Sigma's 30th International Nursing Research Congress

Addressing the Opioid Epidemic Among Under-Resourced Populations: Development of a Team-Based Medication Assisted Treatment Program

Alexa Colgove Curtis, PhD, MPH, FNP-BC
School of Nursing and Health Professions, University of San Francisco, San Francisco, CA, USA

Purpose: Over the last two decades the opioid epidemic has emerged as a critical global health issue. Opioid misuse, primarily prescription pain relievers, heroin, and illicitly manufactured fentanyl, significantly contribute to a number of serious public health issues including addiction and dependence, unintentional overdose deaths, neonatal abstinence syndrome, HIV and hepatitis C infections (Center for Disease Control and Prevention [CDC], 2017a; National Institute of Drug Abuse [NIDA], 2018a). Other consequential health effects of opioid misuse include chronic constipation and fecal impaction, dry mouth and tooth decay, increased pain sensitivity exacerbating chronic pain syndromes, hormonal and sexual dysfunction, increased risk for sexually transmitted infections, skin infections and blood clots, unintentional injury from falls, and increased suicidality for people with co-occurring mental health disorders (Kolodny, 2015; Zaderenko, 2018).

An estimated 27 million people globally suffered from opioid use disorder in 2016 (WHO, 2018). Premature mortality due to opioid use disorder is most prevalent in North America, Eastern Europe and sub-Saharan Africa (Degenhardt et al., 2014). In the United States, results from the National Survey on Drug Use and Health [NSDUH] indicate that approximately 11.8 million people over the age of 12 misused opioids in 2016, constituting 4.4% of the population (United States Department of Health and Human Services [USDHHS], 2017). The highest percentage of the population misusing opioids is among the ages of 18-25, 7.3% of the population (USDHHS, 2017). Data demonstrate disparities and potential vulnerabilities in opioid misuse within non-metropolitan communities, specifically for adolescents and young adults (USDHHS, 2017). Although the overall trend in opioid misuse has decreased from a 2006 peak (Substance Abuse and Mental Health Services Administration [SAMHSA], 2017), the number of deaths from opioid overdose has continued to rise (CDC, 2017a). It is presumed that this increase in deaths is accounted for by the transition to heroin and synthetic fentanyl as prescription opioids have become less available on the street.

The economic costs of the opioid epidemic are substantial. In the United States, the estimated economic cost of the opioid crisis in 2015 was 504 billion dollars, 2.8% of the GDP (Council of Economic Advisors, 2017), and the cumulative economic costs to society since 2001 is estimated to exceed one trillion dollars (Altarum, 2018). Societal costs are incurred in the workplace, healthcare and the criminal justice systems (Birnbaum, 2011). Costs to humanity include family disruption, child abuse and neglect, and violence (Hoban, 2017; National Advisory Committee on Rural Health and Human Services, 2016).

Opioid use disorder is a bio-psycho-social-spiritual, chronic and relapsing, illness (American Society of Addiction Medicine (ASAM), 2015). Diagnosis is made in accordance with the DSM5 substance use disorder criteria (ASAM, 2015). Effective treatments are available for opioid use disorder but less than 10% of persons with an opioid use disorder receive the needed treatment (WHO, 2018). Medication Assisted Treatment (MAT), using agonist (buprenorphine or methadone) or antagonist (naltrexone) therapies, is effective in the management of opioid use disorder among medically eligible and motivated patients. Methadone is a full opioid agonist whereas buprenorphine is a partial opioid agonist which creates a ceiling for the opioid effects thus reducing the risk of overdose and limiting the psychogenic properties (ASAM,2015). Buprenorphine is commonly provided in a formulation containing naloxone, an opioid antagonist, which limits the abuse potential of the medication. There is insufficient outcome data to support the choice of one opioid agonist over another in MAT but the availability of buprenorphine through office based settings as opposed to specialty opioid agonist treatment centers for methadone has increased the reach of MAT, particularly for rural communities (Stein, Gordon, Sorbero, Dick, Schuster & Farmer, 2012). Buprenorphine is also sometimes preferred over methadone because of the lower risk of overdose (Mccarty, Priest & Korthuis, 2018). Although demonstrated to be effective, the use of naltrexone

