NIC
NATIONAL
INTEROPERABILITY
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# The Opioid Use Disorder Prevention Playbook

FEBRUARY 2019 • A NIC PLAYBOOK

# Acknowledgements

The National Interoperability Collaborative (NIC) Opioid Use Disorder Prevention Playbook was researched and written by Paul Wormeli, a member of the Stewards of Change Institute (SOCI) Board of Directors. It was edited by Adam Pertman, an SOCI senior consultant and NIC's Coordination and Communications Director. NIC is an initiative of SOCI.

This NIC playbook addresses the most-significant public health emergency in modern U.S. history by focusing on an aspect of the epidemic that we believe has received far too little attention: prevention. This collection of ideas, approaches and strategies – or plays – is derived from the growing number of efforts by practitioners, researchers and policy-makers around the country to "get upstream" of this national crisis, in addition to providing treatment and saving lives.

The feedback from reviewers of earlier drafts of this document has been invaluable in shaping this collection of plays, which we hope will not only focus greater national attention on prevention, but also will provide guidance on specific actions that communities, jurisdictions, governments and organizations can take toward prioritizing that end. We acknowledge and appreciate the constructive contributions to this playbook from the following:

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Sincerely,

**Daniel Stein**, Co-Principal Investigator of NIC
President, Stewards of Change Institute

## Abstract

This playbook was created in response to the historic public health problem that the opioid epidemic poses for the United States, in particular by highlighting a variety of prevention-focused programs, initiatives and strategies – all of which we call plays – that are being attempted to "get upstream" of the crisis. The 11 plays in this document have been shown to be effective by evidence or are supported by expert opinion as helpful in preventing opioid use disorders. The plays are synopsized, along with additional relevant data about them, including the results of evaluations (where available) and links to resources to obtain further information.

The playbook also provides background and context relating to the epidemic, as well as insights into why multi-sector collaboration, interoperability and information-sharing need to be critical elements of any effective effort to combat the crisis. Our objective is to increase awareness of the need for more prevention-related efforts; to provide ideas to jurisdictions and organizations about "plays" they might wish consider; and to support groups at the local, state and federal levels that are collaborating to reduce the incidence of opioid use disorders.


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# Executive Summary

The National Institute on Drug Abuse, using data from the Centers for Disease Control and Prevention, reports that over 70,00 people died of drug overdoses in 2017; about two-thirds of these deaths were related to the use of opioids. Even more alarming is the rate of increase in the availability of synthetic opioids such as fentanyl and carfentanil.

In May 2018, New York City Police charged three individuals with attempting to distribute 100 grams of carfentanil, which could kill up to 5 million people. Just a few months earlier, in January, New Jersey authorities confiscated 45 kilograms of fentanyl, enough to kill 18 million people, or the populations of New York City and New Jersey combined. In two raids in 2018, Massachusetts authorities seized 25 kilos of fentanyl, more than enough to kill the state's entire population.

"It is clear that vast quantities of opioids with increasing potency are flooding the state and the country," says a recent report by the Massachusetts Taxpayers Association. "The epidemic has not stalled; in fact, it is poised to accelerate with alarming consequences to our people, our communities, and the health of the state's economy."[1]

Against that backdrop, this playbook by the National Interoperability Collaborative (NIC) has four primary aims:

1) to present a clear picture of the state of knowledge on how to better-detect and prevent opioid misuse, overuse and use disorders;

