Evaluation of Electronic Vapor Product and Other Substance Use in States that have Legalized Cannabis

Devika Bhatia, MD, Susan Mikulich-Gilbertson, PhD, Joseph Sakai, MD

We do not have any potential or actual conflicts of interest in relation to this study. Funding was provided by NIDA-AACAP Resident Training Award in Substance Use Disorders.

Background
Legalization of recreational and medical cannabis has been implemented in multiple states.
• 33 states have legalized medical cannabis
• 11 of those states have legalized recreational cannabis
One potential unintended consequence of marijuana legalization is changing prevalence of other substance use, including electronic vapor product use (vaping).

Research Aims

Aim 1: Compare prevalence and frequency of vaping by adolescents living in RCL states to vaping prevalence and frequency in MCL and NL states

Aim 2: Compare prevalence and early initiation of use of other substances (alcohol, tobacco, marijuana, prescription opioid misuse, and illicit substances) by adolescents living in RCL states to MCL and NL states

Aim 3 (Exploratory): Compare trajectories of adolescent substance use for RCL, MCL, and NL states for pre- and post-medical legalization and pre- and post-recreational legalization

Methods
We will utilize the Center for Disease Control and Prevention’s 2017 Youth Risk Behavior Surveillance Survey
• Cross-sectional, nationally-representative survey of high school students
• Students were sampled using a three-stage random cluster design
• n=107,665

Students assigned to RCL, MCL, or NL group based on state where they lived at time of survey.

SAS data used to produce multiple logistic regression analyses, weighted appropriately for survey methodology.

Results

Aim 1: Demographics

<table>
<thead>
<tr>
<th>Sex</th>
<th>RCL (%)</th>
<th>MCL (%)</th>
<th>NL (%)</th>
<th>Statistic (DF); p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>48.7</td>
<td>49.0</td>
<td>49.0</td>
<td>χ²(1)=0.1; p=1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>RCL (%)</th>
<th>MCL (%)</th>
<th>NL (%)</th>
<th>Statistic (DF); p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>54.6</td>
<td>47.0</td>
<td>59.3</td>
<td>χ²(12)=55.70; p&lt;0.0001</td>
</tr>
<tr>
<td>Black/African American</td>
<td>4.4</td>
<td>12.3</td>
<td>19.3</td>
<td></td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>28.7</td>
<td>29.1</td>
<td>13.8</td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>4.3</td>
<td>6.2</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>Al/Alaska Native</td>
<td>0.5</td>
<td>0.8</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Hawaiian/Other Pacific Islander</td>
<td>0.5</td>
<td>0.8</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Multiple Non-Hispanic</td>
<td>4.6</td>
<td>3.7</td>
<td>3.8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade at survey</th>
<th>RCL (%)</th>
<th>MCL (%)</th>
<th>NL (%)</th>
<th>Statistic (DF); p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th</td>
<td>26.7</td>
<td>26.5</td>
<td>26.6</td>
<td>χ²(6)=1.7; p=1.0</td>
</tr>
<tr>
<td>10th</td>
<td>25.6</td>
<td>26.0</td>
<td>25.8</td>
<td></td>
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<tr>
<td>11th</td>
<td>24.4</td>
<td>24.1</td>
<td>24.4</td>
<td></td>
</tr>
<tr>
<td>12th</td>
<td>23.3</td>
<td>23.3</td>
<td>23.2</td>
<td></td>
</tr>
</tbody>
</table>

Aim 1: Prevalence of Vaping in RCL, MCL, NL States

Students in RCL states were significantly more likely to report current vaping and current frequent vaping compared to students in MCL states.

Students in MCL states were significantly more likely to report ever vaping and current vaping compared to students in NL states.

Interpretations:
• Reduced perceived risk of harm
• Vaping cannabis
• Co-use of cannabis and nicotine in electronic vapor products

Important note: we cannot determine causality

Questions for Experts in the Field

Future Directions

Determine prevalence of other substance use by adolescents in RCL, MCL, NL states (Aim 2).

Compare trajectories of onset of substance use by adolescents in RCL, MCL, NL states (Aim 3).

