



10

PRACTICAL THEORIST

Addressing the Opioid Crisis through Community Prevention

**An Application of the Seven Strategies
for Community Change**

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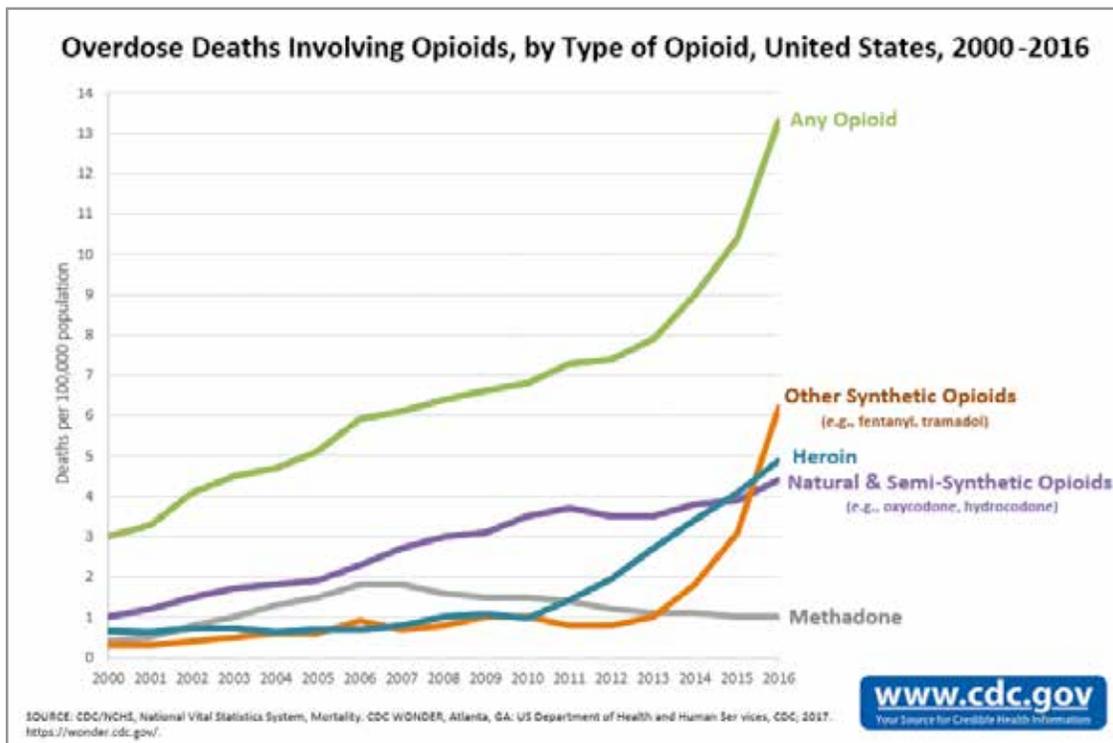
An Epidemic of Opioid Addiction

The U.S. opioid overdose epidemic has affected millions of families and thousands of communities across the country. From 1999 to 2016, more than 350,000 people died from opioid overdoses (CDC, 2017). Currently, more than 115 people die of an opioid overdose every day (CDC, 2017).

More than 11 million people misused opioids in 2016—almost 4% of U.S. population (NSDUH, 2016). Almost 900,000 adolescents (aged 12 to 17), 2.5 million young adults (aged 18 to 25), and 8.4 million adults (26 or older) reported opioid misuse; nearly 1 million people aged 12 or older used heroin (NSDUH, 2016). Of all opioid misusers aged 12 or older, more than 2 million had a prescription opioid use disorder, and more than half of a million had a heroin use disorder (NSDUH, 2016).

Opioid misuse and abuse is identified as:

- The use of a prescription opioid drug without a prescription from a physician, e.g. receiving or stealing from a friend or relative
- Taking a prescription opioid drug simply for the pleasurable effects of the drug or for any reason other than prescribed
- Taking a prescription opioid drug in a different manner than prescribed, e.g. crushing and injecting or taking a higher dose than prescribed
- Use of licit or illicit opioids in combination with other substances e.g. alcohol, marijuana



This Practical Theorist is part of a series of publications designed to summarize field research on key drug use issues, and to present it in a concise, practical format, with strategies for using the data to mobilize communities and support your coalition's mission.

