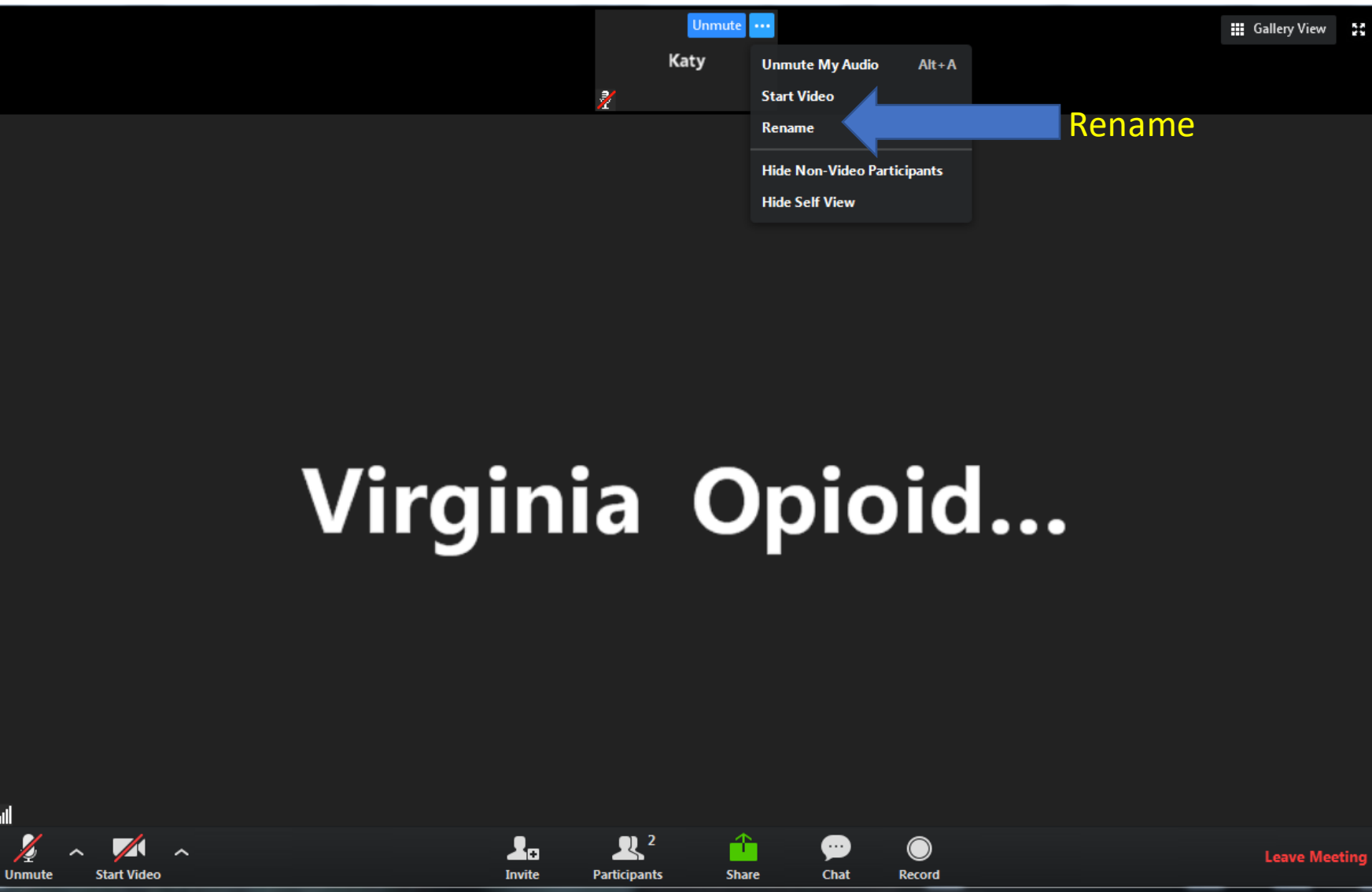


Virginia Opioid Addiction ECHO* Clinic

December 17, 2020

