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Community Collaborations for Health Improvement in Laurel County, Kentucky: A Case Study

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Community Collaborations for Health Improvement in Laurel County, Kentucky: A Case Study

Capstone Project Paper

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By

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Abstract

Kentucky is currently ranked fifth in the United States for opioid-involved overdose deaths. This study assesses how the results of a community health needs assessment have developed collaborative community effort to create and expand services and programs to address opioid and substance use disorder in Laurel County, Kentucky. This particular community continues to rank opioid and substance abuse as a major health concern causing efforts to be put in place to create an opioid response program. A consortium was formed that developed the community health needs assessment survey. The results from the survey were then incorporated in to a strategic plan and put in to action.

This case study reviews the outcomes of a community health needs assessment survey and the response of community organizations to collaborate and address the needs that are identified. Descriptive statistics were used to summarize the survey results and report to the public. The 2018 community health needs assessment survey found that 73.5% of residents ranked substance abuse as a top health concern, followed by chronic disease (36.5%) and mental health (35.2%).[21] Programs that were developed in Laurel County as a response include: a syringe exchange program (SEP), an overdose quick response team, a contract with Project Lazarus, and Laurel County Agency for Substance Abuse Policy (ASAP) providing all first responders with needle-resistant gloves. Laurel County can benefit by improving geographical diversification of providers and improve the access to treatment by increasing the number of medication-assisted treatment (MAT) providers. Opportunities for expansion of harm reduction strategies also include providing naloxone, training for naloxone administration, and encouraging community partners to develop policies to co-prescribe naloxone with opioids. The aim of this

study is to provide resources, programs and services, and growth in providers and practitioners for the treatment of opioid and substance use disorder (OUD/SUD) in Laurel County, Kentucky.

Keywords: Laurel County, community health needs assessment, opioid and substance use disorder, programs, harm reduction, strategic plan

Table of Contents

Abbreviations

ASAP	Agency for Substance Abuse Policy
CDC	Centers for Disease Control and Prevention
CHNA	Community Health Needs Assessment
HIDTA	High Intensity Drug Trafficking Area
HRSA	Health Resources and Services Administration
KASPER	Kentucky All Schedule Prescription Electronic Reporting
KHIP	Kentucky Health Issues Poll
MAT	Medication-Assisted Treatment
MME	Morphine Milligram Equivalent
OUD	Opioid Use Disorder
RCORP	Rural Communities Opioid Response Program
SUD	Substance Use Disorder

Introduction

Laurel County is located in south-central Kentucky and is currently home to more than 60,000 Kentuckians. The communities that are a part of Laurel County include London, North Corbin, East Bernstadt, Keavy, and Lily. Laurel County is in a location known to be a high drug trafficking area with a high rate of opioid use.[1] Laurel County has identified opioid and substance use disorders as a major problem in the community, causing efforts to be put in place to help create an opioid response program.[1] The Rural Communities Opioid Response Program (RCORP) is a grant supported by the Health Resources and Services Administration (HRSA) that addresses barriers in access related to opioid and substance use disorder.[2] A consortium was formed and met once a month for a year to develop the community health needs assessment survey, which was then incorporated in creating a strategic plan. The 2018 Laurel County Community Health Needs Assessment Survey was conducted by the Laurel County Health in Motion Coalition, which is comprised of over twenty community agencies. There were 1,002 community health needs assessment (CHNA) surveys collected. A CHNA systematically identifies and analyzes health needs in order to prioritize which needs to act upon.

Laurel County continues to rank substance abuse as the main strategic priority. This study will explore what local community groups and organizations are doing to address the concerns of the members of Laurel County. The goal of the study is to look at the process and the outcome of the CHNA in Laurel County to determine the results informed local community groups to improve health and safety. Ultimately, this study will assess how the results of the community health needs assessment have supported collaborative community efforts to create and expand services and programs to address opioid and substance use disorder in Laurel County.

Review of the Literature

The literature focuses on the causes of opioid and substance use disorder, and the opioid epidemic in the Unites States, Kentucky, and more specifically Laurel County. The literature will also explore research that supports the community health needs assessment survey and the programs and services that are created and expanded upon in the community.

Causes of opioid and substance use disorder (Figure 1):

Drug

The United States has not faced such a devastating health problem like OUD since the HIV/AIDS epidemic. This article provides statistics for use and misuse of opioids, as well as risk factors for opioid related harm.[3] Death rates associated with OUD continue to rise for all population groups, but the rate is highest among males under the age of 50.[3] The group using opioids for non-medical reasons is 18-25, but the greatest use of opioids is age 26 and older.

One of the risk factors for opioid use disorder is chemical compound. This includes the chemical components of the drug and the chemical compound in one's brain. Opioids include drugs such as morphine, heroin, fentanyl and oxycodone. Opium is a chemical that comes from poppies and has been used to treat pain for thousands of years.[6] Opioids have the ability to impersonate the chemicals in your brain called endorphins, which are neurotransmitters that allows for a person's brain to produce experiences of intense pleasure and joy.[6] These feelings of pleasure and pain relief are much more intense from the use of opioids than the natural release of endorphins that our bodies produce. As an individual continues to frequently take the drug they build a tolerance and require a higher dosage of the drug/opioid in order to feel pleasure and pain relief, and they continue to take the drug to avoid withdrawal symptoms. Experiments have

found that likability of a drug plays a role in liability of abuse of that drug.[3] Another risk factor for substance use disorder is prescribing patterns. There was an increase in opioid prescriptions in the 90s, which also led to nonmedical opioid use increasing. This includes the number of pills prescribed and dosage. The greater the number of days that a prescription is written for and the higher the dosage of said prescription, the greater the risk of exposure.[3] Three days or less of an opioid prescription typically will suffice to help in pain that is severe enough to be using opioids. Most opioids are intended to treat acute pain, such as postoperative pain, but are continuing to be used far beyond the intended healing time. This can lead to the injury not healing, progression of pain and opioid dependence/OUD.

Studies have found that in the past the more opioids the physicians would prescribe the greater the reimbursements received.[4] An analysis conducted by Harvard T.H. Chan School of Public Health, Harvard Medical School, and CNN found that in 2014 and 2015 opioid manufacturers paid well over six figures to hundreds of physicians as a way to encourage the prescribing of that manufacturers drug.[4] The pattern of prescribing a large amount of opioids created value for physicians and lead to a viscous cycle.