How Community Coalitions Help Prevent Opioid Misuse

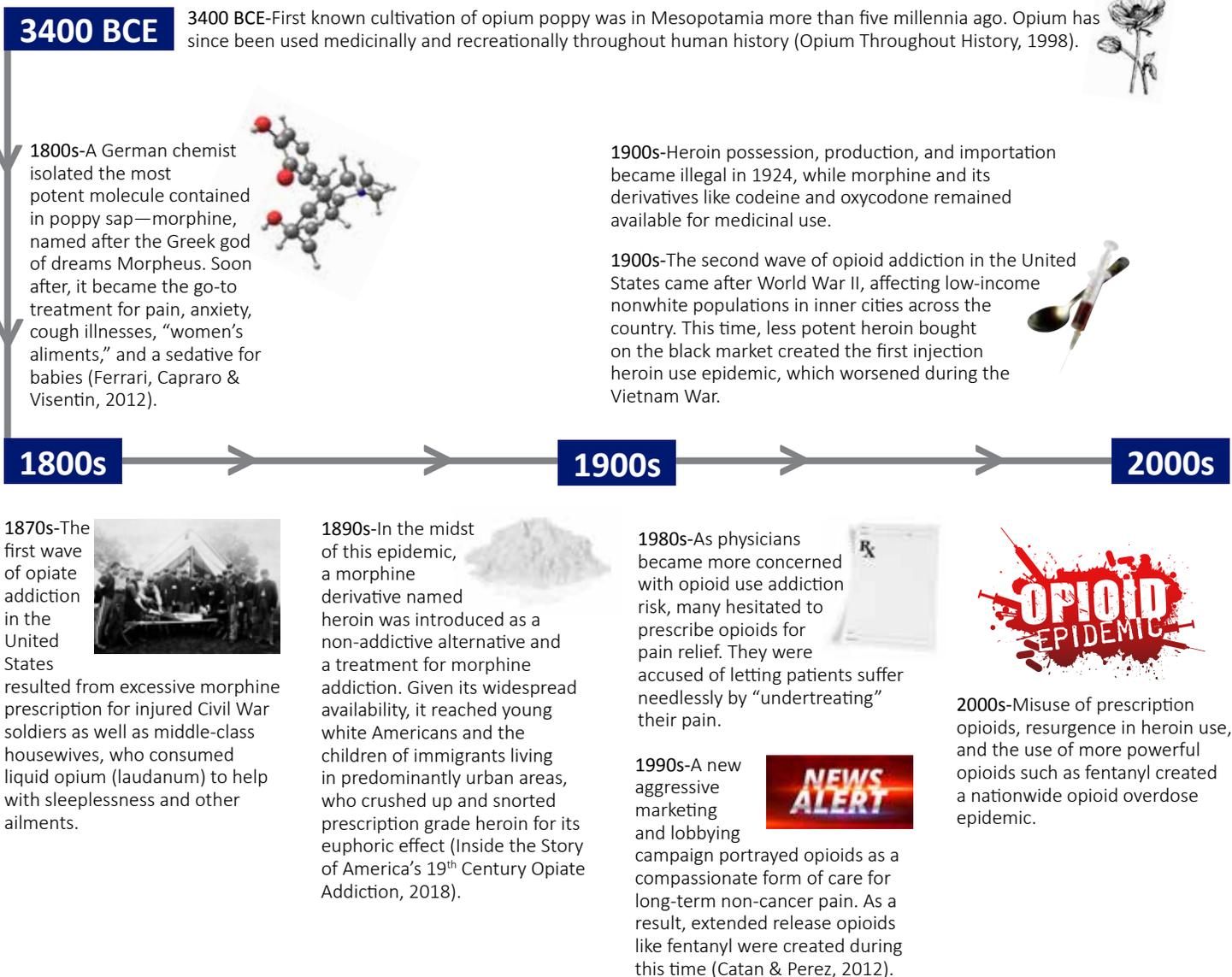
The community coalition model is an effective approach to addressing public health problems locally. In working to prevent substance misuse, coalitions impact regulations, availability, and norms; and, they enable community members to contribute by creating the political will necessary to influence the development and implementation of lasting policy.

Coalitions begin by defining the geographic region that they are going to address. Then, they engage all appropriate sectors of the community to have the broadest impact; assess community conditions where substance misuse behavior takes place; develop a

comprehensive plan that includes strategies to reach individuals as well as the overall community environment; and by doing so, achieve positive community outcomes. Coalition efforts are especially important in addressing the complex opioid overdose epidemic as it affects each community differently.

This publication includes examples from coalitions in Carter County, Kentucky and Scioto County, Ohio that successfully reduced prescription opioid misuse in their communities through the coalition approach. These coalitions achieved positive outcomes by implementing a comprehensive and complementary set of strategies framed by the *Seven Strategies for Community Change*.

A Brief History of Opioid Addiction





Opioids

What are opioids?

Opioids are psychoactive chemical substances found naturally in poppy plants and synthesized in a laboratory; they are also endogenous (internal) to the human body in the form of endorphins (Ballantyne & Sullivan, 2017). Endorphins (“endogenous morphine”) are chemicals produced within the nervous system in response to pain, stress, or fear. When endorphins interact with opioid receptors throughout the body, they suppress pain signals and increase pleasurable effects. Opioid drugs mimic this natural process.

Prescription opioids are the most powerful medications for acute and chronic pain. They are commonly prescribed to alleviate severe pain after surgery and as long-term relief for people with advanced cancer (Opioids and Chronic Pain, 2011). Other uses include the treatment of short-term pain, coughing illnesses, and diarrhea. Increasingly, opioids are prescribed to help manage chronic non-cancer pain (Davis, Lin, Liu & Sites, 2017). Some of the common side effects of opioid use include nausea, drowsiness, respiratory depression, and constipation. Prolonged use or misuse may result in increased tolerance, physical dependence, and addiction.

Opioids differ in chemical structure and potency, producing slightly different reactions based on the way they interact with opioid receptors.

Full Agonists fully activate the mu opioid receptor, producing pain relief or, depending on the dose, pleasurable effects. Full agonists like morphine or heroin affect respiratory control centers in the brain and may cause a person’s breathing rate to slow down (respiratory depression) or even stop completely during an overdose. Full agonists can be natural, semisynthetic—derived from natural opiates, and synthetic—fully man-made.

