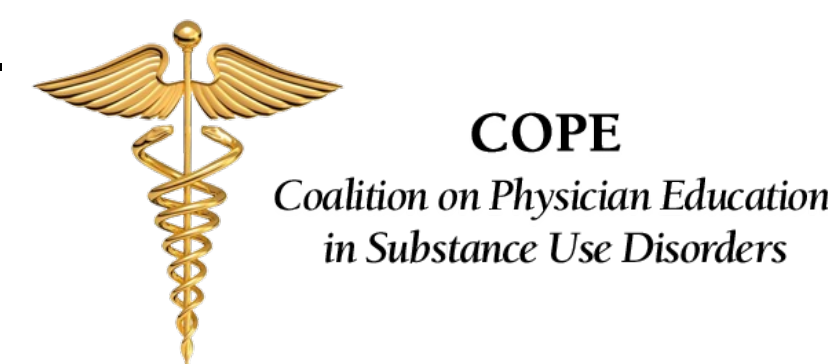


Background + Objectives

The opioid epidemic continues to be a public health crisis. The Coalition on Physician Education (COPE) has responded to this crisis through their annual Curriculum Innovation Challenge to support medical schools in integrating a more robust addiction medicine curriculum into students' training. Teams submit curriculum proposals and if selected, develop their curriculum alongside COPE faculty across multiple sessions in a structured, workshop-based format. **The CU team was one of four winning submissions nationwide.**

This three-part curriculum is designed for 4th year medical students during their Transition to Residency phase of the University of Colorado School of Medicine's Trek Curriculum within the integrated clinician's course. At the end of this three-part curriculum, students should have increased their knowledge base and competencies in three main areas. First, students should be able to identify an overdose and administer naloxone. Second, students should be able to initiate a low dose buprenorphine induction as well as identify a patient who would benefit from such approach. And lastly, students should feel comfortable interacting with patients about opioid use disorder and treatment options.



Methods

The curriculum will be implemented in 2023 in two cohorts: PA-S2 students and MS4 students during their Transition to Residency course within the Integrated Clinician Course at CUSOM. We will evaluate curricular impact on knowledge, attitudes, and practices using pre-post surveys of learners. The validated surveys include the Opioid Overdose Knowledge Scale (OOKS), Opioid Overdose Attitudes Scale (OOAS), Medical Condition Regard Scale (MCRS), and Naloxone Related Risk Compensation Benefits (NaRRC-B). A pre-post quiz will also be issued. Scores will be pooled, and differences analyzed using Pearson's Chi Squared test with significance assigned to results with $p < 0.05$.

Learning Objectives + Structure

Phase 1: Lecture

Learning Objectives:

1. Identify the signs of symptoms of an opioid overdose.
2. Describe the mechanism of action of naloxone.
3. Compare and contrast the characteristics, modes of administration, and cost considerations of FDA-approved naloxone formulations.
4. Demonstrate how to administer naloxone to patients.
5. Explain the public health importance of prescribing/dispensing naloxone to people at risk of overdose.

Phase 2: Problem-Based Learning Small Group

Learning Objectives:

1. Describe the mechanism of action of buprenorphine.
2. Demonstrate understanding of OUD treatment plans by comparing and contrasting methadone with buprenorphine treatment plans, both in terms of patient accessibility and clinical guidelines.
3. Demonstrate understanding of buprenorphine treatment plans by comparing and contrasting traditional buprenorphine treatment plans with buprenorphine microdosing.
4. Identify eligible patients for buprenorphine microdosing.
5. Explain buprenorphine microdosing to patients in lay terms.
6. Demonstrate the ability to work in a multidisciplinary setting to treat patients with a SUD when microdosing buprenorphine is the preferred approach.

Phase 3: Standardized Patient Encounter

Learning Objectives:

1. Apply a buprenorphine microdose induction plan to a simulated clinical scenario, ensuring naloxone dispensing to patient for harm reduction.

Results

Students will be assessed via pre-post quiz questions as well as via feedback following the SP encounter. Learning objectives and a competency rubric have been created to standardize student assessment. Assessment results will be used to understand the efficacy of the curriculum in increasing knowledge points outlined in the learning objectives.

Pre-post knowledge, behavior, and attitudes survey will be used to assess curriculum efficacy and facilitate ongoing quality improvement. We will also solicit qualitative feedback from learners to guide improvement efforts.

Resources

Students will have access to a number of resources during this training. This is an example of one of the handouts that will be provided to students. In addition, they will have a symptoms management guide, access to the training PowerPoint, their PBL preparation materials, and more.