Diagnosis

There are many factors that play a role in opioid use, which can lead to OUD, and sometimes these factors are related to a specific diagnosis such as chronic pain and mental illness. Opioids produce high levels of reinforcement, increasing the odds of a person continuing to use them despite negative consequences.[5] Many people who develop OUD have depression, attention deficit disorder, post-traumatic stress disorder or other mental health issues.[7] An increasingly stressful lifestyle and low-self esteem also are common risk factors for opioid and substance abuse. Many turn to substance use when dealing with chronic pain or a mental illness, but

abusing substances can continue to cause depression, infection, loss of job, and problems with memory and concentration.[7] Poverty is also a risk factor due to increased stress of circumstances and loss of employment.[8] OUD and SUD may also result in poverty due to the expense of purchasing the drug and the inability to maintain employment due to mental illness or substance abuse. Personal history is also a risk factor that can tie in with a diagnosis. These may include environmental distress, depression and anxiety, abuse and other past traumatic events.

Genetics

Genetics also plays a role in OUD and SUD. Children that grow up in a setting where they see their parents abusing drugs are at risk of developing substance use disorder for not only environmental reasons but also genetic reasons.[7] Family history of addiction puts a person at risk due to shared genetic factors, and a person's genetics can make them 50% more likely to develop OUD.[5] Many of the genes that are thought to play a role in opioid addiction are found in the endogenous opioid system, which is the body's internal system for regulating pain and addictive behaviors.[9] Introducing opioids from outside of the body affect the receptors' structure and function which influences how the body responds to opioids. This includes how much an opioid medication is needed to achieve pain relief; this type of variation can lead to the risk of opioid addiction.[9]

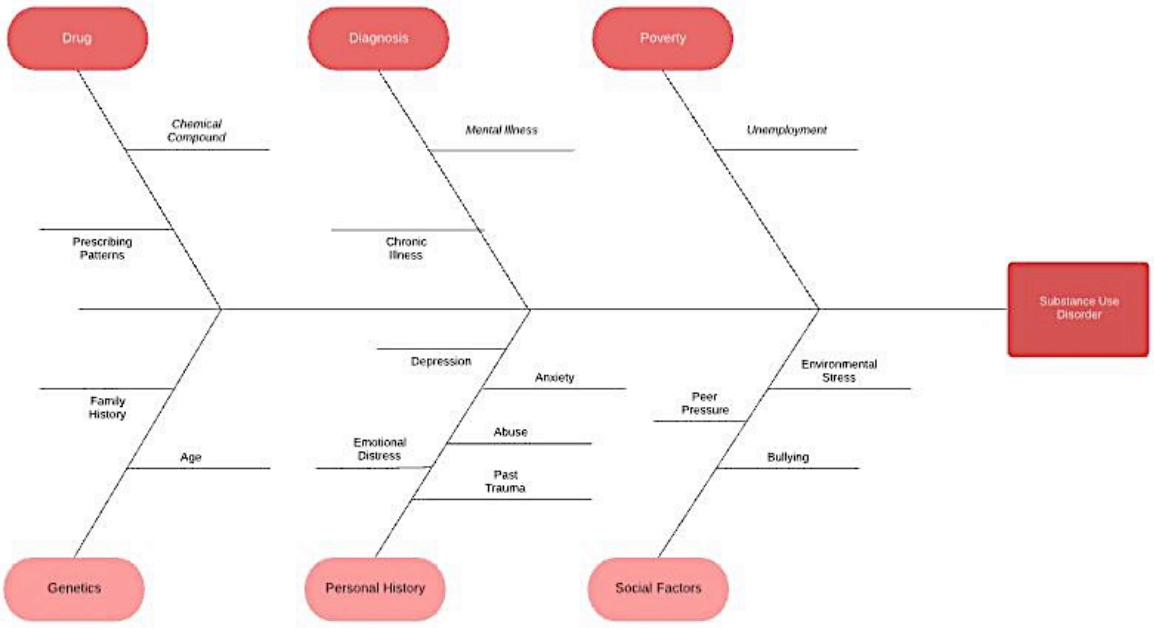
Social Factors

Environmental stressors, bullying and peer pressure are also risk factors for developing OUD and SUD. Environmental factors include family's beliefs and attitudes towards drugs, as well as peer groups that encourage drug use, especially for young people.[10] Social influences and family influences are typically present simultaneously, which creates a complex system of risk factors for adolescent SUD.[11] When a person believes that their popularity within a group will

increase with the use of substances they are more likely to participate in the use of substances. Bullying, whether someone is the victim, perpetrator or both, increases the risk for mental health disorders and psychosocial problems, which are risk factors for SUD.[11]

Figure 1

"Risk Factors/Effect- Substance Use Disorder"



Note. Fishbone Diagram for Substance Use Disorder
Image retrieved from "Risk Factors/Effect-Substance Use Disorder." Carman, A. (2020). Angela Carman, DrPH. (2020, January 14). "Quality Improvement Techniques for Public Health: Useful in Addressing the Substance Use Disorder Crisis?"

Opioid Use in the United States

The United States as a whole is in the middle of an opioid epidemic, due in part to the increased prescribing rates that occurred from the mid to late 90s through 2010. From 1999-2018, nearly 470,000 people died from overdoses involving opioids.[12,13] The rise in opioid deaths can be outlined in three waves: the first wave was the 1990s with an increase in prescribing opioids; the second wave began in 2010 when overdose deaths increased due to

heroin; the third wave began in 2013 with overdose deaths significantly increasing due to synthetic opioids, such as fentanyl.[12,14,15,16] The amount of opioids prescribed peaked in 2010 at 782 morphine milligram equivalents (MME) per capita, and then decreased each year after that to 640 MME.[17] The amount of opioids prescribed in 2015 were still three times higher than in 1999.

The current reduction in opioid prescribing is related to an increase in the awareness of the risks of opioid abuse, as well as policies that have been created at the state level to reduce inappropriate opioid prescribing.[17] Even though we are seeing a decrease in prescribing rates; there is an increase in overdose deaths due to opioids. This is due to the use of illicit drugs.[17] There are large inconsistencies in county's practice patterns where there is variation in prescribing. Physicians in high prescribing counties prescribe six times more opioids per person compared to the lowest prescribing counties.[17] Beyond reducing prescribing rates, it is evident that there needs to be a greater public health approach to address social norms around opioids and increase public awareness. One of the barriers in substance abuse treatment is the national shortage of providers trained to treat OUD and SUD. Only seven percent of doctors can effectively treat OUD and SUD. Only ten percent of people in need to addiction services in the U.S. receive adequate treatment.[33] The epidemic of OUD is multifaceted and requires collaboration from across the Unites States to respond with efficient health care and public safety tactics. There is a national shortage of providers trained to treat OUD and SUD.