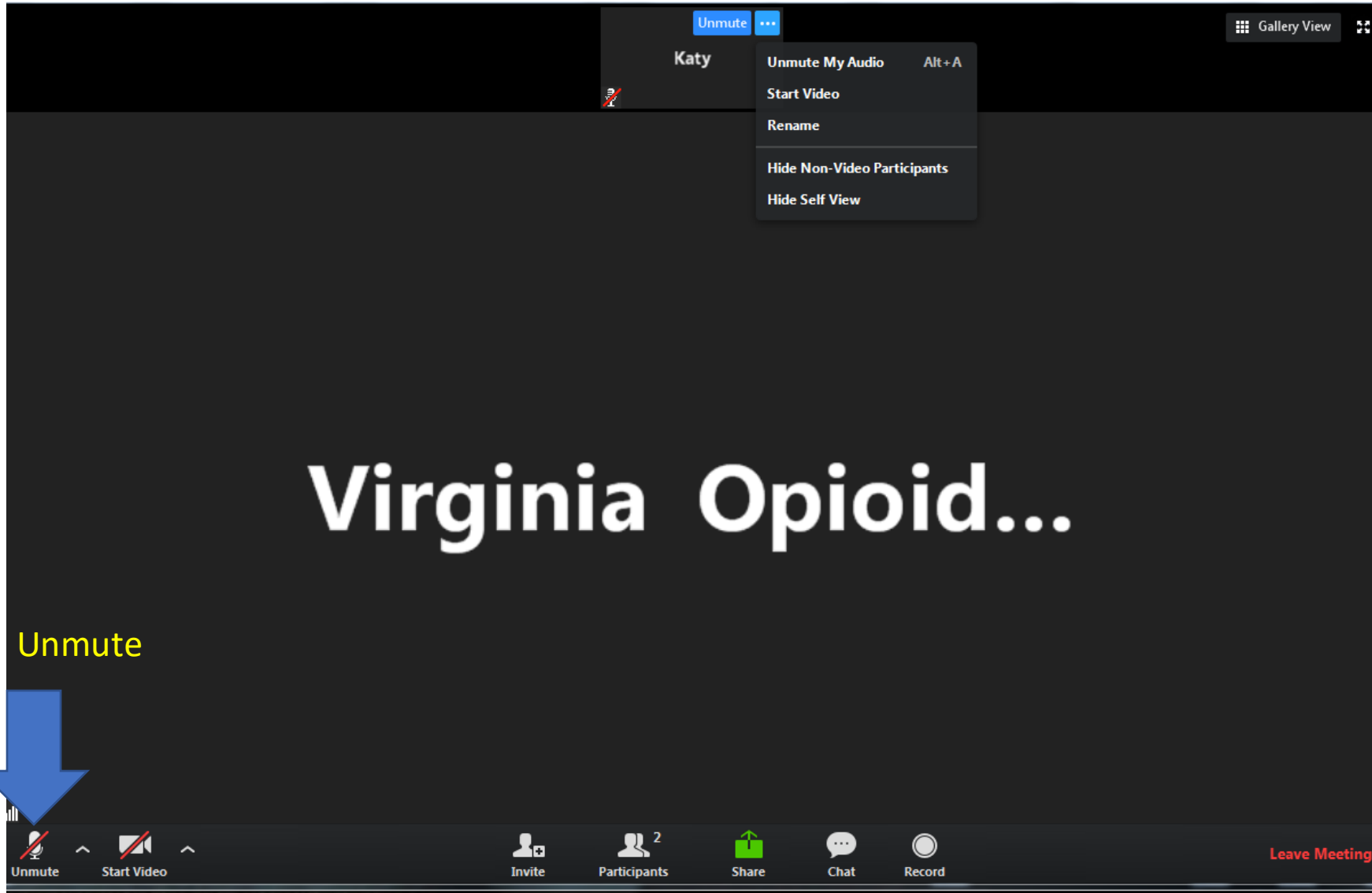
*ECHO: Extension of Community Healthcare Outcomes