Questions for Experts in the Field

Are there other reasons why vaping may be more popular in RCL and MCL states?

How much does the legal status of substances affect adolescents’ use?

Why might there be differences in ever vaping versus currently vaping?

Which covariates may be important to control for in final analyses?

How can our methods be improved?

Devika.Bhatia@cuanschutz.edu
Development and Dissemination of Resources for Emergency Department-Initiated Interventions for Opioid Use Disorder: A Focus on Native American and Rural Communities
Ryan JJ Buckley, MD, MPH, Kathryn Hawk, MD, MHS
Department of Emergency Medicine, Yale School of Medicine

Background

**Native American** communities possess (among racial/ethnic groups):
- The largest percentage increase in number of drug overdose deaths overtime (519%) between 2001-2015.
- 2nd highest overdose rate from all opioids.
- 2nd highest overdose death rates from heroin and the 3rd highest from synthetic opioids.

**Rural** communities possess (compared to urban):
- Equal rates of drug overdoses despite lower access to substance use and chronic pain treatment.
- Higher opioid prescription rates and higher overdose rates involving natural and semisynthetic opioids and psychostimulants.

AIMS

1. Develop a **stakeholder network** to create and deploy evidence-based practices for ED-OUD interventions with those who provide care to Native American and Rural communities.
2. Develop a **learning collaborative** featuring multimodal content delivery (lectures, online toolkit, curriculum).
3. Facilitate ongoing access to developed resources through incorporation into the ACEP Medication for Treatment of Opioid Use Disorder Toolkit, and by partnering with other organizations.

ED-OUD Interventions

1. Opioid overdose education and naloxone and distribution (OEND)
2. Buprenorphine initiation and referral

Evidence

- Communities with access to OEND have been found to have reduced opioid overdose death rates.
- Treatment with buprenorphine has been found to reduce risk of opioid overdose death by 50%.
- ED-initiated buprenorphine increases engagement treatment, decreases opioid use and use of inpatient addiction treatment services.

Current Questions Being Explored

1. What communities (providers, regions, patients) are most interested in these programs?
2. What are the implications of federal, state, and Tribal regulations in implementing ED-OUD programs?
3. What EDs have already implemented these programs?

Acknowledgements:

- Native American Emergency Medicine Consortium
- Funding: NIDA-EMF Mentored Training Award in Substance Use Disorders Science Dissemination
Improving the Treatment of Substance Use Disorders Across a Large Health System

Hoa Kevin Luong, PA-C

Introduction

UPMC is a world-renowned health care system that spans the western and central parts of the Commonwealth of Pennsylvania and Southwestern corner of New York state. UPMC operates 40 hospitals, 700 physician offices and employs 4,900 physicians and over 2000 Advanced Practice Providers. UPMC has expanded geographically over the past few years to include hospitals and practices that are over 200 miles away from the clinics of our Addiction Medicine Services and Opioid Use Disorder Center of Excellence in Pittsburgh, PA. This geographic expansion and the central location of its substance use disorders (SUDs) treatment services has created an opportunity that limits our ability to fulfill the hospitals mission. The current model relies on physicians and Advanced Practice Providers, especially in the regions that are classified as medically underserved or health professional shortage areas, to be proficient in the competencies of screening, motivational interviewing, clinical management, identification of available resources, and coordinating with other professionals according to the continuum of care model. While various members who work in these practices have expressed interest in serving their communities by identifying and treating substance use disorders, UPMC has not fully assessed the key factors of providing this care including APPs who have received XDEA waiver to treat Opioid Use Disorder, their caption of their patient population and the opportunities to screen and engage patients regarding SUDs, and perceived barriers to successfully treating SUDs in their community.