Opioid Use in Kentucky

Kentucky is currently ranked fifth in the United States for opioid overdose deaths.[18] Kentucky is also among the top ten states for highest prescribing rates with 86.8 opioid

prescriptions for every 100 persons in 2017.[19] The Centers for Disease Control and Prevention (CDC) has identified 220 counties in Kentucky that are at risk for outbreaks due to the opioid epidemic. Of the people in Kentucky suffering from drug dependence or abuse, 81.9% of those people go untreated.[20] There have been bills proposed, such as Kentucky House Bill 121 that helps remove barriers to treatment by removing administration burdens. There also is an expansion of programs and services, for example syringe exchange programs, in counties all over the state to help find an end to the opioid epidemic. The University of Kentucky and UK Healthcare are addressing opioid abuse by helping those seeking recovery and protecting those who are vulnerable caught in the deadly pathway of addiction.

Opioid Use in Laurel County

Laurel County is in a location known to have high drug trafficking and there are documented high rates of opioid use.[1] London, Kentucky is home to the headquarters of the Appalachian High Intensity Drug Trafficking Area (HIDTA).[1] The focus of the program is to disrupt the market for illegal drugs by assisting federal, state, local and tribal law enforcement entities and to improve the efficiency and effectiveness of drug control efforts.[1,30] Laurel County partners are concerned about the high volume of controlled substances and number of doses that are being prescribed to individuals by their health care provider.[1] The Kentucky All Schedule Prescription Electronic Reporting (KASPER) reported 2,500,297 doses of controlled substance usage in the first quarter of 2018 and an actual number of 1,094,579 for all opioid doses (Table 1).[1,31] In 2017 Laurel County had an overdose rate of 18.3 overdoses per 100,000 people. Kentucky State Police conducted 1,863 drug-related arrests in the county, 345 of those arrests

were methamphetamine related, 10 were related to heroin, and 1,085 were related to prescription drugs and synthetic narcotics.[34]

Table 1

KASPER 2018 Data	Laurel	Kentucky
Rate of patients receiving daily opioid morphine equivalent dosage ≥ 100 per 1,000 residents aged 18-65 per Quarter 1, 2018 (KY All Schedule Prescription Electronic Reporting (KASPER), 2018)	3 per 1000	Not available
Actual Number of all Opioid Doses for Quarter 1, 2018 (KASPER, 2018)	1,094,579 Doses	71,859,967 Doses
Controlled Substance Usage, Quarter 1, 2018 (KASPER, 2018)	2,500,297 Doses	169,514,311 Doses
Actual Number of Hydrocodone Usage for Quarter 1, 2018 (KASPER, 2018)	505,427 Doses	34,173,396 Doses
Actual Number of Oxycodone Usage for Quarter 1, 2018 (KASPER, 2018)	197,467 Doses	17,558,418 Doses

Note. The Kentucky All Schedule Prescription Electronic Reporting (KASPER) 2018 data
Image retrieved from Laurel County Rural Communities Opioid Response Program Strategic Plan. Laurel County Health Department. 2019.

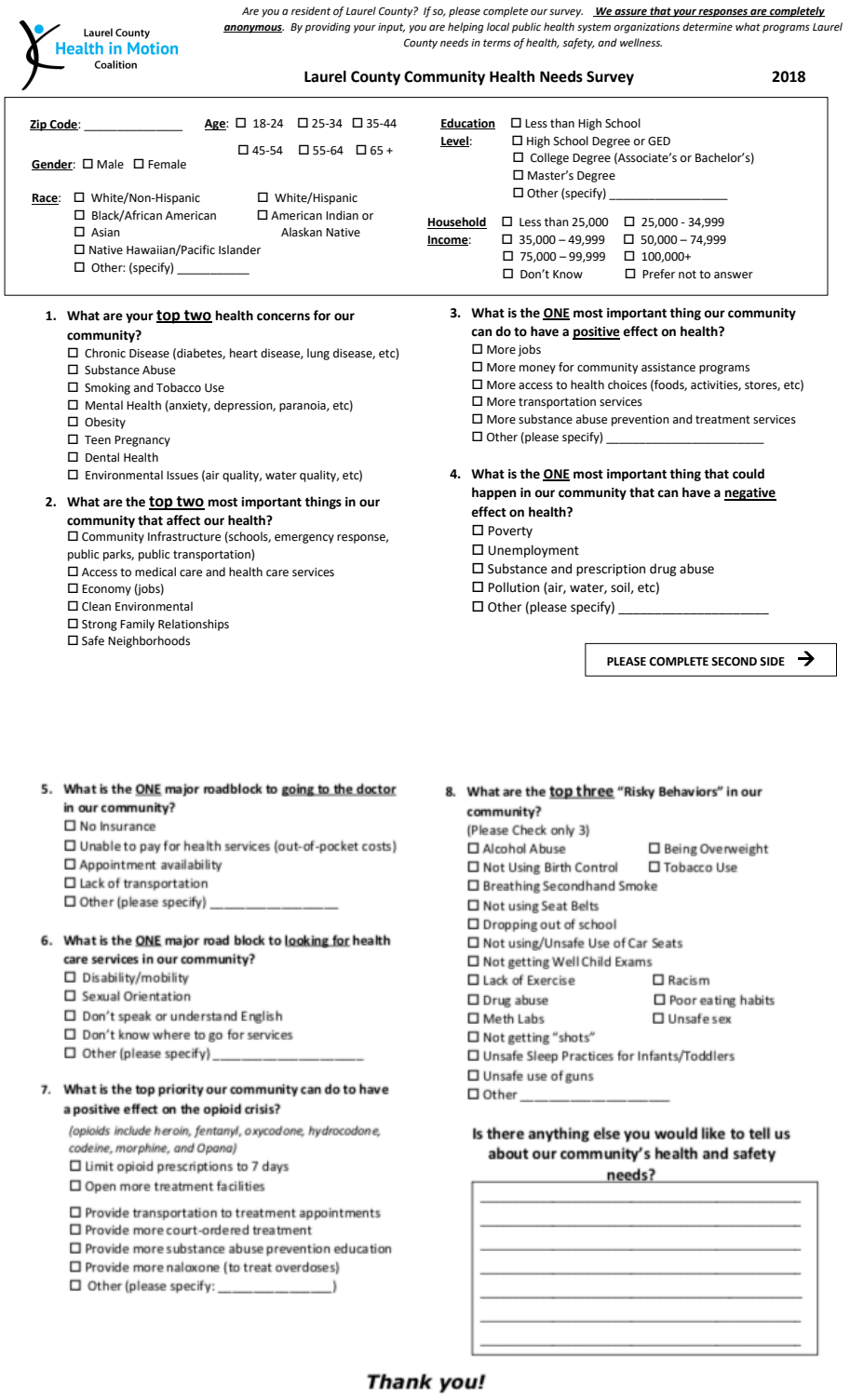
The Health in Motion Coalition in Laurel County, Kentucky administered the community health needs assessment survey that included eight questions to determine the needs of the community (Figure 2). Among the questions asked, the top health concerns reported were substance abuse (73.5%), followed by chronic disease (36.5%) and mental health (35.2%).[21] The CHNA determined that substance abuse was the number one strategic priority. The survey included items asking what was the most important thing that the community could provide in order to have a positive impact on health, and the top responses were to increase access to healthy choices (i.e. foods, stores, activities), as well as provide more substance abuse prevention and treatment programs/services.[1] The events that could have a negative effect on the community were identified as substance and prescription drug use (54.9%), followed by poverty (24.3%) and unemployment (14.4%).[1] The survey also asked what would be the most effective way for the health department to have a positive impact on the opioid crisis. The top recommendations were