Helpful Reminders



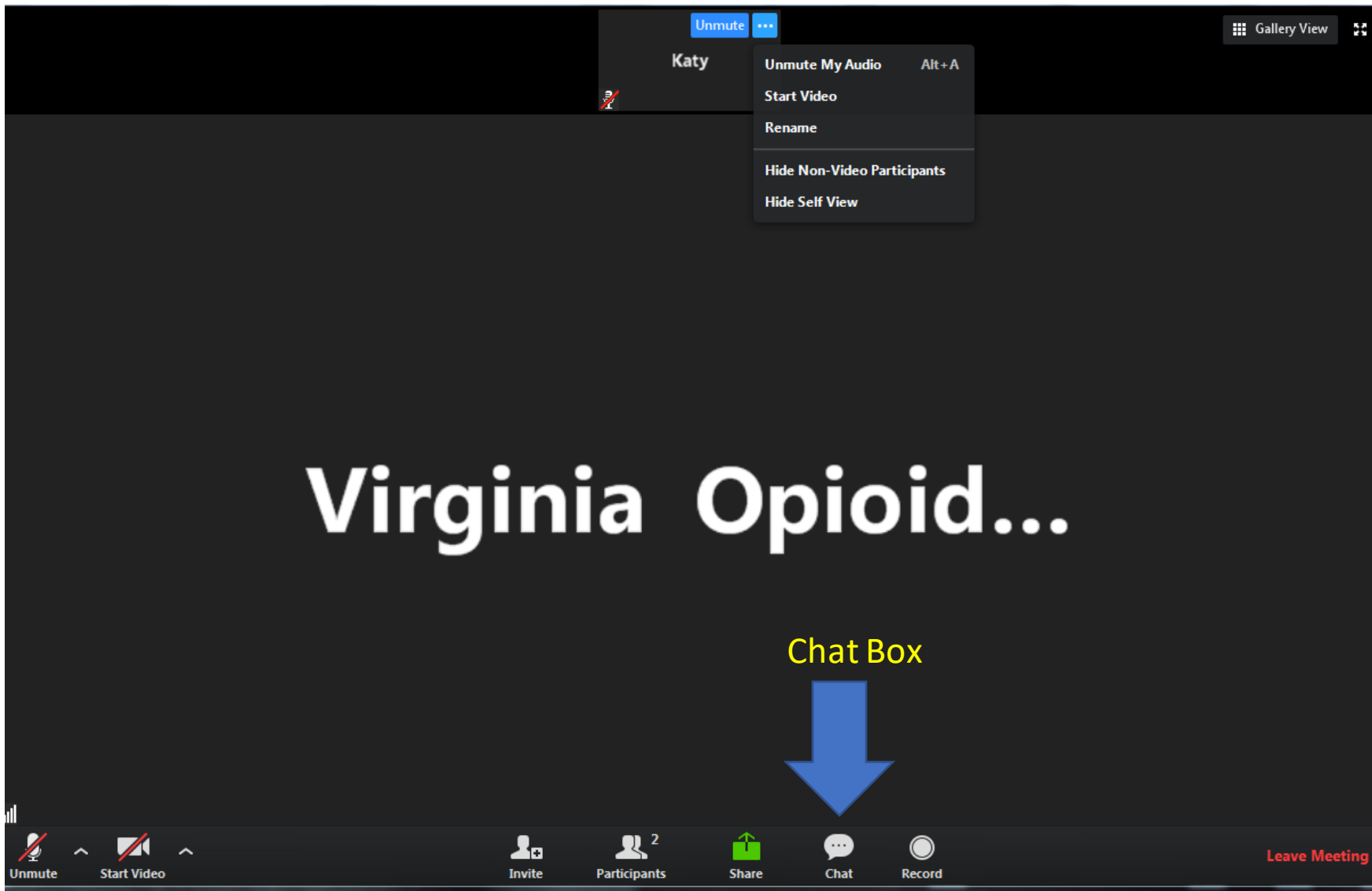
- Rename your Zoom screen, with your name and organization

Helpful Reminders



- You are all on **mute** please **unmute** to talk
- 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



- 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	Katie Adams, PharmD David Ryan, MD
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. **David Ryan, MD**
 - II. **Katie Adams, 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

Katie Adams, PharmD and David Ryan, MD have no financial conflicts of interest to disclose.

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

Questions?

Buprenorphine Induction with Current Opioid Use

A Microdosing Protocol

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Financial Disclosure

None

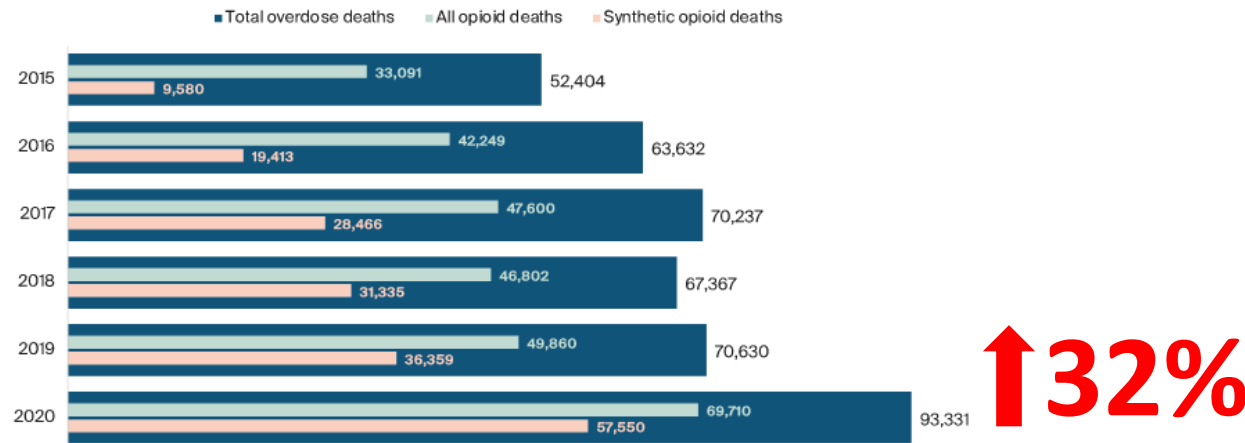
Objectives

- Brief overview of opioid use
- Understand the basic and unique pharmacodynamic properties of buprenorphine
- Describe different methods of buprenorphine induction
- Discuss implementation of buprenorphine microdosing at VCUHS