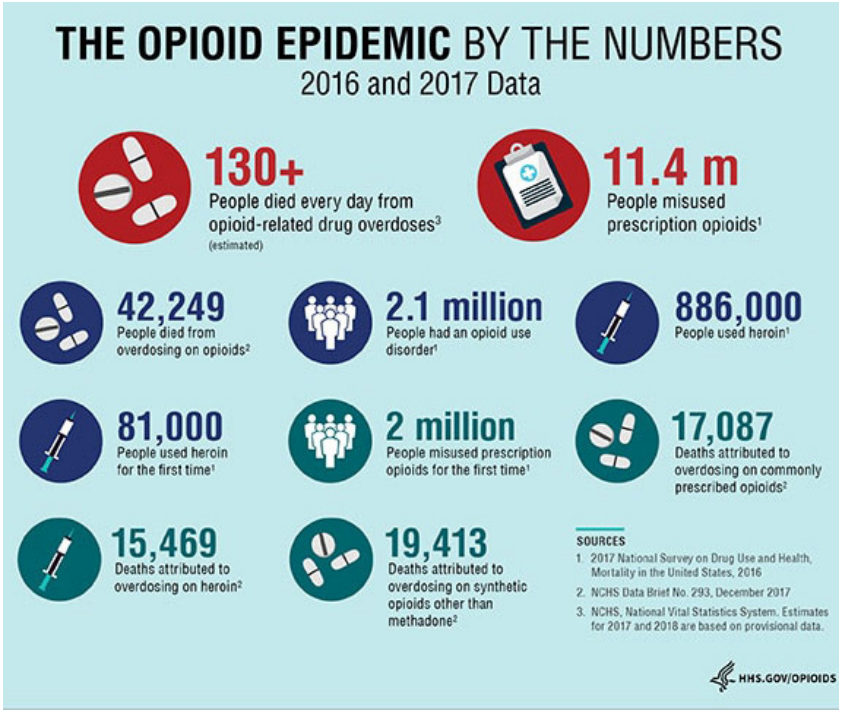
2) to focus greater attention on prevention, because it is essential to the long-term resolution of the opioid epidemic ravaging our country; and most importantly in the near-term;

3) to provide guidance – to federal, state and local practitioners, legislators, as well as engaged executives in nonprofit organizations – about existing "upstream" strategies that can replicated or adapted for real-time use; and

4) to create a virtual community where people and organizations can share and vet "plays" expeditiously and broadly across the U.S.

Toward those ends, this publication offers examples of evidence-informed initiatives and ideas ("plays") being tried around the country, with as much data as possible relating to their efficacy.

We recognize that any effective prevention approach should be built on a foundation of evidence about the effectiveness of its strategies, along with measures of its outcomes. That foundation is currently lacking, however. Indeed, research for the playbook found an absence of data definition, collection and analysis about opioid use that inhibits movement toward more-informed decisions about how to get to the roots of this national crisis. The playbook also demonstrates that an essential part of any effective prevention approach is improved information-sharing, integration, interoperability and collaboration across the multiple disciplines that must inevitably become a part of the solution to this historic health crisis.




The playbook addresses policies, approaches, initiatives and ideas that illustrate strategies with the potential to prevent opioid misuse, overuse and use disorders from starting or advancing. For each listed strategy – or "play" – this document presents, in a common format, its purpose, objectives, theory of change, useful elements of implementation methodology, evaluation data (when available) and reference materials for further exploration.

Our intent is for any given jurisdiction or community of interest to consider these plays to be candidates as part of a well-conceived,

integrated program aimed at preventing the onset and/or spread of opioid use problems for their own population groups or areas of purview. The playbook seeks to provide the information that enables or contributes to the design and execution of such a strategic program, along with suggestions of how to measure its efficacy.

It is important to underscore that the playbook's contents represent a snapshot in time of our evolving knowledge on how to respond to the opioid crisis, while also identifying the research and evidence-gathering that still must be undertaken in order to make better-informed decisions. Our intent is to regularly update the playbook – most notably its plays – as we learn about new ideas and initiatives, and we welcome comments and contributions to keep it as current as possible. To provide input, please send an email to NIC@stewardsofchange.org.

Many strategies have been proposed and many trials have been conducted as our nation has sought to fight this historic epidemic. We selected the 11 plays briefly summarized below because they appear to have traction by virtue of their perceived or actual positive value/impact. ***More-detailed versions of each play are in the full NIC playbook.***

## The Plays – Summaries (Click on page number to read full version)

**1. Remove the stigma.** *Page 27* Addiction is a disease. Educating the public, health care professionals, health care systems and plans, community organizations and law enforcement about that reality – and, as a result, about the need for prevention, detection and treatment with a comprehensive team approach – may be the most important component of any program to stem the tide of opioid use disorders.

Efforts aligned with this play will seek to change the culture of interaction with those who have substance use disorders. The specific components include educational programs, small group discussions, seminars and training in specific approaches, as well as language that professionals (police, health care providers, etc.) should avoid.

Example: The Toronto Drug Strategy Implementation Panel has published a report on its initiative to deal with the stigma problem. It includes recommendations for program content.