Partial Agonists attach to and partially activate opioid receptors, producing enough effect to reduce moderate pain, withdrawal, and cravings. Partial agonists like buprenorphine, for example, are used for the treatment of opioid dependent patients looking to stop the use of a more dangerous opioid.

Antagonists bind to opioid receptors and prevent them from being activated by agonists present in the body. Antagonists such as naloxone are administered to a person experiencing an overdose. Naloxone displaces the full agonist attached to the opioid receptor and stops further activation, thus reversing effects of an overdose and restoring breathing.

Drug (Controlled Substance) Schedules

The Controlled Substances Act of 1970 categorized prescription and other drugs, substances, or chemicals into five schedules based on dependence and abuse potential as well as medicinal value (DEA, 2018; Understanding Drug Schedules, 2018):

Schedule I	Drugs with no currently accepted medical use and a high potential for abuse.
Schedule II	Drugs with a high potential for abuse, with use potentially leading to severe psychological or physical dependence. These drugs are also considered dangerous.
Schedule III	Drugs with a moderate to low potential for physical and psychological dependence.
Schedule IV	Drugs with a low potential for abuse and low risk of dependence.
Schedule V	Drugs with lower potential for abuse than Schedule IV and consist of preparations containing limited quantities of certain narcotics. Schedule V drugs are generally used for antidiarrheal, antitussive, and analgesic purposes.

Types of Opioids

FULL AGONISTS

Rx MORPHINE Schedule II



Available as: extended-release tablets, capsules, injection and liquid solution

An opiate used to treat severe pain by acting on the central nervous system.

Rx CODEINE Schedule II



Available as: tablets and liquid solution primarily in cough syrup

An opiate used to treat mild to moderate pain and cough.

Rx OXYCODONE Schedule II



Available as: immediate and extended-release tablets, capsules, liquid solution; often combined with non-opioid ingredients like acetaminophen

Synthesized from opium and used to treat moderate to severe pain. Popular brand names are OxyContin and Percocet.

Rx HYDROCODONE Schedule II



Available as: immediate and extended-release tablets, capsules and combination suspension/solution product; often combined with non-opioid ingredients

Synthesized from codeine. Used to treat moderate to severe pain and as a cough suppressant. A popular brand name is Vicodin.

Rx HYDROMORPHONE Schedule II



Available as: extended-release tablets, injection, and liquid solution

Extended release pain medication synthesized from morphine. It is four times more potent than morphine and has a rapid onset, therefore it should not be introduced to patients who have not previously taken opioids.

HEROIN Schedule I



Available as: white or brown powder or a black sticky substance

Synthesized from morphine. Heroin is an illegal substance in the United States given its high potential for abuse and no medically accepted use in treatment.

Rx FENTANYL Schedule II



Available as: transdermal patches, extended-release tablets, lozenges, nasal spray, injection, and powder

Synthetic opioid used to treat sharp pain in patients who are regularly taking opioid pain medication, and became tolerant to less potent opioid medications. It is approximately 100 times more potent than morphine and 50 times more potent than heroin. Illicit fentanyl is commonly sold alone, cut with, and disguised as other substances.

Rx CARFENTANIL Schedule II



Available as: white powder

Synthesized from fentanyl. Carfentanil is 100 times as potent as fentanyl, 5,000 times as potent as heroin and 10,000 times as potent morphine. It is not approved for use in humans and is typically used to sedate elephants and other large animals. Like illicit fentanyl, illicit carfentanil is cut with heroin and other substances to increase the potency of those drugs.

Types of Opioids (cont'd)

FULL AGONISTS (CONTINUED)

Rx METHADONE Schedule II



Available as: extended-release tablets, dispersible tablets, injection, and liquid solution

A synthetic drug used to treat moderate to severe pain. It is also used as part of medication-assisted treatment for patients looking to reduce and stop opioid use. It lessens withdrawal symptoms and blocks the euphoric effects of other opioids. When used to treat opioid dependence, methadone must be administered under supervision in an opioid treatment program.

Rx LOPERAMIDE OTC



Available as: tablets, capsules, chewables, and liquid solution

Over-the-counter medication used to help control symptoms of diarrhea, including travelers' diarrhea. Loperamide acts on opioid receptors in the gastrointestinal tract, slowing down digestive function. Increasingly it is being used by opioid dependent people experiencing withdrawal or seeking euphoria. Excessive intake of this medication can lead to an overdose.

PARTIAL AGONISTS

Rx BUPRENORPHINE Schedule III



Available as: tablets, film, implant, and extended-release injection

Synthesized from opium, it is less potent than morphine or heroin. Buprenorphine's potency plateaus, or, reaches a limit even if higher doses are taken. This effect reduces the likelihood of addiction or overdose. Buprenorphine is approved for pain and also approved to help treat opioid use disorder. As a medication to treat opioid use disorder, it is available either as a mono- or a combination product that includes naloxone.

Rx TRAMADOL Schedule IV



Available as: extended-release tablets and capsules

Synthetic long-lasting opioid used to relieve moderate and post-surgery pain. A popular brand name is Ultram.

ANTAGONISTS

Rx NALTREXONE Rx Only



Available as: tablets and injection

Naltrexone is prescribed to patients who are opioid-free to prevent relapse to opioid dependence following detoxification.

Rx NALOXONE Rx Only



Available as: injection, auto-injector, and nasal spray

Naloxone is administered to reverse life-threatening effects of an opioid overdose.