to limit opioid prescriptions to seven days and provide more court ordered treatment programs. The main "risky behaviors" identified were drug abuse, methamphetamine labs and alcohol abuse.

The survey was administered from June 18, 2018-August 17, 2018. Surveys were administered both electronically and by hard copy to residents of Laurel County. The final report was completed on August 22, 2018. The report was then utilized by the Laurel County RCORP in the development of the strategic plan. Laurel County has made advancements in answering the needs of the community by creating a syringe exchange program and community outreach bus, providing needle resistant gloves to the London police department, and being a distribution site for "Give Me a Reason" drug testing program. "Give Me a Reason" is a voluntary drug-testing program designed for youth to avoid peer pressure and give a reason to say "no" to drug use.[22]

A community needs assessment is made up of three main categories: policy change, systems change and environmental change.[23] Policy change includes laws, regulation, rules, and procedures that influence behavior. System changes are those that affect all community components, including social norms. Environmental changes relate to physical, social, or economic factors that influence people's behaviors.[23] The assessment provides views of local policy, systems, and environmental change strategies that are currently in place and provides supporting evidence that shows which areas need improvement. Once this information is collected communities can use it to create strategies for health improvement and make sustainable changes.[23] Exploring literature to understand why a community needs assessment is important will help with the implementation of the survey and prompt successful outcomes. The CDC is a great resource for the development of the survey and establishing the components needed to be effective.

Figure 2



Laurel County Health in Motion Coalition

*Are you a resident of Laurel County? If so, please complete our survey. **We assure that your responses are completely anonymous**. By providing your input, you are helping local public health system organizations determine what programs Laurel County needs in terms of health, safety, and wellness.*

Laurel County Community Health Needs Survey 2018

Zip Code: _____ **Age**: ☐ 18-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65 +

Gender: ☐ Male ☐ Female

Race: ☐ White/Non-Hispanic ☐ White/Hispanic ☐ Black/African American ☐ American Indian or Alaskan Native ☐ Asian ☐ Native Hawaiian/Pacific Islander ☐ Other: (specify) _____

Education Level: ☐ Less than High School ☐ High School Degree or GED ☐ College Degree (Associate's or Bachelor's) ☐ Master's Degree ☐ Other (specify) _____

Household Income: ☐ Less than 25,000 ☐ 25,000 - 34,999 ☐ 35,000 – 49,999 ☐ 50,000 – 74,999 ☐ 75,000 – 99,999 ☐ 100,000+ ☐ Don't Know ☐ Prefer not to answer

1. **What are your top two health concerns for our community?**
   ☐ Chronic Disease (diabetes, heart disease, lung disease, etc)
   ☐ Substance Abuse
   ☐ Smoking and Tobacco Use
   ☐ Mental Health (anxiety, depression, paranoia, etc)
   ☐ Obesity
   ☐ Teen Pregnancy
   ☐ Dental Health
   ☐ Environmental Issues (air quality, water quality, etc)
2. **What are the top two most important things in our community that affect our health?**
   ☐ Community Infrastructure (schools, emergency response, public parks, public transportation)
   ☐ Access to medical care and health care services
   ☐ Economy (jobs)
   ☐ Clean Environmental
   ☐ Strong Family Relationships
   ☐ Safe Neighborhoods
3. **What is the ONE most important thing our community can do to have a positive effect on health?**
   ☐ More jobs
   ☐ More money for community assistance programs
   ☐ More access to health choices (foods, activities, stores, etc)
   ☐ More transportation services
   ☐ More substance abuse prevention and treatment services
   ☐ Other (please specify) _____
4. **What is the ONE most important thing that could happen in our community that can have a negative effect on health?**
   ☐ Poverty
   ☐ Unemployment
   ☐ Substance and prescription drug abuse
   ☐ Pollution (air, water, soil, etc)
   ☐ Other (please specify) _____

PLEASE COMPLETE SECOND SIDE →

5. **What is the ONE major roadblock to going to the doctor in our community?**
   ☐ No Insurance
   ☐ Unable to pay for health services (out-of-pocket costs)
   ☐ Appointment availability
   ☐ Lack of transportation
   ☐ Other (please specify) _____
6. **What is the ONE major road block to looking for health care services in our community?**
   ☐ Disability/mobility
   ☐ Sexual Orientation
   ☐ Don't speak or understand English
   ☐ Don't know where to go for services
   ☐ Other (please specify) _____
7. **What is the top priority our community can do to have a positive effect on the opioid crisis?**
   (opioids include heroin, fentanyl, oxycodone, hydrocodone, codeine, morphine, and Opana)
   ☐ Limit opioid prescriptions to 7 days
   ☐ Open more treatment facilities
   ☐ Provide transportation to treatment appointments
   ☐ Provide more court-ordered treatment
   ☐ Provide more substance abuse prevention education
   ☐ Provide more naloxone (to treat overdoses)
   ☐ Other (please specify: _____)
8. **What are the top three "Risky Behaviors" in our community?**
   (Please Check only 3)
   ☐ Alcohol Abuse ☐ Being Overweight
   ☐ Not Using Birth Control ☐ Tobacco Use
   ☐ Breathing Secondhand Smoke
   ☐ Not using Seat Belts
   ☐ Dropping out of school
   ☐ Not using/Unsafe Use of Car Seats
   ☐ Not getting Well Child Exams
   ☐ Lack of Exercise ☐ Racism
   ☐ Drug abuse ☐ Poor eating habits
   ☐ Meth Labs ☐ Unsafe sex
   ☐ Not getting "shots"
   ☐ Unsafe Sleep Practices for Infants/Toddlers
   ☐ Unsafe use of guns
   ☐ Other _____

Is there anything else you would like to tell us about our community's health and safety needs?