**2. Reduce the risk of developing an opioid use disorder.** *Page 29* Research shows that there is a strong, lifelong correlation between adverse childhood experiences (ACEs) – including abuse and neglect – and a broad range of health issues, including substance misuse. In a policy brief, the Campaign for Trauma-Informed Policy and Practice reports a recent study that finds "over 80% of the patients seeking treatment for opioid addiction had at least one form of childhood trauma, with almost two-thirds reporting having witnessed violence in childhood."

The development of at least one play to address the incidence of ACEs, and their impact on the development of substance use disorders, is therefore a very important component of an effective prevention strategy. The goal is to better-understand, halt and/or reduce the extent to which ACEs influence the development of or lead to substance use disorders. (We want to acknowledge that addressing ACEs themselves will require a long-term, multidisciplinary approach that focuses on childhood, since that is when the trauma usually occurs.)

Example: "Seeking Safety" addresses trauma-related problems and substance use at the same time. It is the most evidence-based model for people with both trauma and addiction.

**3. Reduce the use of opioids for pain mitigation.** *Page 32* A clear consensus has emerged that one very important way to reduce the use and misuse of legal and illicit drugs is to control and limit opioid prescriptions for pain management. In a real sense, the eventual goal of this ambitious play is to change the culture of pain management. It requires a substantial educational effort for physicians and patients about the risks and cautions in opioid use for this purpose.

Activities that have been successfully implemented (these are from the Chronic Pain Initiative in North Carolina) include promotion of a targeted toolkit for primary care providers, emergency departments and care managers; continuing medical education sessions on pain management; appropriate prescribing and diversion control and continuing education for pharmacists on diversion, forgery and the use of Prescription Drug Monitoring Programs.

Example: The California Statewide Opioid Safety (SOS) Workgroup promotes safe prescribing guidelines and disseminates educational materials, such as one for health care providers.

**4. Reduce the supply of opioids from illegitimate sources.** *Page 34* Since most heroin and fentanyl originate outside the U.S., current counter-narcotics programming consists largely of federally driven efforts. This play suggests extending those efforts to the state and local levels by, for example: detecting and disrupting distribution channels for

illicit drugs through local or online means; working with the DOJ Opioid Fraud and Abuse Detection Unit to prosecute corrupt or criminally negligent doctors, pharmacies and distributors; and strengthening criminal penalties for dealers of synthetic opioids like fentanyl.

One way to intensify such interdiction activities is through High Intensity Drug Trafficking Area (HIDTA) task forces. HIDTA, created by the Anti-Drug Abuse Act of 1988, provides assistance to federal, state, local and tribal law-enforcement agencies operating in areas determined to be critical U.S. drug-trafficking regions. There are currently 28 HIDTAs, encompassing about 18 percent of U.S. counties and 66 percent of our population.

Example: Ohio has funded numerous task forces that have been found highly effective in interdicting drug crimes. Information is available in the state's most-recent annual report.

**5. Improve and implement better prescription monitoring programs (PDMPs).** *Page 36* Laws in 49 states support the creation of PDMPs, which require pharmacies to report the sale of controlled substances in fulfillment of prescriptions. Most physicians therefore can determine if a patient has gone "doctor shopping" by seeking opioids for the same pain management from more than one physician. However, some doctors are either unaware of the system, unsure of how to use it or have concerns about its accuracy.

The goal of this play is to ensure that doctors know about and use their state system; that they check across states to ensure that a patient is not "doctor shopping;" and that the prescription history for prior medication does not indicate a new prescription should ***not*** be written. Greater use of PDMPs can be mandated legislatively, but efforts are also needed to educate and persuade physicians and pharmacists to take full advantage of this effective tool.

Example: The Kentucky All Schedule Prescription Electronic Reporting (KASPER) program is highly regarded. Among the reasons is that it mandates physician and pharmacy compliance.

**6. Reduce the involvement of opioid users in the criminal justice system.** *Page 38* The value of diverting people from involvement with the criminal justice system has been clear for decades. Central to diversion programs is "the understanding that a criminal conviction – misdemeanor or felony – triggers a cascade of collateral consequences that often severely hamper an individual's ability to become a productive member of the community," according to a report by the Center for Health and Justice. Since recidivism is often tied to further substance use, reducing its probability through diversion programs can mitigate substance use disorders.