Opioid Use Disorder

Physiological Basis of Opioid Addiction

Receptors are molecules located on the surface of cells, which act as gatekeepers between various chemical signals and cells' internal biological functions. They are responsible for receiving and translating signals from outside of cells and generating a specific reaction within. Agonists (e.g. opioids) are chemicals that attach to and activate receptors, causing cells to react.

Opioid receptors are connected to neurons (nerve cells) that regulate pain, emotion, and breathing (Sprouse-Blum, Smith, Sugai & Parsa, 2010). They can be found in the brain, the spinal cord and the digestive tract. *When opioids attach to their receptors, they block pain messages sent from the body through the spinal cord to the brain* (NIDA, 2018).

Some opioid receptors are located in the brain's reward circuit. Activation of these receptors by an opioid drug produces euphoric effects. It also decreases the release of an inhibitory chemical GABA, which in turn results in increased dopamine release. Surges of dopamine in the reward circuit "teach" the brain to repeat the euphoric experience, thus reinforcing the taking of the drug.

Just as opioids cause a surge of dopamine, they reduce the release of noradrenaline (NA)—a chemical responsible for vital functions like breathing, blood pressure, and wakefulness (Kosten & George, 2002). When the amount of NA is reduced, a person's breathing slows down and levels of alertness drop.

In order to adapt to consistently high opioid levels in people with opioid use disorder the brain adjusts its levels of proteins and peptides related to opioid signaling. When a person decreases or abruptly stops opioid use they experience withdrawal—a state in which the altered brain releases NA in excess, causing discomfort or pain. Chronic misuse of opioids increases the likelihood of tolerance and dependence, conditions that lead to withdrawal.

Tolerance occurs after prolonged opioid use when the initial drug dose no longer produces the same effects in the brain and body (NIDA, 2007). This means that in order to experience pain relief or pleasure associated with the drug, an opioid tolerant person will need to take a higher dose.

Dependence is a state in which a person functions normally only in the presence of the drug (NIDA, 2007). Prolonged opioid use increases the brain's tolerance for the drug, causing it to adapt to the consistent presence of opioids—this state becomes the new norm. When opioid levels decrease, a person will experience withdrawal: adverse and sometimes life-threatening physical and emotional reactions to the absence of the drug (American Addiction Centers, 2018). Because different processes are responsible for addiction and dependence to opioids, it is possible to be opioid dependent, but not addicted (NIDA, 2007).

Withdrawal is a process that occurs after an opioid dependent person reduces or abruptly stops opioid use (NIDA, 2018). Some of the symptoms include anxiety, jitters, muscle cramps, nausea, and diarrhea. *Withdrawal is one of the most powerful factors driving opioid dependence and addictive behaviors* (Kosten & George, 2002).

Addiction (or substance use disorder) is a *chronic, relapsing brain disorder that is characterized by compulsive drug seeking and use, despite harmful consequences* (NIDA, 2016). Prolonged opioid misuse changes the structure of the brain; therefore, opioid addicted people continue using not only for the pleasurable effects, but also to feel "normal" and avoid drug withdrawal (Kosten & George, 2002).

Drug overdose happens when a person takes a larger amount of drugs than their body can handle, intentionally (from suicide attempt) or accidentally. An accidental overdose can happen even when the drug is used as prescribed; it can also result from not knowing how strong or pure the drug is, or how the body will respond to a drug after a period of abstinence (NIDA, 2016).

Who is at risk

Opioid prescription rates increased substantially for adults since mid-1990s through 2011 (Greenewald, Rabbitts, Gebert & Palermo, 2016). From 2006-2013 for example, more than 15 percent of people who sought treatments for migraines (50 million visits) received prescription opioids, when other medications were more effective or safer (Charleston & Burke, 2017). In 2012 alone, health care providers wrote 259 million opioid prescriptions—enough for every adult American (CDC Vital Signs, 2014).

Opioid Use Disorder (cont'd)

Currently, adults who receive opioid prescriptions are likely to be middle-aged, white, female, and married (Greenwald, Rabbitts, Gebert & Palermo, 2016); while older Americans continue to receive the highest doses of pain pills to help manage chronic illnesses like arthritis (SAMHSA, 2017). Additionally, one in 20 young people tend to receive opioid prescription refills for up to six months following elective surgery (Harbaugh, Lee, Hu et al, 2018).

More than half of all opioid prescriptions are written by primary care physicians for people with depression or anxiety. More specifically, Americans with a mental health disorder make up 16 percent (39 million) of the total adult population but receive more than 51 percent (58 million) of all opioid prescriptions (Davis, Lin, Liu & Sites, 2017). Of the 39 million, more than 7 million use prescription opioids, suggesting that millions of people with mood disorders do not fill their prescriptions, or may store them at home without using—making unused pain pills available for misuse by others (Davis, Lin, Liu & Sites, 2017).

People who experience short-term pain and have a mood disorder are more likely to start and transition to long-term opioid use for that pain, increasing risk of dependence and addiction. Improving pain management among people with mental health disorders is essential to reducing nationwide dependence on opioids (Halbert, Davis & Wee, 2016).