_____
_____
_____
_____
_____
_____
_____

Thank you!

Note: 2018 Community Health Needs Assessment Survey
Survey image retrieved from Laurel County Health in Motion Coalition 2018 Community Health Survey Results. Retrieved from https://www.laurelcohealthdept.org/documents/SurveyResults.pdf

Methods

This is a case study about the outcomes of a community health needs assessment survey and the response of community organizations to collaborate and address the needs that have been identified. Laurel County was awarded a grant for the Rural Communities Opioid Response Program (RCORP) that is supported by the Health Resources and Services Administration (HRSA). The Laurel County RCORP grant addresses barriers in access related to substance use disorder (SUD) and opioid use disorder (OUD). One of the first steps of Laurel County RCORP was to conduct a community health needs assessment by administering a survey to the community members to identify the major problems in their area.

The surveys were conducted in the summer of 2018 from June-August. Surveys were administered both electronically and by hard copy. Tables were set up at various locations in the community where people could complete the surveys. Local organizations were contacted to have them help in administering the surveys to their clients. Businesses helped as well by allowing employees to complete the survey. The format included a demographics section, followed by eight multiple-choice questions and a free response box to discuss the community's health and safety needs (Figure 2). Electronically, there was a "Survey Monkey" link that was sent out and advertised on social media to direct people to the survey to be completed. The survey results were then reported by the Laurel County Health in Motion Coalition.

The next step was to address the needs that were identified by the community by developing a strategic plan to discuss prevention, treatment and recovery services offered and where the county lacks in resources, workforce and access. Once the barriers were identified, the RCORP consortium's goal was to begin developing programs for the community to combat the

problems that were identified by the community members and fulfill their needs. The report of the results was obtained from the Laurel County Health Department.

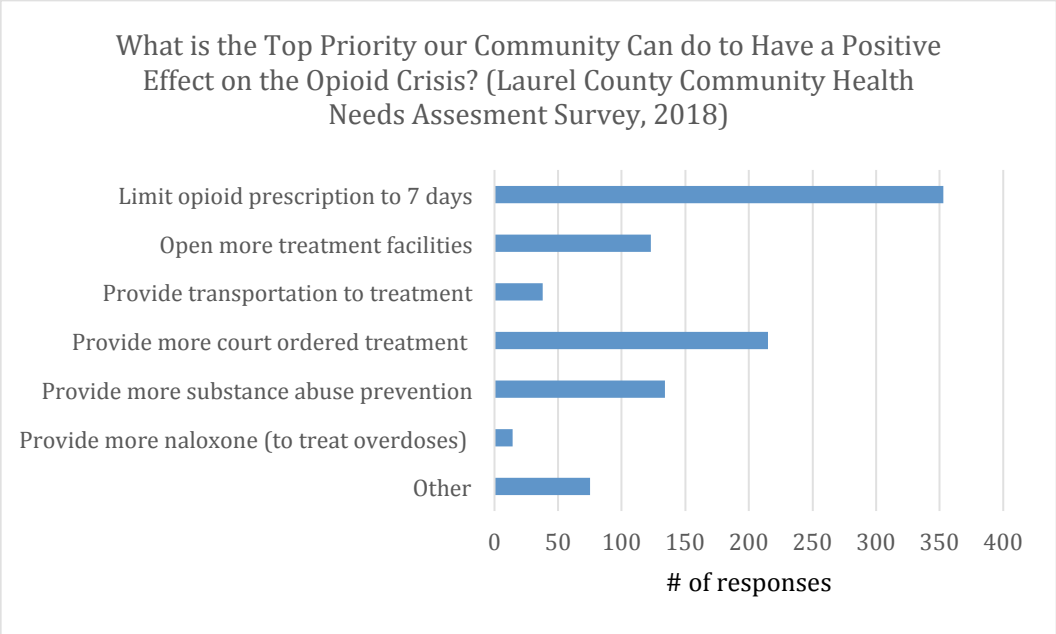
An RCORP consortium was formed in Laurel County that was made up of community organizations and businesses. The consortium met at the Laurel County Health Department once a month for a year to help in the development of the strategic plan. The meetings allowed for the community organizations to discuss concerns, address questions and identify projects that are being developed and expanded to improve health and safety in the community. The development of the strategic plan included the completion of an environmental scan and workforce assessment to determine the future direction of Laurel County and the availability of the local workforce. The environmental scan and workforce assessment aimed to capture information on the type of facility and licensed providers employed, services offered, billing methods, age and gender of clients served, organizational policies, screening and assessment tools used, service regions, and health professionals employed.[24] The workforce capacity was determined by surveying twenty-four organizations that provide OUD and SUD related services in the area.