Epidemiology – Opioids



- 1.7 million people meet criteria for an opioid use disorder any given year
- ~80 percent of people who use heroin first misused prescription opioids
- 500,000+ people died from overdoses involving any opioid (Rx or illicit) 1999-2019*

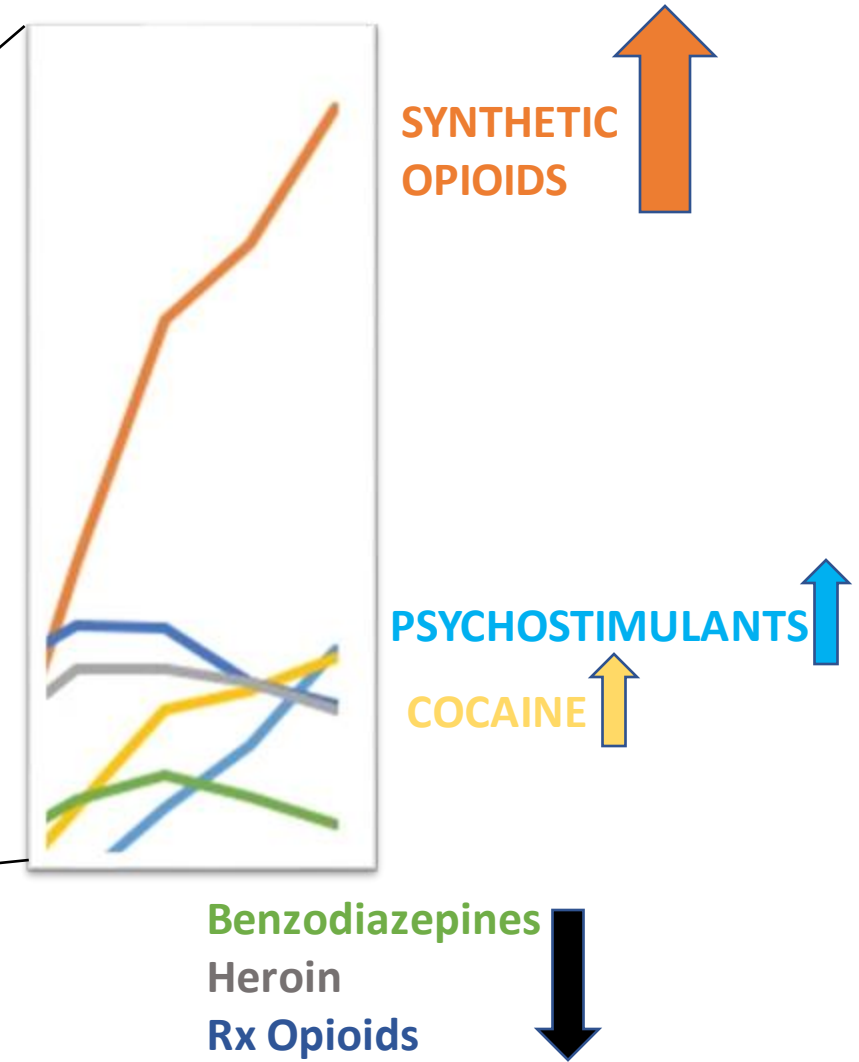
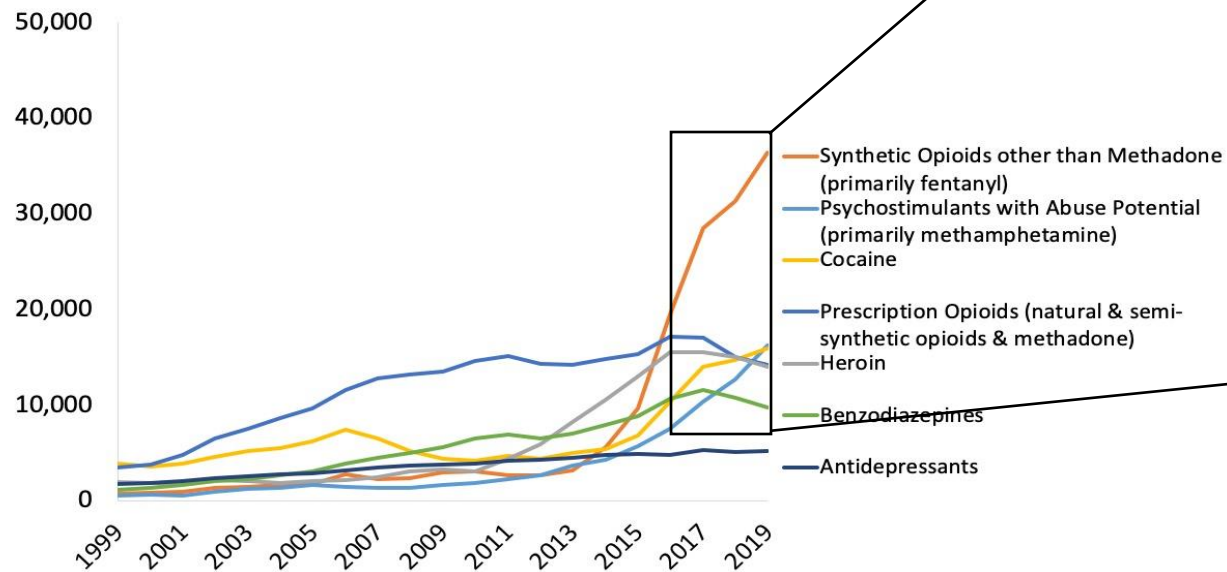