Most people aged 12 or older who misuse prescription opioids obtain pain relievers from friends or relatives; 40 percent report receiving painkillers for free (NSDUH, 2017). Aggregate data from 2013 and 2014 suggest that 43 percent of adolescents aged 12 to 17 obtain prescription opioids from friends or relatives for free (Lipari & Hughes, 2017). Young adults aged 18 to 25 are the most likely group to buy prescription opioids from friends or relatives (14 percent) or a drug dealer or a stranger (8 percent) (Lipari & Hughes, 2017). Others receive excess prescriptions from their physician (Matson, Bentley, Dughman, Bonny, 2013).

More than 65 percent of first time opioid misusers buy pain relievers from friends or relatives (8 percent) or get them for free (58 percent) (Lipari & Hughes, 2017). With easy access to pain pills at home, adolescents and young adults may develop dependence and addiction, or divert unused medications to friends and peers.

Neonatal Abstinence Syndrome

More than half of newborns exposed to opioids through maternal use are born dependent on the drug—in 2012, one opioid dependent newborn was born every 25

minutes (Hudak & Tan, 2012; NIDA, 2015). Babies who are exposed to drugs while in the womb may be born premature, underweight, and experience drug withdrawal, called neonatal abstinence syndrome (NAS) (Shankaran, Lester, Das, Bauer, Bada, Lagasse & Higgins, 2012). NAS onset and severity depends on the type of opioid used by the mother, maternal and infant metabolism, drug transfer across the placenta, infant hunger, and time since last exposure (Johnston, Metayer & Robinson).

Babies born with NAS show several signs of dependence: neurological (e.g. irritability, increased wakefulness, high pitched cry, tremor, and seizures), gastrointestinal (e.g. vomiting, diarrhea, dehydration, poor feeding, and constant sucking), and autonomic (e.g. profuse sweating, nasal stuffiness, fever, and elevations in respiratory rate and blood pressure) (Johnson, Metayer, Robinson).

These newborns require care in a soothing environment with minimal stimulation (McQueen & Murphy-Oikonen, 2017). Dimming the lights, swaddling, and holding the baby are some examples. Frequent, small, high-caloric, lactose-free feedings can also alleviate the effects of NAS, including acid reflux, vomiting, diarrhea, and high energy use for infants with low weight. Medications are generally reserved for babies who experience severe withdrawal from powerful drugs (SAMHSA, *Clinical guidance*, 2018). Breastfeeding is also recommended. As these babies grow up, they will need additional support with overcoming developmental challenges in areas such as learning, attention, and behavior (NIDA, 2014).

Continuum of Care for Opioid Use Disorder

Continuum of care is a comprehensive approach to mental and behavioral health, which promotes the creation of healthy environments, focuses on prevention prior to the onset of a disorder, ensures access to treatment for people who develop a disorder, and provides support for those in recovery (SAMHSA, *Prevention*, 2018).

Community coalitions focus their efforts on primary prevention. Coalitions build prevention infrastructure by creating partnerships among community sectors who actively work to reduce conditions that contribute to substance misuse (risk factors) and develop support systems to help people make healthy choices (protective factors). They do this by addressing the root causes of a substance use problem and the contributing local conditions. Coalition work encompasses whole communities and reduces costs associated with substance use.

Individual and environmental factors that contribute to opioid misuse



Moving work from population-level efforts to one-on-one treatment requires a more diverse and educated health workforce, an increased use of medication and monitoring, systems linkages, and ongoing care. This results in increased costs.

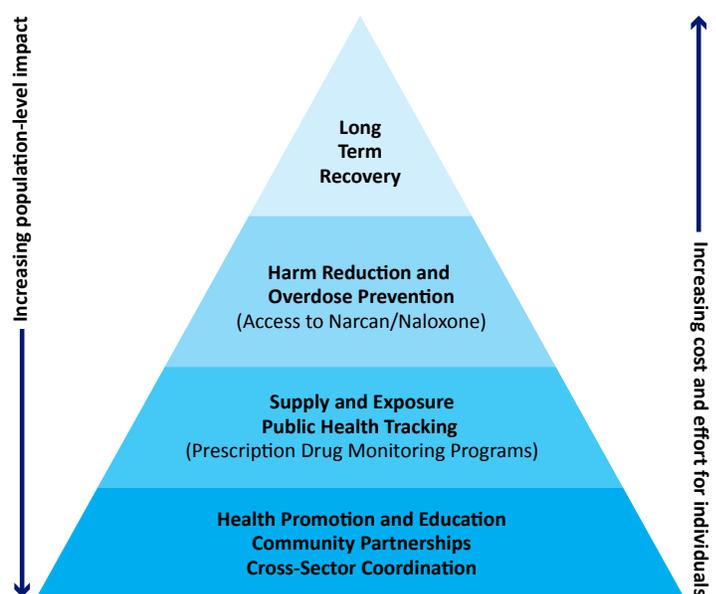
With the urgent need to help address the growing opioid overdose epidemic, coalitions can use their prevention infrastructure to help people with opioid use disorders and prevent others from initiating use. Coalition strategies may include prevention as well as harm reduction:

- Promotion of services that provide assessment and referral to treatment
- Reinforcement of the use of prescription best practices
- Use of prescription drug monitoring programs
- Establishment of drug courts
- Compliance with Good Samaritan laws
- Access to Naloxone/Narcan
- Availability of medication-assisted treatment services
- Recovery and support groups

It is important to note that opioid overdose reversal through harm reduction is not the same as the primary prevention of opioid misuse and addiction.