Project Goals

The goal of this project is to enhance the health of the large population served by UPMC across western and central Pennsylvania and southwestern New York state, as those patients affected by SUD will have increased access to more proficient providers who have assess and overcome barriers to SUD treatment. The objectives of this project are:

1. Accelerate and deepen the understanding of fellow Advanced Practice Providers and other clinicians about the models of treatment for SUD, specifically Opioid Use Disorder (OUD), and their barriers through a systematic review of the literature;
2. Better understand the barriers that our more than 2000 Advanced Practice Providers experience in providing treatment for SUD, especially OUD, to various communities across the UPMC health system;
3. Use published evidence and a knowledge of the above barriers to develop and implement online educational modules that will promote the adoption of evidence-based approaches to patients with SUDs, especially OUD, by our Advanced Practice Providers regardless of their practice setting and across the various communities they serve;
4. Disseminate the project findings as evidence for consideration by health systems, providers, and policymakers as they work to improve the practices of treating SUDs, especially OUD, across the networks of clinicians.

Project Description

The project will span from January 2020 to December 2020. The methodology of the project will follow the Plan-Do-Study-Act (PDSA) model.

Act: The fourth phase of the project will be to distribute the educational modules to every Advanced Practice Providers within UPMC. The modules will address the common barriers to treatment that providers experience.

Plan: The first phase of the project will be to research and develop a survey to assess Advanced Practice Providers’ knowledge, barriers, and level of comfort with caring for SUD patients.

Study: The third phase of the project will be to obtain all feedback from the surveys. The data will be analyzed. The data will then be used to develop educational modules through WISER online training center.

Do: The second phase of the project will be to distribute the survey to every Advanced Practice Providers within the UPMC health network.

Evaluation Strategy

This project evaluates Advanced Practice Providers on two separate intervals. The initial evaluation is to gauge Advanced Practice Providers current barriers to treatment. The next evaluation is to assess Advanced Practice Providers’ knowledge gained through participating in the training modules. Our strategy may be to use The Kirkpatrick Model to assess the effectiveness of the educational modules.

The Kirkpatrick Model can be used once every Advanced Practice Provider completes the educational modules. A post-test will be used to measure the degree to which participants acquired the intended knowledge, skills, and attitudes as a result of participating in the training. A follow up survey can also be considered to solicit opinions from the learning experience. The goal of this survey will be to assess participants on whether the training was relevant and if they felt engaged in the training. The survey can also be used to measure the degree to which the participant’s behaviors will change as a result of the training.

Implications

The goal of this project is to enhance Advanced Practice Providers’ knowledge and address barriers to treatment of SUDs. By providing educational materials to address providers’ deficiencies, providers can better be prepared to treat SUDs. This goal is in alignment with UPMC’s Center of Excellence for Addiction Medicine. As more providers, especially those in remote rural areas, are able to participate in SUD treatment, it will benefit the local community as well as the nation’s opioid crisis.

Acknowledgement

Funding: NIDA Mentored Outreach Aware in Substance Use Disorder (SUD) Treatment Dissemination, supported by the National Institute on Drug Abuse (NIDA) from the National Institutes of Health (NIH) in partnership with the PA Foundation

Support: David Beck, PA-C, Benjamin Reynolds, PA-C, Ajay Wasan, MD, MSc, University of Pittsburgh Physician Assistant Program, UPMC WISER Institute, UPMC OAPP

Contact Information

Hoa Kevin Luong, PA-C
Kevin.luong@upmc.edu
1350 Locust Street
Suite 411
Pittsburgh, PA 15219
412-232-4040
Background

- Buprenorphine administration in acute withdrawal can lead to improved outcomes for patients with opiate use disorder, increased follow up with addiction treatment programs, as well as reduced illicit drug use and medical system costs for drug related ED visits [1-3].
- Emergency Department (ED) providers are on the frontlines of service to patients with opiate use disorder. Emergency providers may serve to provide an induction to medication-assisted therapy (MAT), decreasing the risk of use after discharge, and referring patients to outpatient MAT providers [4, 5].
- Los Angeles County + University of Southern California Hospital, (LAC+USC), is the safety net hospital closest to the high concentration of undomiciled persons in the downtown Los Angeles ‘skid row’ area; patients who can be disproportionately impacted by SUD and OUD [2, 3, 6, 7].
- Best practices proposed include education of providers about opiate withdrawal and use of buprenorphine to control symptoms [4, 5]. However, there continue to be barriers to utilization of buprenorphine for withdrawal treatment including fears of precipitating withdrawal, fears of diversion or overdose, and beliefs that additional licenses are needed to offer treatment [10-12].
- Targeted resident training can impact patient care effectively [13-15]. Additionally, residents in training have been shown to carry forward practices learned while in residency; thus, targeting educational interventions to this emerging group of physicians has the potential to affect practice patterns downstream [16, 17].