antagonist therapy in clinical practice remains limited (Mccarty, Priest & Korthuis, 2018). Patient care for opioid use disorder using MAT involves the management of acute withdrawal, medication induction, stabilization, maintenance and eventual drug tapering as appropriate. However, research continues to demonstrate a rapid rate of return to opioid misuse among patients after discontinuation of MAT (Mccarty, Priest & Korthuis, 2018). Long-term use of opioid agonist therapy is often recommended because of the high rate of return to misuse and the risk of overdose when misuse is resumed (Mccarty, Priest & Korthuis, 2018). Complimentary behavioral health therapies are recommended concurrent with pharmaceutical management.

In specialty substance use disorder treatment, multidisciplinary, team-based, coordinated care models have demonstrated particular success in the delivery of effective and sustainable MAT services (Lagisetty, Klasa, Bush, Heisler, Chopra & Bohnert, 2017). This presentation will describe outcomes from the development of an inter-professional, team-based MAT program within a community-based substance use recovery organization in a non-metropolitan area.

Methods: This project was a collaborative development of an interprofessional, team-based MAT program within a community-based substance use recovery organization. The project was implemented within a community-based substance use recovery organization in a rural community in the United States. The target population for the project was under-served rural residents with a current opioid use disorder.

Results: MAT program retention in this project met the benchmark established in the literature. A systematic review of MAT programs benchmarked successful program retention at approximately 60% (Lagisetty, Klasa, Bush, Heisler, Chopra, Bohnert, 2018). The initial outcome data for this project indicate a 79% retention in recovery overall and a 74% retention within the MAT implementation project. Participant satisfaction with the service was excellent. System sustainability and provider satisfaction were excellent overall. Eighty-four percent of participants indicated that MAT with buprenorphine/naloxone was greatly helpful to their recovery. Ninety-two percent of participants identified the project MAT program as very important to their recovery. The project demonstrated financial sustainability and overall provider satisfaction.

Conclusions: Addressing the opioid epidemic is a public health imperative. Success in treating opioid use disorder using MAT is evident in the available literature and in this interprofessional MAT project. More research needs to be conducted on how to best sustain opioid use disorder treatment, particularly among vulnerable populations.

Title:
Addressing the Opioid Epidemic Among Under-Resourced Populations: Development of a Team-Based Medication Assisted Treatment Program

Keywords:
Buprenorphine, Medication Assisted Treatment and Opioid use disorder

References:
Altarum (2018). Economic toll of opioid crisis in U.S. exceeded $1 trillion since 2001. Retrieved from https://altarum.org/about/news-and-events/economic-toll-of-opioid-crisis-in-u-s-exceeded-1-trillion-since-2001.

American Society of Addiction Medicine (ASAM) National Practice Guideline for the Use of Medications in the Treatment of Addiction Involving Opioid Use. (2015). United States, North America: Lippincott Williams & Wilkins.

Birnbaum, H.G., White, A.G., Schiller, M., Waldman, T., Cleveland, J.M., & Roland, C.L. (2011). Societal costs of prescription opioid abuse, dependence, and misuse in the United States. *Pain Medicine,12*(4):657–67.

Center for Disease Control and Prevention [CDC] (2017a). Understanding the epidemic. Retrieved from https://www.cdc.gov/drugoverdose/epidemic/index.html

Council of Economic Advisors (2017). The underestimated cost of the opioid crisis. White House website. Retrieved from https://www.whitehouse.gov.

Degenhardt, L., Charlson, F. Mathers, B. Hall, W.D., Flaxman, A.D., Johns, N. & Vos, T. (2014). The global epidemiology and burden of opioid dependence: results from the global burden of disease 2010 study. *Addictions, 109*(8), 1320-33, doi: 10.1111/add.12551.