Results

Descriptive statistics were used to summarize the survey results and report to the public. There were 1,002 surveys completed electronically and by hard copy. The number of surveys completed online versus hard copy were equal. Laurel County has identified opioid and substance use disorders as a major problem in the community.[1] Substance abuse consistently ranks as the number one concern and has been identified as the number one strategic priority. When ranking the top health concerns in the 2018 CHNA survey, 73.5% of residents chose substance abuse as their top concern. This was followed by chronic disease (36.5%) and mental health (35.2%).[21] When asked what the one most important thing the community can do to have

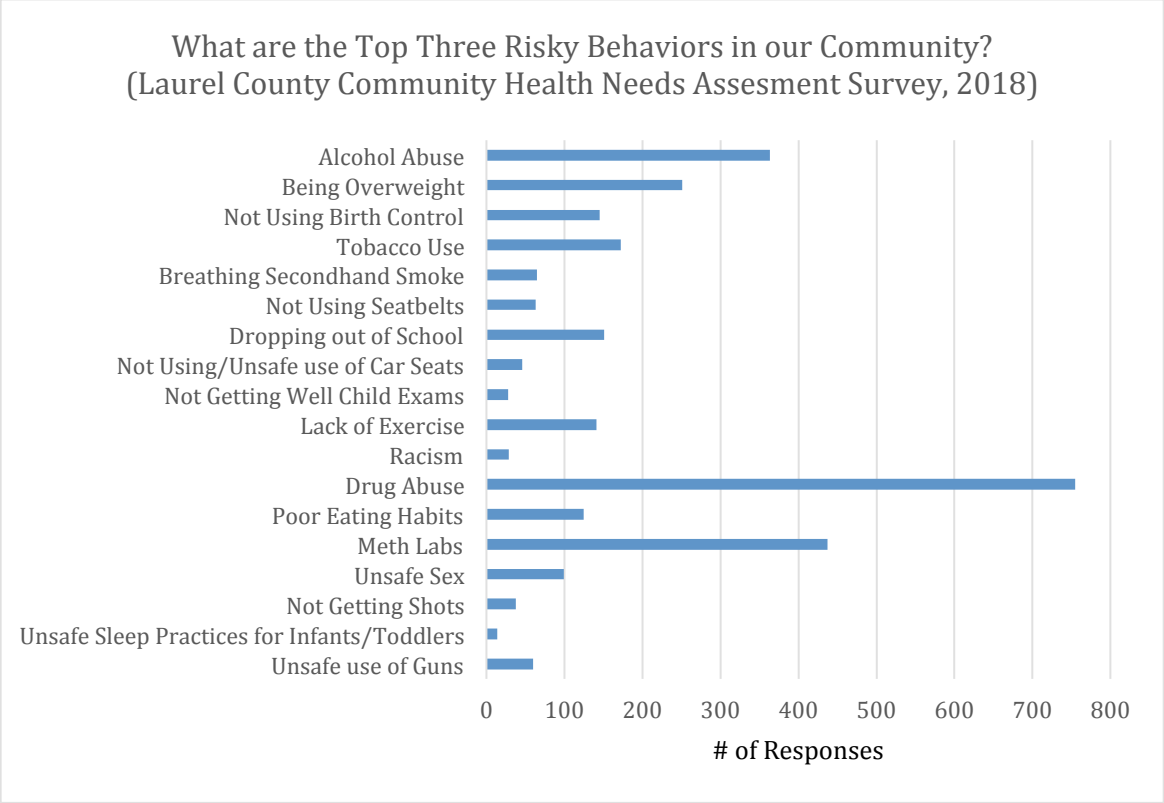
a positive effect on health, the top two responses were more access to healthy choices (foods, activities, stores) (28.9%) and more substance abuse prevention and treatment services (28.8%).[21] When asked what the one most important thing that could happen in the community, that can have a negative effect on health, was identified as substance and prescription drug abuse (54.9%), poverty (24.3%) and unemployment (14.4%).[21] The survey also asked respondents what the top priority the community could do to have a positive effect on the opioid crisis, and the response was to limit opioid prescriptions to 7 days (37.8%) followed by providing more court ordered treatment (22.7%) (Figure 3).[21] In addition, the top three risky health behaviors in the community were identified as drug abuse (78.1%), methamphetamine labs (44.2%) and alcohol abuse (33.2%) (Figure 4).[21]

Figure 3



Note. 2018 CHNA Survey Results
Image retrieved from Laurel County Rural Communities Opioid Response Program Strategic Plan. Laurel County Health Department. 2019.

Figure 4

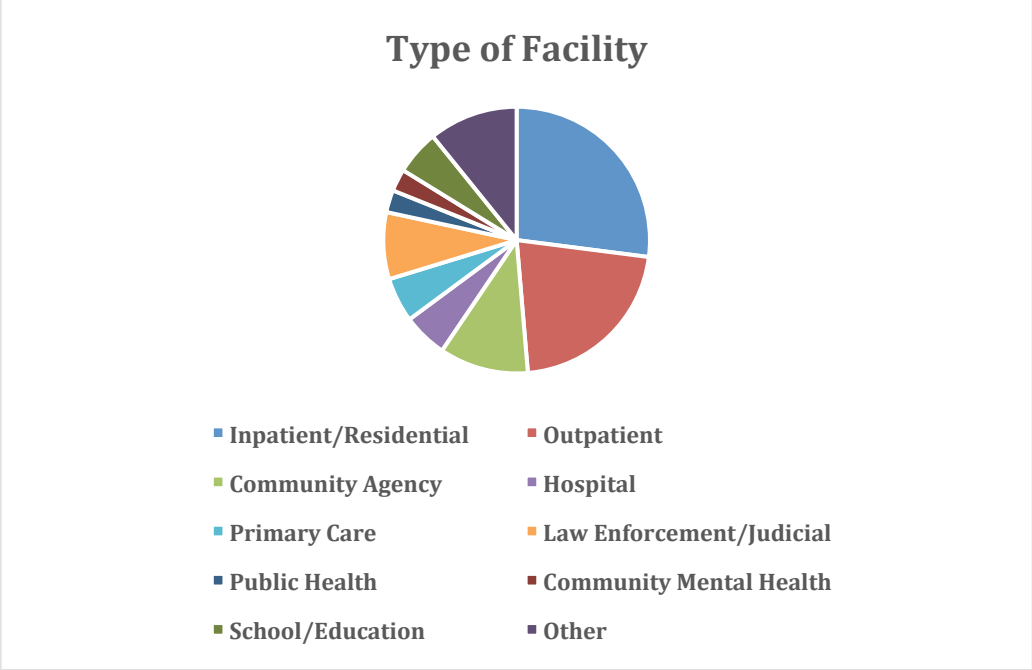


Note. 2018 CHNA Survey Results
Image retrieved from Laurel County Rural Communities Opioid Response Program Strategic Plan. Laurel County Health Department. 2019.