Implementation Model

<table>
<thead>
<tr>
<th>Diffusion of Innovation</th>
<th>Baseline Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge/ awareness</td>
<td>Persuasion</td>
</tr>
<tr>
<td>Innovators</td>
<td># Not X waivered, not yet using buprenorphine for treatment of withdrawal</td>
</tr>
<tr>
<td>Early Adopter</td>
<td>Innovators</td>
</tr>
<tr>
<td>Early Majority</td>
<td>Innovators</td>
</tr>
<tr>
<td>Late Majority</td>
<td>Innovators</td>
</tr>
<tr>
<td>Late Majority</td>
<td>Innovators</td>
</tr>
<tr>
<td>Laggard</td>
<td>Innovators</td>
</tr>
</tbody>
</table>

Questions

1. Our goal is to nudge providers from one category to the next. What behavioral or educational nudges have been most effective in your system to change prescriber behavior regarding buprenorphine?

2. In your experience changing provider behavior, how long did it take to see an effect of this change regarding prescribing habits?

3. Can we demonstrate specific change in buprenorphine administration and prescribing in comparison to other safety net hospitals in the region? Any other measures that would make for a more effective comparison group?

4. Will this enhanced program demonstrate significant differential buprenorphine use, as measured by a difference in differences analysis?

5. Any pitfalls of the buprenorphine program expansion and analysis plans?
ABSTRACT

Opioid use disorder in pregnancy results in adverse consequences for the fetus, often resulting in neonatal abstinence syndrome and lengthy stays in Neonatal Intensive Care Unit (NICU). The purpose of this practice improvement project was to design, implement, and evaluate an evidence-based practice medicine-assisted treatment (MAT) intervention for opioid-dependent pregnant women to reduce neonatal abstinence syndrome outcomes. Internal data from hospital admissions (March 2017-October 2019) was used to determine the duration of neonatal abstinence syndrome and length of stay in the NICU according to which medication (methadone versus buprenorphine) was used to treat maternal opioid disorder. Structure, process and outcomes were evaluated using a logic model, which along with the application of Johns Hopkins Nursing EBP model served to develop an educational program aimed to improve care among MAT providers who work with opioid-dependent pregnant women within the hospital system. Intent to change practice was evaluated at the end of the educational program and has initiated conversation among the providers in standardizing evidence-based MAT treatment within the system.

BACKGROUND and SIGNIFICANCE

Opioid-dependent pregnant women are at higher risks for complications such as NAS, preterm labor, fetal convulsions, and fetal death. Other indirect threats to the fetus includes hepatitis C, hepatitis B, HIV, malnutrition, and inadequate prenatal care.

The opioid epidemic among pregnant women affects 6.5 out of 1000 delivery hospitalization (Haight et al. 2018).

Admissions into drug detoxification/rehabilitation treatment facilities for pregnant women increased from 2% to 28% from 1992 to 2012 (Krans and Patrick, 2016).

Every 25 minutes a baby is born with NAS and the hospital care cost of 1.5 billion USD (Loudin et al. 2017).

PICO QUESTION

PICO Question: Among MAT privilege providers that treat opioid-dependent pregnant women, how using methadone compare to using buprenorphine in reducing NAS?

CRITICAL APPRAISAL of the EVIDENCE Synthesis of the Evidence

<table>
<thead>
<tr>
<th>Category</th>
<th>Methadone</th>
<th>Buprenorphine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nas</td>
<td>6.5</td>
<td>3.2</td>
</tr>
<tr>
<td>NICU stay</td>
<td>25</td>
<td>18</td>
</tr>
</tbody>
</table>

EVIDENCE-BASED FRAMEWORK APPLICATION OF THE JOHNS HOPKINS NURSING EVIDENCE-BASED PRACTICE MODEL

METHODOLOGY

- Citi Training
- IRB approval for QI project
- Retrospective chart review and data collection
- Data analysis using SPSS
- Education of MAT providers
- Provider assessment of MAT practices