Hoban, B. (2017). The far reaching effects of the opioid crisis. Brookings. Retrieved from https://www.brookings.edu/blog/brookings-now/2017/10/25/the-far-reaching-effects-of- the-us-opioid-crisis/

Kolodny, A., Courtwright, D.T., Hwang, C.S., Kreiner, P., Eadie, J.L…… Alexander, G.C. (2015). The prescription opioid and heroin crisis: A public health approach to an epidemic of addiction. *Annual Review of Public Health, 36,* 559-574. doi:10.1146/annurev-publhealth-031914-122957

Lagisetty P., Klasa, K., Bush, C., Heisler, M., Chopra, V., Bohnert, A. (2017). Primary care models for treating opioid use disorders: What actually works? A systematic review. *PLoS One 12*(10), e0186315. https://doi.org/10.1371/journal.pone.0186315.

Mccarty, D., Priest, K. C., & Korthuis, P. T. (2018). *Annual Review of Public Health*, *39*, 525-541. doi:10.1146/annurev-publhealth-040617-013526 (12)

National Advisory Committee on Rural Health and Human Services (2016). Families in crisis: The human service implications of rural opioid misuse. Retrieved from https://www.hrsa.gov/advisorycommittees/rural/publications/opioidabuse.pdf

National Institute of Drug Abuse [NIDA] (2018a). Opioid overdose crisis. Retrieved from https://www.drugabuse.gov/drugs-abuse/opioids/opioid-overdose-crisis

Stein, B. D., Gordon, A. J., Sorbero, M., Dick, A. W., Schuster, J., & Farmer, C. (2012). The impact of buprenorphine on treatment of opioid dependence in a Medicaid population: Recent service utilization trends in the use of buprenorphine and methadone. *Drug and Alcohol Dependence, 123* (1-3), 72-78.

Substance Abuse and Mental Health Services Administration [SAMHSA] (2017). The CBHSQ reports. Retrieved from https://www.samhsa.gov/data/sites/default/files/report_3186/Spotlight-3186.html

United States Department of Health and Human Services [USDHHS] (2017). Key Substance Use and Mental Health Indicators in the United States: Results from the 2016 National Survey on Drug Use and Health. Retrieved from https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2016/NSDUH-FFR1-2016.htm#opioid1

World Health Organization [WHO] (2018). Information sheet on opioid overdose. Retrieved from http://www.who.int/substance_abuse/information-sheet/en/

Zaderenko, S. (2018). Opioid abuse and dependence. Dynamed. Retrieved from www.dynamed.com

Abstract Summary:
This presentation will explore the epidemiology and management of opioid use disorder and then describe the development and evaluation of an interprofessional, team-based, medication assisted treatment program for under-resourced populations in a non-metropolitan community.

Content Outline:
Addressing the Opioid Epidemic Among Under-Resourced Populations: Development of a Team-based Medication Assisted Treatment Program

I. Health Effects of Opioid Misuse

1. addiction and dependence, unintentional overdose deaths, neonatal abstinence syndrome, HIV, hepatitis C infections, chronic constipation and fecal impaction, dry mouth and tooth decay, increased pain sensitivity exacerbating chronic pain syndromes, hormonal and sexual dysfunction, increased risk for sexually transmitted infections, skin infections and blood clots, unintentional injury from falls, and increased suicidality

II. Epidemiology of Opioid Use Disorder

1. 27 million people globally
2. Global disparities: North America, Eastern Europe and sub-Saharan Africa
3. Opioid related deaths on the rise
4. Societal costs
5. Demographic Disparities

III. Opioid Use Disorder Treatment

1. Pharmaceuticals: Methadone, Buprenorphine, Naltrexone
2. Medication Assisted Treatment (MAT)
3. Team-based MAT

IV. Outcomes from A Team-based MAT Pilot

1. Retention in Treatment
2. Patient Satisfaction
3. System Effectiveness

First Primary Presenting Author
Primary Presenting Author
Alexa Colgove Curtis, PhD, MPH, FNP-BC
University of San Francisco
School of Nursing and Health Professions
Associate Professor
San Francisco CA
USA

Author Summary: Dr. Alexa Colgrove Curtis is a family nurse practitioner with over 25 years caring for vulnerable populations in the rural community including those at risk for substance use disorders. She is a member of a SAMHSA funded Medication Assisted Treatment training grant to improve the treatment of opioid use disorder. Her scholarship interests include rural population health and access to care for vulnerable populations.