Harm reduction strategies do not focus on preventing opioid misuse and addiction. Rather, they mitigate

risks associated with misuse and overdose—they are designed to reduce death, disability, and other negative consequences. Because overdose is a likely and dangerous consequence of opioid misuse, people should have the knowledge and the tools to prevent deadly overdoses.



Adapted from Frieden T.R. (2010) A framework for public health action: The Health Impact Pyramid, American Journal of Public Health 100, no. 4.



Seven Strategies for Community Change

Background

The theoretical concepts behind the *Seven Strategies for Community Change* were developed between community research experts at the University of Kansas (KU) and the World Health Organization (WHO). More than three decades ago WHO convened its first *International Conference on Health Promotion* in Ottawa, Canada. Out of this meeting emerged the Ottawa Charter for Health Promotion that prioritized the creation of supportive environments, strengthening communities, developing personal skills, as well as building healthy public policy (WHO, 1986).

Researchers at University of Kansas' Work Group on Health Promotion and Community Development incorporated these concepts into a community-oriented prevention approach. They emphasized the importance of both individual responsibility and community participation in addressing major public health problems (Glenwick & Jason, 1993). Subsequent research on the interaction between individual and environmental approaches informed the development of the community empowerment model, the coalition model, and the *Seven Strategies for Community Change* (Fawcett, Paine-Andrews & Francisco, 1995).

The *Seven Strategies for Community Change* were developed between the KU Work Group researchers and coalition experts in 2005 at the Community Anti-Drug Coalitions of America (CADCA). For the first time the individual and environmental strategies were combined into a comprehensive framework inclusive of the entire community. This framework guides coalition efforts to prevent substance use and addiction in their communities. Its success has been studied, and the results have contributed to the growing scholarship on comprehensive approaches to building healthy communities (Yang, Foster-Fishman, Collins & Ahn, 2012).

Recent Research

Recent research has shown that comprehensive approaches to addressing substance use and addiction contribute to positive community-level changes. Several prominent examples are highlighted below.

A *Community Guide* systematic review on tobacco control shows that comprehensive tobacco control programs—multi-strategy population-level interventions to reduce tobacco use—increase cessation, reduce secondhand smoke exposure, and prevent initiation among young people (The Guide to Community Preventive Services). The review includes a collection of studies on environmental and individual-level strategies working together, including:

- Providing information
- Building skills
- Providing support
- Enhancing access and reducing barriers
- Changing rules and policies

Cochrane, an independent organization that conducts systematic reviews on health-related topics, also features listings of multi-strategy evidence-based practices:

- Family-based prevention programs for alcohol use in young people—Findings for family-based interventions suggest that young people whose parents adopt appropriate strategies are likely to develop positive social norms and to resist the negative external influences of peers and society;
- Psychosocial interventions for cannabis use disorder—Interventions include the combined use of skill building, providing information, value-based incentives, and community-level policies;
- Individual, family, and school-level interventions for preventing multiple risk behaviors relating to alcohol, tobacco, and drug use in individuals aged eight to 25 years—Interventions include psychological, educational, behavioral, parenting, or environmental interventions and may involve multiple components delivered at different levels (individual, family, or school).

In addition to these evidence-based listings, Dr. Stephen Fawcett and colleagues have continued to build on their work in comprehensive community-level prevention by implementing comprehensive strategies to address childhood obesity (Fawcett, Collie-Akers, Schultz & Kelley, 2015).

Seven Strategies for Community Change: A Framework for Prevention

CADCA's mission is to strengthen the capacity of community coalitions to create and maintain safe, healthy and drug-free communities globally. As part of this effort CADCA provides coalitions with information on community assessment, capacity building, planning, implementation, and evaluation. CADCA also trains coalitions in effective strategy development and implementation through the *Seven Strategies for Community Change*. This framework helps align coalition activities to target a specific local condition that contributes to substance use, and to reinforce each other for maximum impact.

Individual strategies help individuals make healthy choices. They are based on the premise that substance misuse develops because of deficit in knowledge about negative consequences, inadequate resistance skills, poor decision-making abilities and low academic achievement. However, while important in a multiple strategy approach, these efforts do little to independently alter the overall environment in which people live and work. They include:

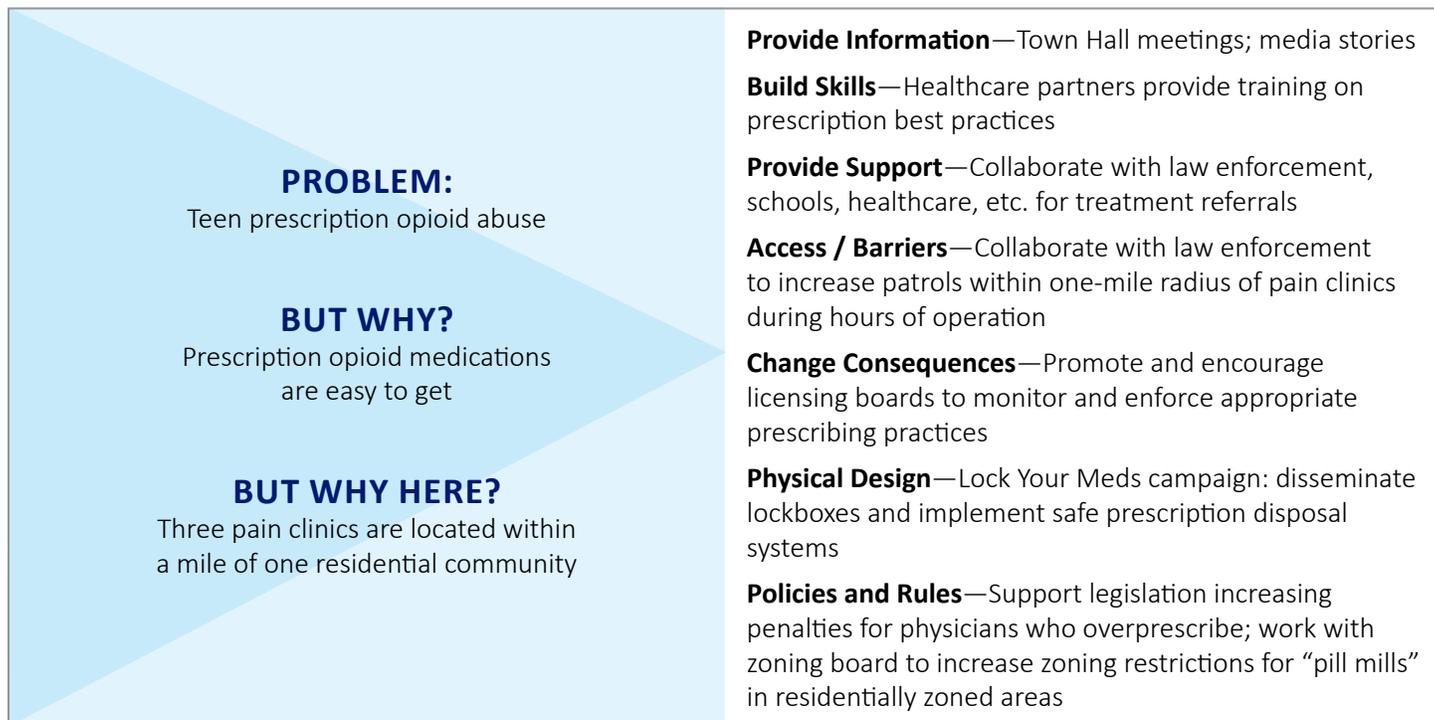
- Providing information
- Building skills
- Providing support

Environmental strategies create a lasting positive impact by changing norms and systems, thus reducing problems for entire communities. They are effective in modifying the settings where a person lives, which plays a part in how that person behaves. Importantly, environmental strategies are cost effective given the potential magnitude of change and are the most effective long-term solutions. They require commitment from various sectors of the community to contribute to sustainable changes. They include:

- Enhancing access and reducing barriers
- Changing consequences/ incentives
- Changing the physical design of the environment
- Changing rules and policies

The *Seven Strategies for Community Change* overlap and reinforce each other to create lasting positive changes in communities.

Applying the Seven Strategies for Community Change





Addressing Opioid Addiction Through Community Prevention

Carter County Drug Free Coalition (CCDFC), Carter County, Kentucky

The Carter County Drug Free Coalition (CCDFC) began as a committee of local community leaders tasked with exploring the reasons behind low academic performance among the county students. After identifying substance misuse as a major contributing factor, the committee convened a forum with nearly 60 community members who recognized opioid prescription drug misuse as a community-wide problem. Parents, law enforcement, education, businesses, healthcare, faith representatives and other stakeholders joined together to discuss the extent of this problem across the county and develop comprehensive long-term solutions.

CCDFC found Carter County opioid prescription drug misuse and diversion rates rising above the Kentucky state level as early as 2004. The coalition's community assessment showed that pain pills were illegally brought into the state from pain clinics in Florida. According to local police, over 550 people were under investigation for obtaining prescription medication in Florida for diversion in Carter, Boyd, and Greenup counties. Additionally, 12 "doctor-shopping" and more than 70 drug trafficking cases opened in Carter County alone—93 percent related to unlawful pain pill distribution.

Opioid misuse among Carter County's youth also increased during this period. Nearly 13 percent of 8th graders and 23 percent of 12th graders reported prescription drug misuse in 2004. CCDFC leaders collected student survey data and conducted five focus groups (two youth, two adults, and one college-age) to gain a clearer understanding of prescription drug misuse among young people. Focus group data helped uncover the risk factors that increased the likelihood of misuse and local conditions that contributed to this behavior. Local data suggested that pills were easy to acquire, parental supervision was low, and students perceived prescription drug use as legal and safe.

The Carter County coalition began addressing youth opioid misuse by targeting every local condition with a comprehensive and complementary set of activities framed by the Seven Strategies for Community Change.

CCDFC shared information with the community on prescription drug misuse harm and laws prohibiting "doctor-shopping" to obtain multiple pain pill prescriptions. The communication strategy included community forums, billboards, posters, flyers and monthly mailings, as well as radio PSAs. Additionally, the coalition introduced Generation X curriculum to 12 through 17-year-old students as a part of their education. The series of courses is designed to improve critical thinking, judgment, and decision making regarding prescription and over-the-counter drugs.

CCDFC also provided funding for local law enforcement officers and members of the Kentucky State Police to attend the National Association of Drug Diversion Investigators (NADDI) conference. This training increased local capacity to target drug diversion and reduce some of the risk factors associated with opioid prescription misuse. Further, to reduce the number of unwanted or expired medications in people's homes, the sheriff's office installed a permanent prescription drop box at their station.