IMPACT ANALYSIS

Standardization of EBP MAT treatment option will:
- Reduce complications such as NAS in newborns
- Reduce NICU treatment cost
- Increase cost savings for the hospital and the health insurance companies

IMPLICATIONS FOR ADVANCED NURSING PRACTICE

- Lead to change healthcare culture to accommodate substance use disorder as a treatable disease
- Decrease stigmatization around opioid use and the misunderstanding of MAT program in the communities
- Enable nonjudgmental education, community support, and advocacy for substance use
- Collaborate to develop and evaluate relevant policies and legislations that impact pain management and opioid addiction
- Influence state and federal laws on substance addiction

SUSTAINABILITY AND DISSEMINATION

- Promote evidence-based standardization using Medication Assisted Treatment in treating opioid-addicted pregnant women to reduce NAS and LOS in the NICU
- Design, vet and distribute patient educational materials to regional health care communities, providers and policy makers to positively impact this critical health care crisis

CONCLUSIONS

- Critical appraisal and clinical data analysis evidence supports that Buprenorphine yields better neonatal outcomes than Methadone
- The evidence also suggests that buprenorphine use in the Crozer system to treat opioid-dependent pregnant women will lead to cost savings for the treatment of NAS babies
- The MAT providers were agreeable to change prescribing policies to buprenorphine over methadone to treat opioid addiction in pregnancy
Dissemination of an evidence-based public health curriculum in pain and addiction for interprofessional learners using the Project ECHO model

Alison C. Essary, DHSc, MHPE, PA-C; Nandita Keole, MD; Andrew Hills, MD; Hayden Pond; Priya Radhakrishnan, MD
Honor Health Academic Affairs, Scottsdale, AZ

INTRODUCTION

- More than 630,000 people died due to drug overdose in the U.S. between 1999 and 2016.1
- One recent report quantified the total cost of the opioid epidemic as almost $180 billion per year.2
- Most primary care physicians are either not waivered or reluctant to prescribe buprenorphine to patients for management of SUD.3
- Arizona disseminated the Opioid Action Plan in response to state-wide public health emergency.
- In 2018, the Arizona Department of Health Services published the Arizona Pain and Addiction Curriculum which redefine(s) pain and addiction as interlinked, complex, public health processes, requiring interprofessional care and involvement of the community and health-based systems.4

OBJECTIVES

1. Integrate, adapt and disseminate the Arizona Pain and Addiction Curriculum, an evidence-based public health curriculum for interprofessional learners, through the Project ECHO© model.
2. Identify training and educational materials to supplement the Arizona Pain and Addiction Curriculum (e.g. NIDA, CDC, SAMHSA, etc.).

OUTCOMES MEASURES

- Demographics – number of clinicians, professional identity, practice site/setting, gender, etc.
- Self-reported outcomes of participants - self-efficacy, knowledge, support, quality of care
- Number of teleECHO sessions attended, participation over time, etc.
- Other – supplemental evidence-based training and educational materials

CURRICULUM

- Stigma
- Introduction to OUD
- Evidence-based screening and SBIRT
- MAT medication overview
- MAT induction
- Non-judgmental communication
- Case management
- Harm reduction
- Treatment of pregnant women
- Adolescent care
- Legal and policy issues
- Behavioral health considerations
- Clinic workflow
- Use of drug testing

CONCLUSION

In the Project ECHO model, technology is used to amplify and leverage limited resources; best practices are shared to reduce disparities in care; case-based learning is used to master complexity; and a web-based database is used to monitor outcomes.5

Project ECHO directly addresses structural barriers for patients and clinicians, by providing front-line (primary care) clinicians with the knowledge required to manage patients with complex conditions, including SUD, where patients live, work, pray, and play to positively and meaningfully improve the health of the population.

Using the ECHO model to disseminate the Arizona Pain and Addiction Curriculum will engage clinicians in an evidence-based, multi-disciplinary approach to effectively manage patients with pain and addiction.