The results of the workforce assessment (Figure 5) identified that out of the twenty-four organizations, ten offer residential treatment services that serve 200 individuals and are further restricted by gender (three focus on treatment services for women and four for men).[24] Only eight of the twenty-four organizations provide outpatient treatment services (Figure 6). The physician workforce in the county is overwhelmed with the number of patients they see. The most recent data states that primary care physicians in Laurel County see an average of 2,226 patients per year, that is a patient to primary care physician ratio of 2,226 to 1. This represents a slight increase of 0.135% from the previous year. Mental health care provider to patient ratio in Laurel County is 2,410 to 1. This represents an 11.8% decrease from the previous year. The workforce assessment also identified a need for an increase in medication-assisted treatment

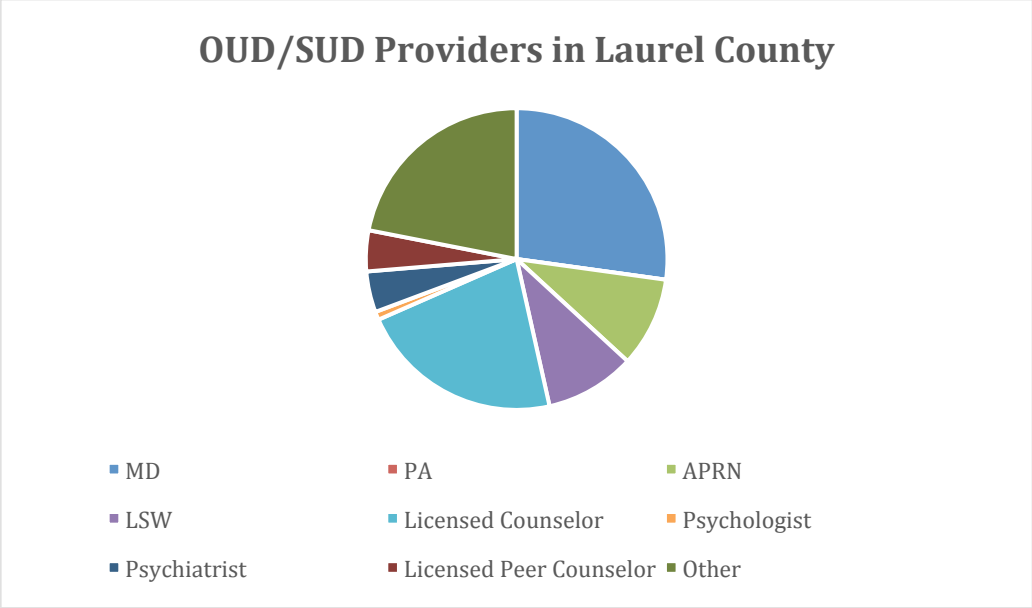
(MAT) providers. There are currently 19 healthcare providers that are actively offering MAT services, 12 of which are employed by London Women's Care (Figure 7). MAT uses FDA-approved medicines, such as buprenorphine, methadone and naltrexone. These can cut overdose death rates in half.[25] The medicines are supplemented by behavioral treatments and social support. A medication approach allows for stabilization on medication, and then allows the patient to be assigned the right level of care, which decreases the risk of an overdose and relapse.[25] Research has shown that MAT is effective and not difficult for providers to manage, but it does require culture change and greater geographical diversification of services.

Figure 5



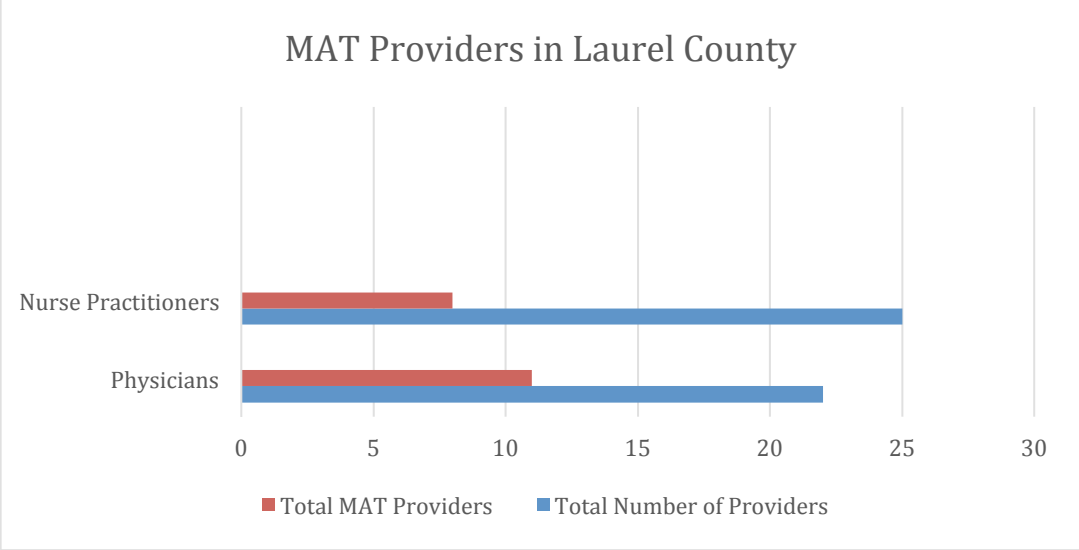
Note. Results of the Laurel County Workforce Assessment
Image retrieved from Laurel County Rural Communities Opioid Response Program Workforce Plan. Laurel County Health Department. September 2019.

Figure 6



Note. Results of the number of providers in the Laurel County Workforce Assessment
Image retrieved from Laurel County Rural Communities Opioid Response Program Workforce Plan. Laurel County Health Department. September 2019.

Figure 7



Note. Results of the number of MAT providers in the Laurel County Workforce Assessment
Image retrieved from Laurel County Rural Communities Opioid Response Program Workforce Plan. Laurel County Health Department. September 2019.