Finding alternatives to arrest, prosecution and correctional supervision is therefore a reasonable part of any strategy to reduce opioid use. The major intervention points where individuals can be diverted from the criminal justice system are before arrest, before trial and after adjudication. A major focus of diversion programs that has been highly successful across the country is the creation of drug courts, of which there are now over 3,100 nationwide.

Examples: Research into collaboration by police and public health agencies to prevent or reduce opioid use with diversion programs cites numerous examples of successful programs.

**7. Provide medication-assisted treatment to inmates.** *Page 41* Nationally, 65 percent of all incarcerated offenders meet the criteria for suffering from a substance use disorder. Research has shown that medication-assisted treatment (MAT), including with buprenorphine, methadone and extended-release naltrexone, can decrease opioid use, opioid-related overdose deaths, criminal activity and infectious disease transmission – while also increasing social functioning and retention in treatment.

Numerous studies have shown that the provision of MAT has long-term impacts on preventing both continued substance use disorder and criminal behaviors, thereby both preventing such disorders and reducing crime. In one recent study, a MAT program resulted in a 60 percent reduction in opioid overdose deaths among individuals who were recently incarcerated.

Example: The Medication Assisted Treatment and Directed Opioid Recovery program in Middlesex County, MA, has had striking results, with a non-recidivism rate of 82 percent.

**8. Expand treatment programs after incarceration.** *Page 43* Abundant research shows greater success for preventing subsequent opioid use disorders for released inmates when medication-assisted treatment (see play #7) is fully integrated with behavioral health treatment, indicating that collaboration between health care providers and behavioral health departments can have a positive effect on preventing the reoccurrence of these disorders.

A play consisting of an integrated substance use disorder treatment program designed expressly for released offenders

will need to encompass a breadth of treatments, which may include both behavior modification and MAT. Evaluations of post-release substance use disorder treatments have generally shown positive results for reducing both relapse rates and recidivism.

Example: Virginia and California have both developed expanded post-incarceration treatment programs, and SAMHSA, Substance Abuse and Mental Health Services Administration, offers a guide for improving such programs.

**9. Reduce the risk of opioid-based treatment.** *Page 45* It is clear that the long-term use of opioids legitimately prescribed for pain management increases the risk of a patient developing a substance use disorder. A fundamental and widespread approach to the mitigation of this risk is to ensure that 1) both the prescriber and the patient fully understand the consequences of taking the drug and 2) the physician and the patient have a clear and unequivocal understanding of the conditions under which the prescription will be continued.

In utilizing this strategy, the first step in reducing risk is to provide physicians and patients with the information they need. Literature, briefings to community groups and handouts in medical offices are all parts of an educational effort to ensure that every party is aware of the guidelines and constraints for using an opioid as a long-term medication. Some organizations are promoting the use of written doctor-patient agreements, which can be controversial.

Example: The NH Board of Medicine has published strict rules requiring the development of written doctor-patient agreements. The NH Medical Society provides sample agreements.

**10. Make provisions for safe disposal of unused opioids.** *Page 47* An estimated two-thirds of teenagers who have misused prescription drugs get them from their family and friends, so many practitioners believe it is important to clear out medicine cabinets at home that contain unused drugs, particularly opioids. Doing so is not as simple as might be expected, however, as regulations require that law enforcement take custody of discarded controlled substances.

Many communities have organized annual drives during which people can give their unused controlled substances to the police, who then dispose of them in approved ways. Studies evaluating such take-back programs generally show positive outcomes, with recent research showing a more-positive impact for programs that allow drugs to be turned in at any time, rather than just once or twice a year. This play requires a methodology for collection and disposal, as well as a marketing/awareness effort to persuade people to participate.

Examples: A variety of take-back efforts exist around the U.S. The San Diego Police, for instance, have set up boxes for drug drop-offs at any time.

**11. Encourage the use of non-opioid formulations for pain management.** *Page 48* As it has become clear that long-term pain management using opioids increases the likelihood of substance use disorders, research has intensified on finding effective alternatives. Meanwhile, there are already significant, evidence-based alternatives that physicians are finding useful. The CDC offers recommendations that highlight and underscore the need to utilize alternative, non-opioid pharmacologic therapies to treat chronic pain.

A strategy on this topic involves educating both physicians and patients on the options available and their consequences (strength, side effects, etc.). Health care providers can develop and set guidelines that call for the use of non-opioid alternatives. This strategy would include efforts required to stay current with the emerging research and development of new alternatives for pain management, including from the various aggressive research programs undertaken by the National Institutes of Health and the CDC.