The coalition mobilized the community and advocated against an opening of a pain clinic in Grayson, citing the clinic's potentially negative contributions to an already growing problem of prescription drug diversion and misuse. The pain clinic was denied a city business license as a result. Subsequently, the Carter County fiscal court passed the "Pain Clinic Ordinance" banning any Florida-style pain clinics with higher than normal rates of prescribing from opening in Carter County. CCDFC's efforts received additional state-level support with the expansion of a prescription drug monitoring program that shows patients' scheduled prescriptions over a specific time period. It helps physicians and pharmacists monitor opioid prescription and other controlled substance distribution to prevent overprescribing, drug misuse, and diversion by patients.

CCDFC's decade-long comprehensive approach led to a significant decrease in youth prescription drug misuse. The number of Carter County 8th graders who reported using prescription drugs for nonmedical purposes in the past year dropped from 13 percent in 2004 to 2 percent

in 2014, with reported painkiller misuse decreasing from 4 percent to 3 percent. Past year use among 12th graders decreased from 23 percent in 2004 to 4 percent, with nonmedical painkiller use dropping from 12 percent to 4 percent.

The success of Carter County coalition's work came as the result of extensive training at the National Coalition Academy and active participation of more than 60 local organizations. From their training, coalition leaders identified local conditions (such as an increasing number of arrests for selling prescription drugs) that contributed to opioid misuse and developed effective strategic and action plans to guide their efforts. The collection of targeted activities inclusive of all coalition sectors had a direct impact on changes in social norms and initiation into non-medical opioid prescription drug use by young people.

Scioto County Drug Action Team Alliance, Scioto County, Ohio

Southern Ohio's Scioto County became the epicenter of a nation's growing opioid crisis in early 2000s. As the result of a decade-long expansion of illegitimate pain clinics, Scioto County attained the highest opiate prescription rate in the state—more than 9.5 million painkiller doses were dispensed in 2010, or more than 120 pills per citizen. That same year, Scioto County reported the highest number of fatal accidental overdoses, incidents of Hepatitis C related entirely to injection drug use, Neonatal Abstinence Syndrome cases, and patients in treatment for opioid use disorder. Scioto was the first county in the nation to declare a public health emergency due to opioid prescription drug misuse.

The Ohio Department of Public Health brought together Scioto County officials, health departments and other sector representatives affected by the opioid crisis to develop a solution for this problem. Two county health departments encouraged partnerships among local stakeholders, leading to the formation of a community coalition focused on both curtailing the current crisis and preventing youth initiation into non-medical opioid use.

The newly formed Scioto County Drug Action Team Alliance participated in the National Coalition Academy training where coalition leaders learned about local data collection, collaborative planning, and the development of comprehensive strategies to address substance misuse. Putting this knowledge into practice, the coalition began

collecting student substance use data in addition to the data from the state's prescription drug monitoring program, health departments' vital statistics, community health assessments, local coroner, drug courts, and focus groups. With this information the coalition identified local conditions that contributed to the problem and developed a comprehensive and complementary strategy to reduce and prevent non-medical use of opioid prescription drugs.

Framed by the *Seven Strategies for Community Change* the coalition's activities targeted individuals as well as the whole community. Scioto County coalition approached local physicians and urgent care providers with information on Ohio's Opioid and Other Controlled Substance Prescribing Guidelines and the use of the prescription drug monitoring program. By educating prescribers and providing guideline cards, the coalition aimed to address overprescribing and so reduce the number of pills dispensed into the community. Coalition members also informed parents and youth on the dangers of non-medical opioid use and engaged young people in youth-led prevention initiatives across eight school districts.

In addition to enhancing individual skills, Scioto County coalition made positive changes inclusive of the entire community. The coalition established a treatment-friendly Juvenile and Family Drug Court for families experiencing opioid-related problems. The court allowed family reunification through treatment and counseling thus preventing a justice system cycle. Moreover, given the growing demand for opioid use disorder treatment, the coalition increased the number of state-certified addiction treatment centers from one in 2010 to 12 in 2017. Three of these centers were former illegitimate pain clinics, or "pill mills."

Coalition leaders also collaborated with local law enforcement and the Drug Enforcement Administration to impose stiffer criminal penalties for overprescribers, leading to the conviction of numerous illegitimate pain clinic operators. Ohio policymakers showed support by passing a statewide legislation strengthening pain clinic regulations thus effectively shutting down Scioto County's pill mills. Locally, county commissioners passed an ordinance allowing legal abatement of any current or future establishments deemed as a threat to public health and safety.

In the five years since Scioto County Drug Action Team Alliance began its work with the support from the Drug-

Community Prevention (cont'd)

Free Communities Support Program, the county has seen dramatic reductions in opioid pain pill distribution and diversion. By 2015, 2.4 million fewer opioid pain pills were prescribed to Scioto county residents—92 pills per citizen. During this time the number of fatal opioid prescription drug overdoses declined 38 percent and the county has seen reductions in Hepatitis C and Neonatal

Abstinence Syndrome rates. Importantly, these efforts led to a decrease in past 30-day prescription drug misuse among youth in Scioto County across all high school grade levels from 5.4 percent to 3 percent and is now lower than the national average. Community-level environmental strategies have worked effectively with individually-focused efforts to transform Scioto County.

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