Apr 2019-2020 ~**78,000**

Apr 2020-2021 **~100,000**

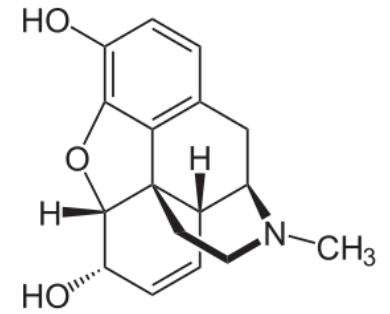
Overdose deaths

**Figure 2. National Drug-Involved Overdose Deaths*,
Number Among All Ages, 1999-2019**



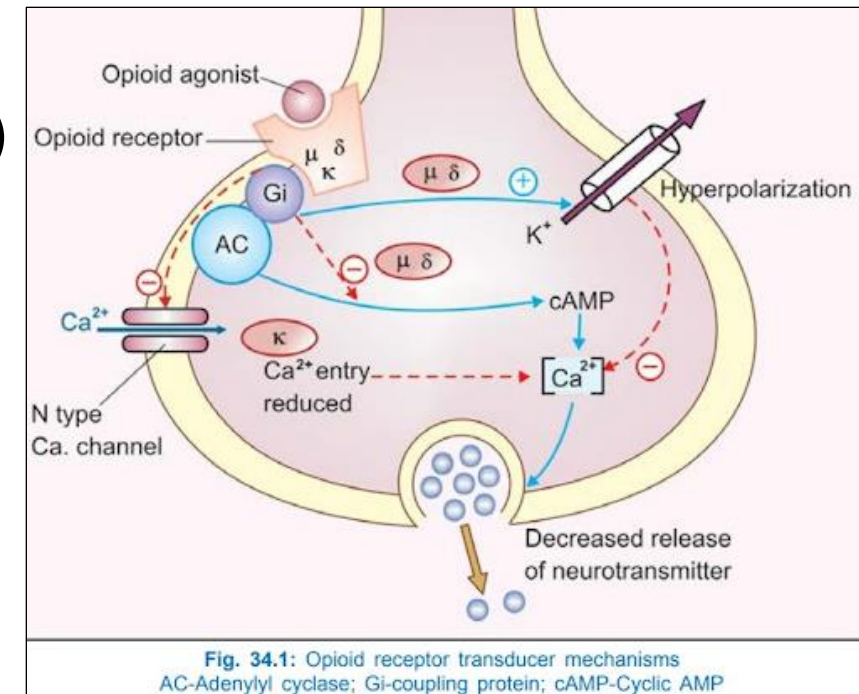
*Includes deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug poisoning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2019 on CDC WONDER Online Database, released 12/2020.

Pharmacology of opioids



Morphine

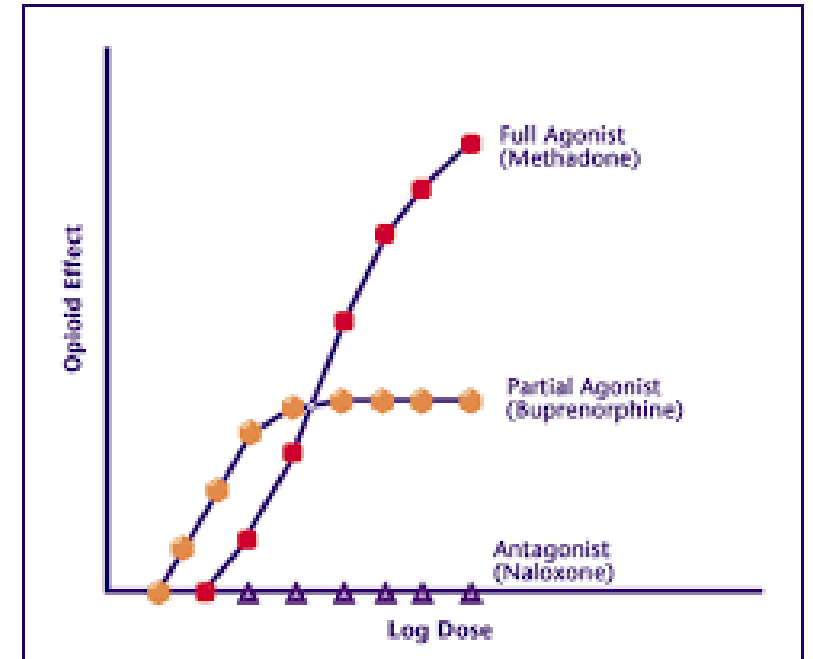
- Opioid receptors in the CNS, PNS, and GI tract
- 3 different types: μ , δ and κ (mu, delta and kappa)
- **μ : analgesia, respiratory depression, euphoria**
 - Decrease glutamate release in spinal cord (analgesia)
 - Inhibits inhibition of periaqueductal gray descending inhibition (analgesia)
 - Reduces sensitivity of chemoreceptors (respiratory depression)
 - Inhibits GI secretions and peristalsis (constipation)
 - **Euphoria**