Example: The University of Tennessee Medical Center has developed a protocol of alternative pathways, giving priority to non-opioid treatments. The program is described in a video.

## Conclusion

These plays reflect a broad range of current practices and thinking. Not all of them obviously will apply to every jurisdiction, and there will be further developments as innovative approaches are identified or created. It is our hope that this set of plays, as well as others as they are added, will provide ideas on which to base prevention-focused actions appropriate for specific communities. The body of research on this crisis makes it very clear that collaboration across agencies, organizations and sectors/domains is critical to enhancing the prevention of opioid use disorders.

Our intent is to provide this playbook as a starting point, and then for it to become a living online resource and repository that can be refined and updated to provide promising and effective evidence-based ideas, approaches, practices and programs. Your comments and contributions will help to make this goal a reality.

# I. Introduction

The National institute on Drug Abuse, using data from the CDC, reports that a record 72,000-plus deaths in 2017 were from drug overdoses. Over 49,000 of them were related to opioid use, including of newer synthetic versions such as fentanyl. More than 115 people are estimated to die every day from opioid overdoses. The President has declared this epidemic to be a public health emergency.

Agencies and organizations in government and many elements of society are struggling with the challenge of what to do about this crisis. Thousands of research papers, frameworks and concepts have been created in the search for a magic bullet. It is abundantly clear, however, that there is no single solution. Instead, there are a host of strategies that any given community, government, institution or private sector organization might embrace to address this highly complex problem. There are strategies for prevention, for treatment, for reducing the supply and demand for opioids used for pain management and beyond, and there are market forces operating in the background that shape both the perception of these drugs and their availability and price. The question for all concerned parties, then, is what actions can be taken to better-address the impact of the epidemic.

This playbook was produced by the National Interoperability Collaborative (NIC), an initiative led by Stewards of Change Institute and AcademyHealth. It describes specific efforts that communities and leaders at all levels of government and industry can replicate, adapt, learn from or otherwise use to inform decisions on resource allocation, to set priorities and to instigate concrete actions.

There are numerous ideas, projects, approaches, strategies and actions – which we call "plays" in this publication – that stakeholders can choose from to structure their programmatic responses. Some are backed by evidence of their successful impact. Others represent only the best thinking of experts on how to address the problem, but they may be sufficiently well thought out that they are worth implementing because there's reason to believe the proposed interventions will be effective. The playbook addresses prevention in two respects: 1) keeping people from becoming addicted to prescribed or illegal opioids and 2) averting the relapse of individuals with substance use disorder.

Much more is known about, and strategies are better-defined for, treatment than prevention. Furthermore, far greater attention and resources to date have been focused on treatment because saving lives and curing people necessarily take priority in any crisis. Prevention is critically important, however, in order to mitigate and hopefully eliminate the opioid epidemic over the long term, so our emphasis is on strategies/plays that have the potential of stemming the problem further upstream. Another explicit aim of our emphasis on prevention is to focus greater attention on prevention and, as a consequence, lead more people and organizations to incorporate it into their own efforts.

Minnesota's Department of Health tells this following story to help define the range of preventative actions.

***(Editor's note: The story here obviously cannot be taken literally in any way, most pointedly because no one would think to show drowning babies how to "successfully handle" their environment. But we use the parable here because it makes clear, salient points.)***

## The Three Sisters

A prevention parable tells the story of three sisters who were taking a walk along a river. As they turned a corner, they saw babies in the river. One sister swooped the babies out of the water. The second sister jumped into the river and showed the babies how to successfully handle the environment in which they found themselves. The third sister ran upstream to see why the babies were falling into the river.

"We need all three sisters. If we only respond to emergencies, we never address the root causes of the problem. If we only address the root causes, we are missing the emergencies that are currentlyhappening. All the sisters must work together, simultaneously.

- The first sister is emergency response – she saves lives.
- The second sister is intervention and treatment – she addresses harms that have already happened.
- The third sister is primary prevention and public health – she looks at the conditions that create health.