REFERENCES

5. Project ECHO. https://echo.unm.edu/about-echo/model
Mentored Training to Combat the Opioid Crisis: Emergency Medicine Meets Addiction Medicine

Moschella PC, Litwin A2, Raja A3
Prisma Health Department of Emergency Medicine1, Prisma Health Department of Medicine2, Mass General Department of Emergency Medicine3

Background

- The Opioid Epidemic is a major US health concern.
- Deaths due to opioids have surpassed that caused by automobiles
- The rise in opioid and heroin related admissions represents a 221% and 26% increase respectively.
- The Emergency Department (ED) has been studied as a unique venue for screening and initiation of treatment of these vulnerable populations.

Aims

- 1: Education-Utilizing the mentorship from both the EM and IM physician leaders, this program will focus on dissemination of the specialty-specific resources manual from NIDA and DEA waiver training for implementation of MAT and overall SUD/OUD treatment within the applicant’s health system.
- 2: Research- Following on-site training in best practices from around the country, the applicant will disseminate these results and implement these models at local sites. Utilizing the mentors’ expertise and additional embedded collaboration at the applicant’s local site, research on the implementation and results will be disseminated within regional and national academic venues.
- 3: Patient Care- Timely implementation of proven models from around the country will be leveraged against a structured mentored pathway toward independent practice within a new Addiction Clinic that will culminate with a new ED consult service led by the applicant.

Methods

- IRB exempt/approved
- We implemented an SBIRT= Screening Brief Intervention and Referral to Treatment program in one of 6 EDS in our Health System.
- GMH ED is the regions only level 1 Trauma Center (~95K adult visits/year).
- Universal triage based SUD/OUD Screening of all adult patients aged 18+ years using the AUDIT-C questions and a modified NIDA Quick Screen
- Audi-C scores of 8 or higher and any responses on the NIDA quick screen prompt a Brief Intervention.
- BI was conducted by a non-profit community partner program FAVOR which uses Peer Recovery Coaches
- Referral to Treatment was setup with a next day appt.
- We also perform a COWS assessment and initiation of MAT with a single film of 8mg/2mg Bup/Naloxone

Results

- Total patients seen in ED (2 months) 15832
- Patients Screened (37%) 5814
- Positive NIDA Quick Screen 439
- AUDIT C =>8 220
- Naloxone 23
- Suboxone 8
- MAT induction 5
- 1st appt 63%
- Follow-up 40%

Sources


Conclusion

First Quarter Goals:
1. Background Training and Assimilation of NIDA resources, published results, and the protocols (On Going)
2. First Site Visit: Mass General Hospital, Dr. Raja (on hold 2/COVID-19)
3. Begin Needs Assessment for Upstate and Midland Regions of Prisma Health (On Going)
4. Begin the Plan Do Study Act (PDSA) Cycle for QI projects:
   - Plan for MOUD and Linkage to Care Implementation within Upstate and Midlands Regions of Prisma Health (On Going)

Second Quarter Goals:
1. Complete Needs Assessment for Upstate Region Prisma Health
2. Develop Limited Implementation of MOUD protocols and Linkage to Care at 2 of 7 EDs in Upstate Region of Prisma Health (1 rural site and at Level 1 Trauma Center)
3. Begin MOUD and enhanced Linkage to Care at these 2 Sites and PDSA cycle

Third Quarter Goals:
1. Evaluate limited implementation effectiveness- continue PDSA Cycle
2. Amend protocols as necessary based on data- continue PDSA Cycle
3. Develop plan for full implementation across Upstate Region
4. Begin full implementation across Upstate Region (all 7 EDs)
5. Complete Needs Assessment for Midlands Region of Prisma Health
6. Second Site Visit to Mass General Hospital, Dr. Raja other Local/State Resources to assist with mentorship for local advocacy goals for SC based on Needs Assessment

Fourth Quarter Goals:
1. Evaluate full implementation effectiveness- continue PDSA
2. Amend protocols as necessary based on data- continue PDSA Cycle
3. Develop Plan for Limited Implementation of MOUD protocols and Linkage to Care at 2 of 4 EDs in Midlands Region of Prisma Health (1 rural site and at Level 1 Trauma Center)
4. Begin MOUD and enhanced Linkage to Care at these 2 Sites and PDSA cycle
5. Evaluate limited implementation effectiveness- continue PDSA Cycle
6. Develop plan for full implementation across Midlands Region