Buprenorphine

Buprenorphine (in combination product Suboxone)

- Sublingual
- High affinity partial μ agonist
 - *High affinity κ antagonist*
- CYP 3A4
- Paired with naloxone as misuse deterrent
- Ceiling effect
- SLOW dissociation from the receptor



Opioid withdrawal management is NOT treatment

- 40-90% return to use after discharge from detoxification treatment *ONLY*
- Review of 52 studies with 12,075 participants*
 - MMT at appropriate doses is the most effective in retaining patients in treatment and suppressing heroin
- Cochrane review 2014
 - "High quality of evidence that buprenorphine was superior to placebo in retention of participants in treatment at all doses examined."**

*Amato L, Davoli M, Perucci CA, Ferri M, Faggiano F, Mattick RP. An overview of systematic reviews of the effectiveness of opiate maintenance therapies: available evidence to inform clinical practice and research. J Subst Abuse Treat. 2005 Jun;28(4):321-9. doi: 10.1016/j.jsat.2005.02.007. PMID: 15925266.

**Mattick RP, Breen C, Kimber J, Davoli M. Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. Cochrane Database Syst Rev. 2014 Feb 6;(2):CD002207. doi: 10.1002/14651858.CD002207.pub4. PMID: 24500948.



Opioid withdrawal management is NOT treatment

- 78% of patients with OUD who presented to an urban ED and were started on buprenorphine were engaged in addiction treatment 30 days after the ED visit
 - 37% in the referral group
 - 45% in the brief intervention group*
- MOUD / retention in treatment is associated with
 - decreased mortality
 - reduced illicit drug use
 - reduced seroconversion to HIV
 - reduced criminal activity
 - increased engagement in socially productive activities

The SAMHSA Evaluation of the Impact of the 2000 DATA Waiver Program, 2002-2005

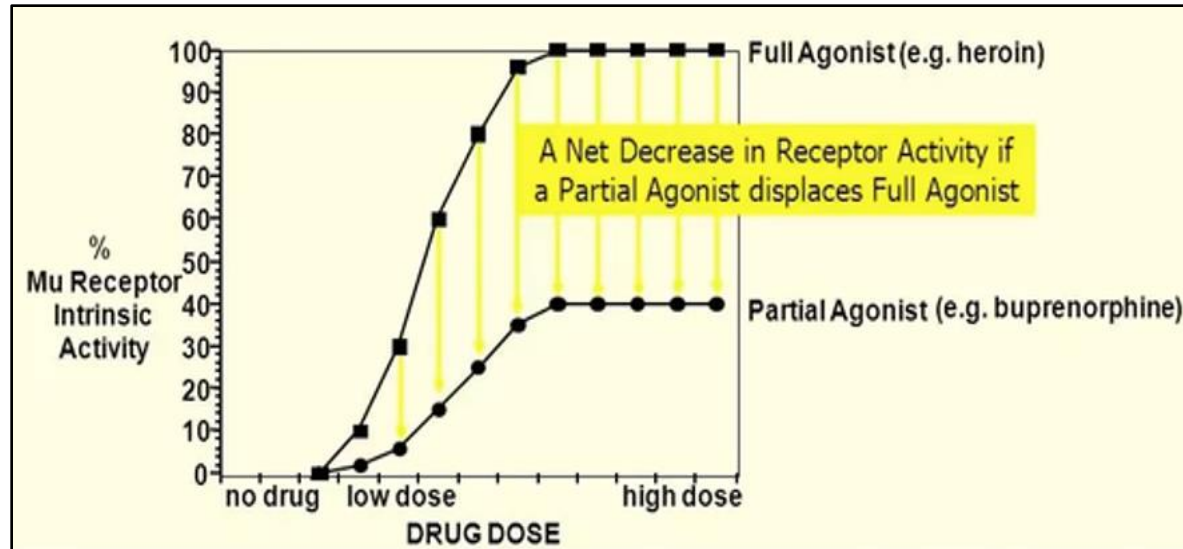
At 6-month follow-up, for patients on buprenorphine...