Patient Guidelines for Buprenorphine "Micro-Dosing" Induction

To reduce the risk of precipitated withdrawal when starting buprenorphine/naloxone, we would like you to start at very low doses and increase slowly. Please follow the schedule below and call us at _____ if there are any problems.

PREPARING YOUR DOSES:

On Days 1-5, we will use 2mg buprenorphine/naloxone films:

- Days 1-2: Cut ONE 2mg film into four equal pieces to achieve the lowest dose needed (0.5mg or 1/4" of a 2mg film).
- Day 3: Cut ONE 2mg film into two equal pieces to achieve the lowest dose needed (1mg or 1/2 of a 2mg film).
- Days 4-5: Use full 2mg films. You do NOT need to further prepare the films.

On Days 6-7, we will use 8mg buprenorphine/naloxone films. You do NOT need to cut or further prepare these films.

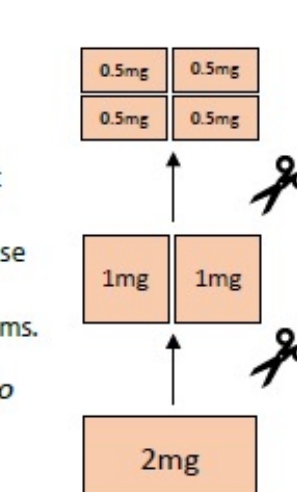
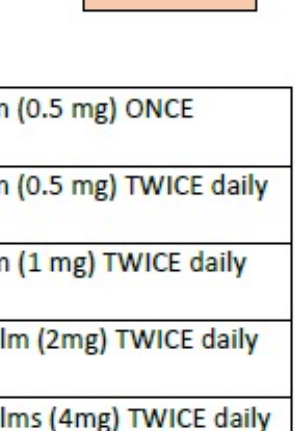
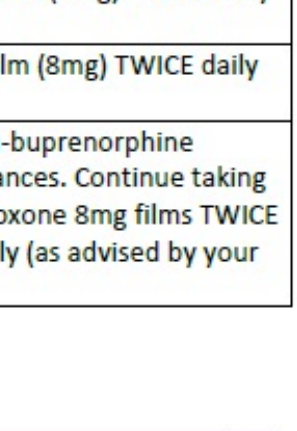
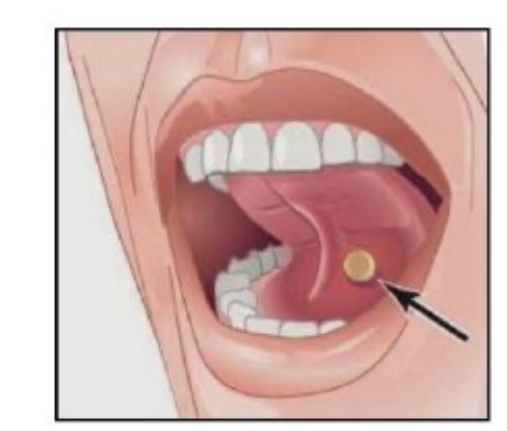
DAILY DOSING INSTRUCTIONS:

On each day, take your 1st dose of buprenorphine/naloxone about 10-15 minutes **BEFORE** using any other opioid-based substances (i.e. heroin, fentanyl, methadone, prescription pills, etc.)

Place the film **under your tongue** and let it melt completely.

Day	Dose
Day 1:	Take 1/4 of a 2mg film (0.5 mg) ONCE
Day 2:	Take 1/4 of a 2mg film (0.5 mg) TWICE daily
Day 3:	Take 1/2 of a 2mg film (1 mg) TWICE daily
Day 4:	Take one full 2mg film (2mg) TWICE daily
Day 5:	Take two full 2mg films (4mg) TWICE daily
Day 6:	Take one full 8mg film (8mg) TWICE daily
Day 7:	STOP using any non-buprenorphine opioid-based substances. Continue taking buprenorphine/naloxone 8mg films TWICE or THREE TIMES daily (as advised by your medical provider).

PLEASE RETURN TO CLINIC ON: _____

Faculty will have access to a facilitator guide and all the resources available to students.

Implications

Providers from a variety of fields should feel comfortable treating opioid use disorder, as patients in all medical specialties suffer from this condition. This curriculum aims to increase provider comfort and knowledge with treating patients struggling with addiction.

Future Directions + Resources

- This course is designed to be easily modified to fit into the Child Health Associate/Physician Assistant (PA) degree program's Psychiatry block
- Pre-post test survey and quiz data analysis can guide curricular improvement
- Identify and address additional curricula gaps such as:
 - Clinical exposure to addiction medicine
 - Substance use disorder in pregnancy



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