Acknowledgments

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Funded by NIDA/SAEM Mentorship Award
Stamp Out Stigma-De-stigmatizing Substance Use Disorders and Comorbid Mental Illness Through Innovative Curricular Strategies

Annette Bettridge MS, PA-C, FNP

INTRODUCTION
Stigma exists with substance use disorders (SUD). SUD often co-exist with mental illness. Both conditions are often stigmatized and poorly understood by the general public and health care providers. A bidirectional relationship exists between SUD and comorbid mental illness (CMI) that can negatively impact health care outcomes such as morbidity, and mortality rates compared to the general population. By addressing both conditions, it is proposed that health care outcomes and access to care can be improved. The aim of this project is to design an innovative curriculum to educate physician assistant (PA) students on SUD and CMI in an effort to reduce stigma, improve access to mental health care, and improve health outcomes. Curricular additions will be added to the PA training program and contact based educational opportunities will be added to foster inter-professional collaboration in order enhance substance use disorder literacy.

OBJECTIVES
- Provide students with foundational evidence-based knowledge of SUD and CMI and their confounding relationship.
- Educate students to screen, educate, and work collaboratively with an inter-professional healthcare team to refer and improve access to mental health services via referrals and warm hand offs.
- Enhance PA skills, comfort, and confidence in working with patients through contact-based education to reduce SUD and CMI related stigma, improve the patient experience and quality of care.

MATERIALS AND METHODS
Two cohorts of A.T. Still PA students will receive core curriculum:
- Mental health first aid training
- Medication assisted treatment (MAT) waiver training
- SBIRT training
- Motivational interviewing training
- Health literacy training
- Social determinants of health training
- Nonviolent crisis intervention training
- Contact based panel discussions with individuals receiving treatment for SUD and CMI
- Arizona Pain and Addiction Curricular modules
- Health literacy training
- Motivational interviewing training
- SBIRT training
- Nonviolent crisis intervention training
- Contact based panel discussions with individuals receiving treatment for SUD and CMI
- Arizona Pain and Addiction Curricular modules
- Online interactive inter-professional SUD training module
- Inter-professional Education (IPE) collaborative learning with multidisciplinary team at ATSU and Crossroads Inc.
- Interactive simulated SUD and CMI patient communication drills
- Participation in twelve-step program and SUD group therapy sessions

CHALLENGES
- Clinical shut downs subsequent to coronavirus precautions
- University shut down and transition to online learning indefinitely
- Measuring qualitative data and lessons learned

RESULTS
Pending:
- Pre-survey and post-survey using validated tool, Opening Minds Scale for Health Care Providers (OMS-HC-15)
- Reflective writing assignments
- Debriefing sessions after contact based educational experiences
- Interprofessional Collaborative Competency Attainment Survey (ICCAS) validated tool post IPE learning activities
- Objective Structured Clinical Examination Rubric for simulated communication drill

REFERENCES

ACKNOWLEDGEMENTS
Susan Harrell DNP, Crossroads Inc., and AT Still University-Arizona School of Health Sciences
Opioid use disorder (OUD) is a major problem in the United States, and effective treatment has been immensely challenging. There is growing evidence that medication, such as buprenorphine, can assist in the recovery of patients with OUD. Buprenorphine can be safely initiated from the emergency department (ED)\(^1\). This project seeks to educate emergency physicians in an emergency department in New York City regarding the safe and effective use of buprenorphine and to increase the number of providers licensed to prescribe it.

### BACKGROUND

Opioid overdose deaths have been a major burden nationwide, with New York state having more than the national average in 2017, a rate of 16.1 deaths per 100,000 persons compared to the nationwide average of 14.6 deaths (CDC/NIDA).

Treatment for individuals with opioid use disorder has been remarkably difficult, but medications such as buprenorphine are showing promise. Studies have shown that treating ED patients with sublingual buprenorphine and providing referral for ongoing treatment is superior to referral alone.\(^1\) However, few emergency medicine physicians (EPs) are trained or licensed to prescribe buprenorphine. Currently in our ED in New York City there are 10 attending physicians with X-waivers out of a total of over 60 full time faculty. This provides a unique opportunity as we see many patients with OUD and are not yet offering buprenorphine induction in the ED.