- Over the past 30 days...
 - **81% reported abstinence from illicit opioids**
 - 59% free from ALL illicit substances
- 60% were still in treatment
- An additional 15% reported that they had completed treatment
- Other criminal activities **decreased ~80%**

Traditional induction

- Methadone
 - Long half-life requires SLOW increase
 - Additive effect with other opioids
- Buprenorphine
 - Necessitates “opioid free” period/mild withdrawal
- Naltrexone
 - Opioid free for at least a week
- Transferring from one to another

Precipitated withdrawal



"It's like going from 90 to 20 by slamming on the brakes..."

Microdosing

Introducing small *subtherapeutic doses* in increasing amounts over several days

- Potential advantages
 - Avoid most withdrawal symptoms
 - No interruption in current opioids/pain control
 - Better patient experience, better “buy in” and retention
- Disadvantages
 - Risk of missing timing
 - Treatment setting
 - Length of protocol extends length of stay

Microdosing in the literature

Author (Year)	Medications used	N =	Time Course
Cortina et al. (2016)	TD buprenorphine, SL buprenorphine/naloxone	1	4 days
Tang et al. (2019)	TD buprenorphine, SL buprenorphine	23	6 days
Raheemullah (2019)	TD buprenorphine, SL buprenorphine, opioids	5	4 days
Weimer (2021)	buccal buprenorphine, SL buprenorphine/naloxone, opioids	1	6 days
Callan et al. (2020)	methadone, SL buprenorphine, opioids	1	7 days
Collins (2019)	methadone, SL buprenorphine/naloxone, opioids	1	7 days
De Aquino et al. (2020)	methadone, SL buprenorphine/naloxone	1	12 days
Bernese	SL buprenorphine/naloxone, opioids	1	5 days

TD: transdermal
SL: sublingual

Terasaki protocol

Table 1. Buprenorphine Microdosing Protocol Used by Our Team

Day	Buprenorphine dosage	Methadone dose
1	0.5 mg ^a SL once/day	Full dose
2	0.5 mg ^a SL twice/day	Full dose
3	1 mg SL twice/day	Full dose
4	2 mg SL twice/day	Full dose
5	4 mg SL twice/day	Full dose
6	8 mg SL once/day	Full dose
7	8 mg SL in A.M. and 4 mg SL in P.M.	Full dose
8	12 mg SL/day	Stop

SL = sublingually.

^aFor our buprenorphine formulation, one-quarter of a 2-mg sublingual strip was used.

Microdosing protocol at VCUHS

Day	Dose of Buprenorphine/Naloxone	Formulary
1	0.5/0.125mg SL once	1/4 of a 2mg/0.5mg film once
2	0.5/0.125mg SL twice daily	1/4 of a 2mg/0.5mg film twice daily
3	1/0.25mg SL twice daily	1/2 of a 2mg/0.5mg film twice daily
4	2/0.5mg SL twice daily	2mg/0.5mg film
5	4/1mg SL twice daily	4mg/1mg film
6	8/2mg SL twice daily	8mg/2mg film

- Can continue full dose opioid agonists for pain
- Can achieve therapeutic dose for opioid use disorder

Microdosing protocol at VCUHS

- Restricted to the Addiction Consult service
- Includes instruction for nursing monitoring
 - Notify provider for signs of precipitated withdrawal
 - Continue other full dose opioid agonists as ordered
- Collaboration between services/disciplines

Brief experience at VCUHS

- Approved by P&T September 2021, first patient October 2021
- Seven patients over the past two months
- Six patients reached at least 8mg/2mg daily of Suboxone (one left AMA after the first dose)
- ALL were on at least ONE other full opioid agonist during the induction
- NONE experienced ANY symptoms of withdrawal
- Follow up post discharge: two connected with MOTIVATE for outpatient, two missed a MOTIVATE appointment, two connected with outside providers, one left AMA

Buprenorphine Induction with Current Opioid Use

A Microdosing Protocol

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Clinical Assistant Professor, VCU School of Pharmacy
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Katie.Adams@vcuhealth.org

Case Presentation #1

Megan Lemay, MD

- 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

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Use **chat** function for questions

Main Question

Advice on weaning current treatment and other potential treatment strategies.

Demographic Information

35 year old man, currently a student, lives with supportive parents.

Background Information

History of Bipolar I which is well controlled with a long-standing psychiatrist
Alcohol use disorder in remission, with some overuse of benzos and briefly opioids in the past. None current.
Was having increased anxiety 6 months ago and found Phenibut online to treat this. Escalated his use to 8 g daily.
Unable to cut back, began experiencing withdrawal. Discussed with his psychiatrist who referred to addiction medicine.

Previous Interventions

He has actually successfully weaned off of phenibut using baclofen, which he tolerates very well. Weaned 0.5 g weekly.

