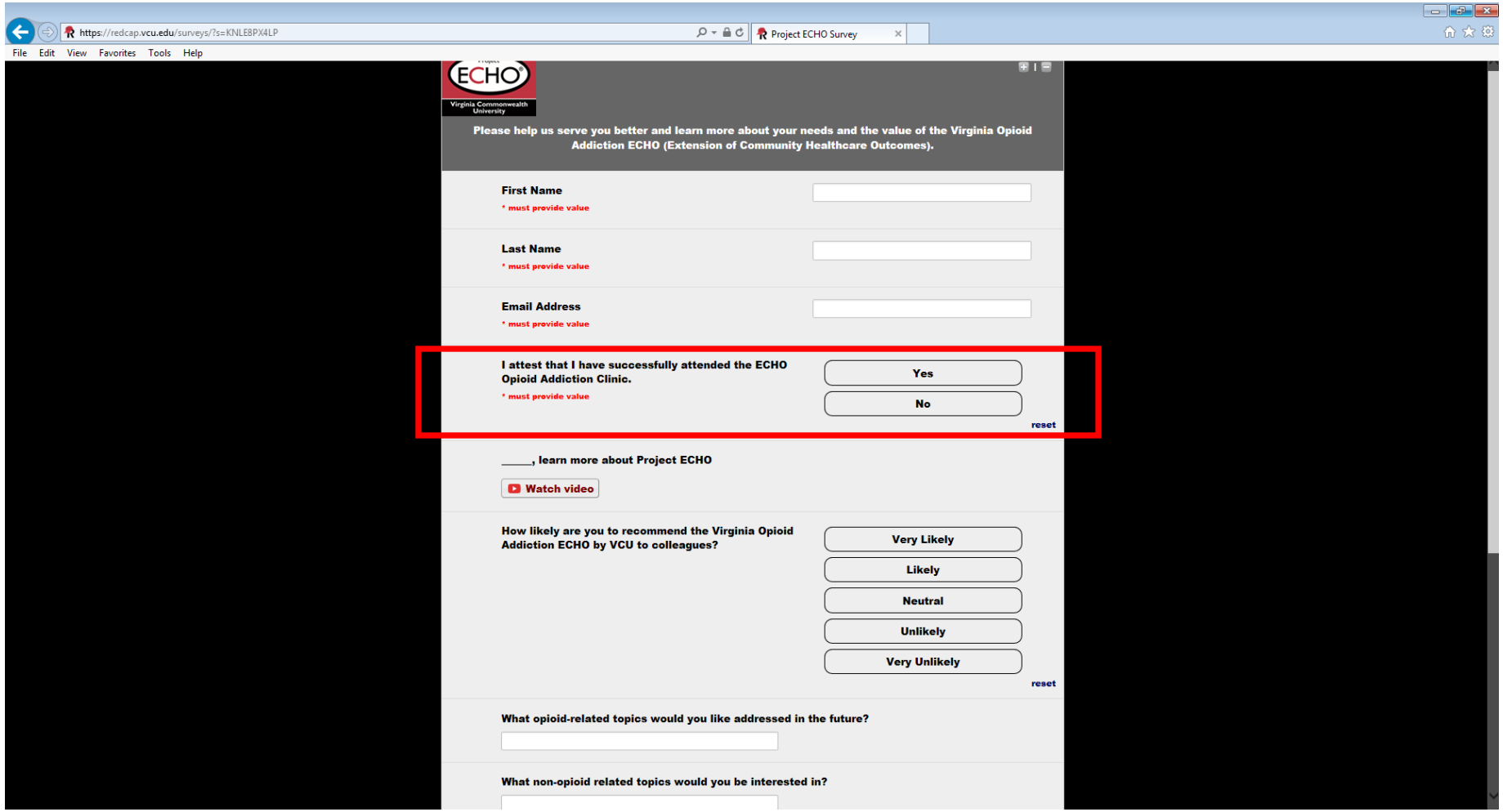
- www.vcuhealth.org/echo

- To claim CME credit for today's session
- Feedback
  - Overall feedback related to session content and flow?
  - Ideas for guest speakers?