The RCORP consortium identified gaps in opportunities and addressed accessibility and affordability for the major problems in the community such as drug use, crime, neonatal

abstinence syndrome, risk of disease outbreak and adverse childhood experiences. The programs that have been developed as a response to the needs of the community to improve health and safety are as follows:

Under the direction of the Laurel County health department and developed by local health officials, a syringe exchange program has opened that provides clean syringes at no cost and also offers HIV testing and Hepatitis C testing.[26] Each individual enrolled has a unique identifier card and is allowed up to 35 syringes per week with a one-to-one program. Based on need, there has also been a multi-county mobile SEP established that covers Clay, Jackson, Knox and Laurel County.[1] Another program that is being developed is an overdose quick response team that is collaborating with community partners and Cumberland River Behavioral Health. The goal of this program is to create a team for outreach to families affected by overdose and individuals who have experienced an overdose near fatality and work to connect them to treatment and community services. The quick response team will work with community partners to establish a notification protocol, sharing of data, making referrals and providing services.[1]

There is also a contract with Project Lazarus to provide technical assistance for evidence-based practices for OUD/SUD prevention, treatment, and recovery. Project Lazarus is a non-profit organization that provides training and technical assistance to communities addressing OUD.[27] The public health model establishes that overdose deaths are preventable and all communities are responsible for their own health.[27] Community members and professionals attended an Opioid and Drug Use Forum conducted by the founder and CEO of Project Lazarus, Fred Brason, which provided discussion, education and training. Additionally, to help further harm reduction strategies, the Laurel County Agency for Substance Abuse Policy (ASAP) provided all first-responders with needle-resistant gloves. The Laurel County Agency for

Substance Abuse Policy has implemented “Drug Take-Back Events” in partnership with the London City Police, Kentucky State Police and Laurel County Health Department, and has established two permanent drug take-back sites.

Discussion

The purpose of this study was to assess how the results of the community health needs assessment have developed collaborative community effort to create and expand services and programs to address opioid and substance use disorder in Laurel County. The results of the CHNA showed that 73.5% of the community members in Laurel County identified substance abuse as the top health concern. They identified the most important thing that the community could do to positively impact health was to increase access to healthy choices, and implement more substance abuse and treatment programs. This study explored the programs and services that are offered by local community groups and organizations to address the concerns of the community members.

As a response to the CHNA a consortium was formed that was made up of local community partners and facilitated by the Laurel County Health Department to develop a strategic plan. There was additional funding through the RCORP grant that helped to identify gaps and opportunities, and addressed accessibility and affordability for the major problems in the community such as drug use, crime, neonatal abstinence syndrome, risk of disease outbreak and adverse childhood experiences. Programs that have been developed in Laurel County as a response include: a syringe exchange program, an overdose quick response team, a contract with Project Lazarus, and Laurel County ASAP providing all first responders with needle-resistant gloves. Other studies of similarity include the Kentucky Health Issues Poll (KHIP) that is funded jointly by Foundation for a Healthy Kentucky and Interact for Health.[29] KHIP has been

conducted annually since 2008. Their most recent poll was taken in 2018 and released in February 2019. It focused on opioid, methamphetamine use and prescription drug misuse in Kentucky and reported on these findings.

There are many roadblocks for healthcare services that are of concern to the community. Community members do not know where to go for services, due to a lack of knowledge related to finding treatment resources and knowing how to access them. Many are unable to pay for their healthcare due to the out of pocket expense or because they are uninsured. The availability of appointments is also a challenge due in part to the lack of provider workforce in the area. Structural issues may also arise in the development of programs due to interagency disconnects and challenges in building relationships with multiple organizations. There are difficulties in the coordination of resources and services if there is no assigned leadership or someone disagrees with leadership, even at the local and state government level. Allocating funding and determining which programming receives the funds may also lead to discord. Partner engagement and collaboration is very important in addressing gaps and barriers and making improvements. The community collaborations in Laurel County are strong due in part to the open forum at the consortium meetings where the sharing of ideas and concerns were encouraged and helped to promote innovation.

Areas of improvement can be focused around the number of MAT and specialty providers in the community. The greatest number of MAT providers is with London Women's Care, which does not allow for a lot of gender diversity in the treatment population as this facility is geared towards the female population. MAT providers are needed in facilities that treat the male population as well. In order to increase access and make an impact on OUD/SUD there needs to be improvement in geographical diversification by increasing the number of medical

and mental health providers, as well as MAT and specialty providers in various types of healthcare settings. Increasing the number of OUD and SUD providers can be accomplished by offering free training to equip providers with the tools needed to treat addiction. This is a step towards decreasing barriers and increasing access to treatment and services. Opportunities for expansion of harm reduction strategies also include providing naloxone, training for naloxone administration, and encouraging community partners to develop policies to co-prescribe naloxone with opioids. Areas of improvement also include increasing court ordered treatments, as suggested by community members, improve transportation barriers, and implement Telehealth services as a way to increase access to physicians and services.

Limitations

This study has potential limitations. The population of focus is specific to Laurel County, Kentucky and what the community states are the top health concerns. This could limit the results from being used for a wider population and provides little basis for scientific generalization. The goal would be to expand and generalize theories and not enumerate frequencies.[28] The study is also subject to researcher bias due to the researcher's observations and subjective feelings. The advantage of a case study is that it can focus on real-life situations and test views directly in relation to experiences as they develop. Another limitation regarding case studies is that data collection can take a longer amount of time. Studies suggest that case studies cannot directly address the issue due to nonexperimental methods, so they cannot establish causal relationships to determine whether a particular treatment produces a particular effect.[28] Case studies can answer the "how" or "why" and can be a great addition to experiments.

This case study identifies a decision, how it was implemented and with what result. This is an area of interest for future work and studies. Other communities can use this study to

identify their top health priorities and develop consortiums to implement a strategic plan to address the community health needs. Future research is important in sharing results and identifying programs that are proving effective in impacting the opioid epidemic. The study demonstrates the importance of developing and expanding services and programs through community collaborations to improve health and safety.

Implications

Making improvements towards increasing accessibility and eliminating barriers enhances Laurel County's ability to implement and sustain OUD/SUD prevention, treatment and recovery services in a rural Kentucky area that is typically seen as underserved.[2] The creation and expansion of services and programs through community collaborations will lead to a safer environment that protects the health of the people in the community. An increase in access to health care services and resources will improve overall well being. Additionally, the development of a strategic plan as a way to combat OUD and SUD can lead to further grants and funding since concerns and barriers have been identified and outlined, signaling which areas community groups can tackle with current funding and where they need more resources.

This study is a value to public health practice because it promotes the health of the people in the community by encouraging healthy behaviors. Through an increased workforce and decreasing access barriers for treatment there can be substantial improvements in quality of life. It helps to identify and analyze the needs of the community and prioritize those needs in order to act upon them. Involving local community organizations demonstrates the need for collaborative effort to combat the opioid and substance use epidemic. The aim of this study is help provide more resources, programs and services, and an increase in providers and practitioners for the treatment of OUD/SUD in Laurel County, Kentucky. These efforts can lead to a decrease in

mortality due to overdose and increase the likelihood that patients will receive appropriate care. The vision of Laurel County is to create a healthy, safe, thriving community that is free from stigma and inter-agency collaboration is welcome and encouraged.

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