He titrated up to 10 tid of baclofen and is currently taking 10 bid.

Plans for Future Treatment

Plan to wean baclofen



Reminder: **Mute** and **Unmute** to talk

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Use **chat** function for questions

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:



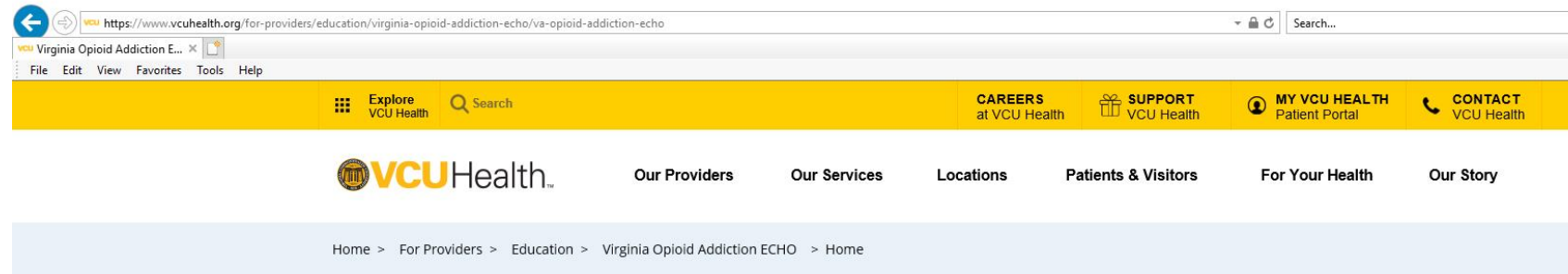
- **Ademola Adetunji, NP** from Fairfax County CSB
- **Tara Belfast-Hurd, MBA-PA** from Department of Behavioral Health and Developmental Services
- **Michael Bohan, MD** from Meridian Psychotherapy
- **Ramona Boyd, NP** from Health Wagon
- **Diane Boyer, DNP** from Region Ten CSB
- **Melissa Bradner, 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





Virginia Opioid Addiction ECHO

Welcome to the Virginia Opioid Addiction Extension for Community Health Outcomes or ECHO, a virtual network of health care experts and providers tackling the opioid crisis across Virginia. [Register now for a TeleECHO Clinic!](#)



Network, Participate and Present

- Engage in a collaborative community with your peers.
- Listen, learn, and discuss didactic and case presentations in real-time.
- Take the opportunity to [submit your de-identified study](#) for feedback from a team of addiction specialists. We appreciate [those who have already provided case studies](#) for our clinics.
- Provide [valuable feedback & claim CME credit](#) if you participate in live clinic sessions.

Telehealth

- About Telehealth at VCU Health ▾
- For Patients ▾
- For Providers ▴
- Virginia Opioid Addiction ECHO ▴
 - Register Now!
 - Submit Your Case Study
 - Continuing Medical Education (CME)
 - Curriculum & Calendar
 - Previous Clinics (2018)
 - Previous Clinics (2019)
 - Resources
 - Our Team

Benefits

- Improved patient outcomes.
- **Continuing Medical Education Credits:** This activity has been approved for **AMA PRA Category 1 Credit™**.

Access Your Evaluation and Claim Your CME



https://redcap.vcu.edu/surveys/?s=KNLE8PX4LP Project ECHO Survey

File Edit View Favorites Tools Help

ECHO
Virginia Commonwealth University

Please help us serve you better and learn more about your needs and the value of the Virginia Opioid Addiction ECHO (Extension of Community Healthcare Outcomes).

First Name
* must provide value

Last Name
* must provide value

Email Address
* must provide value

I attest that I have successfully attended the ECHO Opioid Addiction Clinic.
* must provide value

Yes

No

reset

_____, learn more about Project ECHO

Watch video

How likely are you to recommend the Virginia Opioid Addiction ECHO by VCU to colleagues?

Very Likely

Likely

Neutral

Unlikely

Very Unlikely

reset

What opioid-related topics would you like addressed in the future?

What non-opioid related topics would you be interested in?

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



Education

Contact Us

Diabetes and Hypertension Project ECHO

+

Nursing Home ECHO

+

Palliative Care ECHO

+

Virginia Opioid Addiction ECHO

-

Contact Us

Curriculum Calendar and Registration

Our Team

Previous Clinics - 2021

Resources

Thank You

Virginia Opioid Addiction ECHO Continuing Medical Education

Virginia Opioid Addiction ECHO Evaluation

Virginia Sickle Cell Disease ECHO

+

Child Abuse Project ECHO

+

Early Intervention Project ECHO

+

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](#)
- [View 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 - 12-1:00 pm

Mark Your Calendar --- Upcoming Sessions

January 7: Developmental Trauma and its Effects on SUD

Presenter: Anjali Ferguson, PhD, LPC

Happy Holidays!