Access Your Evaluation and Claim Your CME



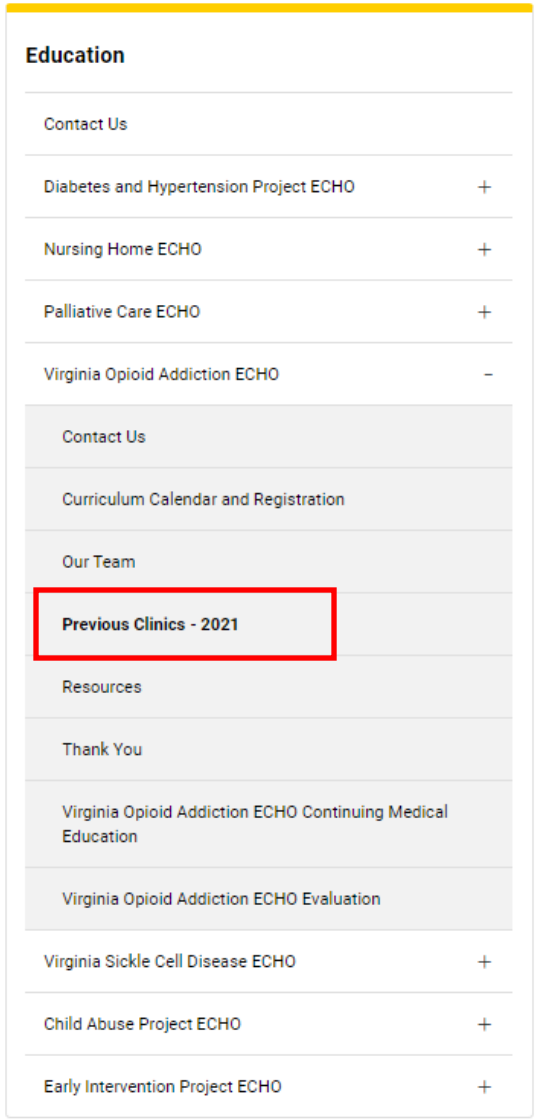
Access Your Evaluation and Claim Your CME



Access Your Evaluation and Claim Your CME

- www.vcuhealth.org/echo
  - To view previously recorded clinics and claim credit

Access Your Evaluation and Claim Your CME



Previous Clinics - 2021

Review topics we covered in previous Virginia Opioid Addiction ECHO clinics.

January 15, Buprenorphine Taper
Presented by Masaru Nishiaoki, MD

- View Presentation
- View Video

January 29, Panel Discussion: COVID and Chronic Conditions
Panelists: Albert Arias, MD, Alex Krist, MD and Katherine Rose, MD

- View Presentation
- View Video

February 12, Grief Impacting Recovery
Presented by Courtney Holmes, PhD

- View Presentation
- Video Video

February 26, Virginia Drug Court System
Presented by Melanie Meadows

- View Presentation
- View Video

March 12, COVID and Recovery: Panel Discussion
Presented by Tom Bannard, MBA Omri Morris, CPRS Raymond Barnes, CPRS Erin Trinh, CPRS

- View Presentation
- View Video

March 26, Effects of Pharmacology on Cognitive Function
Presented by Gerry Moeller, MD

- View Presentation
- View Video
- View Resource

April 9, PropER Clinic and SUD Virtual Bridge Clinic: Linking Patients from ED to PCP and SUD Care
Presented by Taruna Aurora, MD and Brandon Wills, MD

- View Presentation
- View Video

VCU Virginia Opioid Addiction TeleECHO Clinics

Bi-Weekly Fridays - 12-1:30 pm

Mark Your Calendar --- Upcoming Sessions

December 17	Buprenorphine Microdosing	Katie Adams, PharmD

Please refer and register at vcuhealth.org/echo

Project ECHO®
Virginia Commonwealth University

THANK YOU!

Reminder: Mute and Unmute to talk
*6 for phone audio
Use chat function for questions

VCU