### OBJECTIVES

1. Increase awareness of the evidence supporting buprenorphine for opioid use disorder among EPs
2. Encourage more EPs to become licensed to prescribe such medication (X-waivered) and examine its impact on buprenorphine initiation therapy from the ED

Prior to intervention, a survey to examine provider attitudes was administered to our EPs with a response rate of n=33 (approximately half of our full-time providers). Overall our EPs indicated that they support the use of medication assisted therapy (MAT) for patients with OUD, and many of them (69.7%) agree that there is a role for induction of MAT in the ED, though identified multiple barriers.

### METHODOLOGY

The target population of patients to start on MAT includes patients in moderate to severe opioid withdrawal. To identify these patients protocols will be put in place to screen patients in triage for the presence of OUD and this information, similar to domestic violence and suicide risk, will be easily visible in the medical record.

- A concise presentation of evidence regarding buprenorphine’s safety and effectiveness in treating patients with OUD from the ED will be shared with the faculty in group settings and individually.
- Efforts will be made to make X-waiver training accessible and convenient for the faculty, and faculty will be provided incentives for following through with training, including gift cards.
- Provider feedback will be provided to the faculty as a group and individually regarding numbers of X-waivered providers as well as numbers and rates of buprenorphine prescriptions provided in the ED, 30-day follow up in community substance abuse treatment clinics, and return ED visits.

### REFERENCES

Objective

**Aim 1:** Develop and conduct pre-survey to identify gaps in education and knowledge regarding substance use disorder

**Aim 2:** Develop, disseminate, and evaluate asynchronous online training series to backfill identified gaps

**Background**

This disease process demands on the healthcare industry to evolve

We are in the midst of a large-scale epidemic that impacts our patient populations and communities without discrimination or short-term relief

**Evident Gaps in Education**

- In order to prepare our CAP Fellows and Faculty to serve as ‘Conduits of HOPE’, we need to offer education, build motivation and investment, and approach this topic with comfort and compassion

**Pre-Survey Results**

<table>
<thead>
<tr>
<th>Table 1: Demographics</th>
<th>Overall</th>
<th>1st Year Fellows</th>
<th>2nd Year Fellows</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants n (%)</td>
<td>28 (100%)</td>
<td>10 (35.7%)</td>
<td>10 (35.7%)</td>
<td>8 (28.6%)</td>
</tr>
</tbody>
</table>

In the past five years, have you spent time rotating through the following settings:

- Adult Outpatient Addiction Treatment
- Adolescent Outpatient Addiction Treatment
- Inpatient Addiction Treatment

**Methods**

**Evaluation Plan**

- pre-survey questions were grouped into the following domains:
  - Humanizing Substance Use Screening and the Brief Negotiated Interview
  - Opioid Overdose Prevention Assessment and Diagnosis of Substance Use Disorders
  - Landscape of Addiction Treatment Medication for Addiction Treatment

**Step 3**

- Draft voiceover scripts and record training series
- Format videos and insert into online platform

**Step 4**

- Disseminate asynchronous online training series
- Conduct post-session surveys
- Analyze survey data

**Step 5**

- Conduct 3-month follow-up survey to assess sustained knowledge & perceived behavior changes
- Analyze survey data

**Discussion**

**Expected outcomes**

- Marked improvement in knowledge, attitudes, and perceived skills
- Qualitative comments by fellows and faculty
- Self-reported changes in behaviors post-educational series

**Keys to Success of this Educational Intervention**

- High visibility of topic
- Buy-in of key stakeholders
- Securing protected time to match depth of topic
- Interprofessional/interdisciplinary approach to planning and execution
- Learner feedback on self-identified content areas

**Limitations**

- Variations in professional and personal experience, education, and interest in addressing substance use among participants based on different level of training in medical school and residency

**Conclusion**

**Future Plans**

- Development and execution of this CAP Educational Series
- Dissemination of lessons learned to additional training programs via presentation at AACAP and AADPRT meetings

**References**