Examples of the three levels of prevention this story illustrates are:

**Primary Prevention & Public Health** (Primary Prevention) — e.g. Prescribing practices, safe use of prescriptions, control supply, prevent diversion, reduce marketing, enrollment and use of PMP, prevention of ACEs, adolescent risk reduction, pain management, addressing trauma, integrating care, protective factors, community resiliency, culture as prevention"[2]

**Intervention & Treatment** (Secondary Prevention) — e.g. Screening, early identification, SBIRT Services, Medication Assisted Therapy, chemical health treatment, OB and infant care for NAS, safe storage, safe disposal

**Emergency Response** (Tertiary Prevention) — e.g. Naloxone, Good Samaritan Laws, Syringe Exchange, transitions of care, discharge planning, fentanyl alerts, infectious disease control

The Institute of Medicine of the National Academy of Sciences has developed a framework for defining prevention activities to distinguish between prevention and treatment. It categorizes prevention interventions for a disorder as "universal," for the general public in a segment of the population; "selective," for specific sub-populations with higher-than-average risk; and "indicated," for identified individuals who have signs or symptoms.[3]

## a. Goals for the Playbook

This report presents a compendium of examples of the best-available knowledge and experiences of current opioid use disorder prevention efforts. The intent is to synthesize what is known about various strategies/approaches based on the evidence of their success or usefulness for preventing opioid use disorder, to summarize the basis for such "plays," and then to indicate places to go for more-detailed descriptions and resources. The playbook also seeks to illustrate the vital importance of making this a collaborative effort, in which effective prevention methods are facilitated by information-sharing across the relevant domains engaged in a continuum of care.

The playbook is intended for use by jurisdictions and communities of interest that aim to collaborate to address the opioid use disorder problem in their areas. Whether a community of interest is formed at the state, regional or local level, it is essential that such collaborators address the strategies/plays that apply to their own environments, and then construct a plan of action accordingly. We hope this report will be a source of both ideas and practices worthy of consideration.

As we learn more about what works and find innovative solutions that can be adopted throughout the nation, it becomes plain that the enormous complexity of the effort it will take to deal with this crisis needs to be very dynamic. In addition, we know that the plays and other content in this publication will need to change as the problem evolves and as new research, innovative thinking, approaches and solutions arise. Accordingly, this playbook will be a living document that will be updated on the NIC Collaboration Hub. The playbook will also derive information from and link to other identified sources of knowledge about what works in addressing this health care emergency. Examples include:

- Opioid Watch, a website operated by the Opioid Research Institute and funded by the Joseph H. Kanter Foundation. It offers both news and examples of strategies through a Twitter-based newsletter and alerts.
- Shatterproof, a website with knowledge and advocacy information, as well as materials that are useful in responding to the epidemic.
- The State Targeted Response Technical Assistance Consortium, whose technical assistance portal is designed to support prevention, treatment and recovery efforts.

## b. Authors and Sources

While the contents of this report have been assembled by NIC, the specific guidance, evidence and programmatic successes it describes are the work of the following entities:

- Federal agencies playing a role in attacking the opioid crisis, including a variety of HHS agencies, ONDCP, DOJ, DHS and others
- Progressive state organizations that have undertaken innovative and successful programs to reduce opioid use and there by prevent the onset of opioid use disorder
- Local communities of interest that have assembled strategies into programs to reduce opioid use disorder
- Academic institutions whose research provides insights into ways to address the crisis

# II. Summary of the Problem and National Strategies

## a. Trends with 'Alarming Consequences'

The number of annual drug overdose deaths in the United States is now higher than those from the worst year ever of automobile accidents, gun violence or HIV/AIDS. The Centers for Disease Control and Prevention reports that more than 70,000 people in our country fatally overdosed in 2017, most of them from synthetic opioids like fentanyl and carfentanil. Deaths from the synthetics grew by 45 percent just in 2017, the last year for which complete statistics are available. In a report on the epidemic, the Massachusetts Taxpayer Foundation said that:

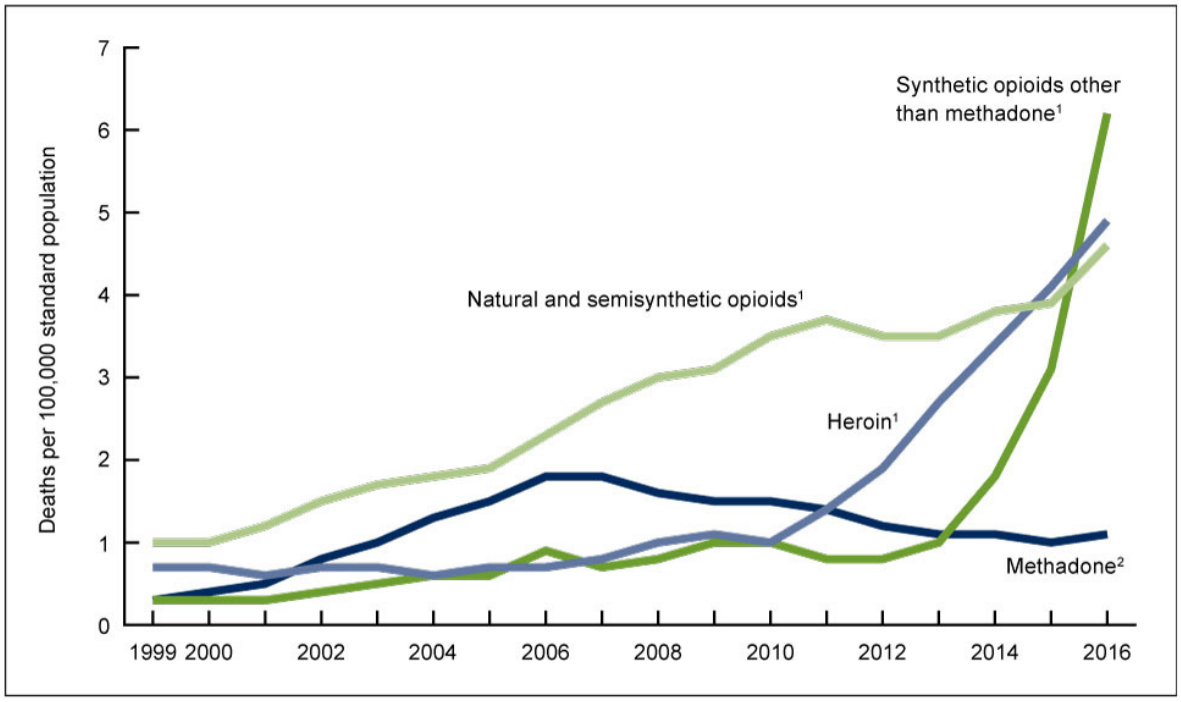
"Recent drug seizures give an indication of the severity of the problems confronting authorities. In May 2018, federal agents found 1.7 grams of carfentanil and fentanyl gel tabs in a California home, enough for 86,000 lethal doses. That same month, New York City Police charged three individuals with attempting to distribute 100 grams of carfentanil, which could kill up to 5 million people. In January 2018, NJ authorities confiscated 45 kilograms of fentanyl, enough to kill 18 million people or the populations of New York City and New Jersey combined. In two raids in 2018, authorities in Massachusetts seized 25 kilos of fentanyl, more than enough to kill the state's entire population.

It is clear that vast quantities of opioids with increasing potency are flooding the state and the country. The epidemic has not stalled; in fact, it is poised to accelerate with alarming consequences to our people, our communities, and the health of the state's economy."[4]

In an article in the 2017 Opioid Special Issue of the Pain Physician Journal, the authors noted that "The true incidence of addiction in opioid-treated chronic pain patients in the United States is unknown and may be higher than expected," citing studies indicating 20% to 26% of patients are on long-term opioid therapy.[5] The article explains the origins of this crisis as follows:

"A cultural shift in the prescribing habits of physicians from being opioid phobic to prescribing opioids liberally, spurred by alleged evidence of under-treatment of pain, availability of newer long-acting opioid formulations with good bioavailability, aggressive marketing techniques by drug manufacturers, disregard for the lack of long-term effectiveness, biased guidelines developed by authorities, physician ignorance with respect to the use potential of opioids, and promulgation of reassuring implicit messages by well-meaning "pain experts" that misuse, addiction, and diversion were not key issues in the practice of pain medicine, led to an exponential increase in the number of patients who were treated with opioids. The problem compounds further with the lack of physician training on key issues such as recognizing drug diversion, addiction, and signs of excessive use; recent estimates suggest that only 20% of US physicians have received such training."

Figure 4. Age-adjusted drug overdose death rates, by opioid category: United States, 1999–2016




[1]Significant increasing trend from 1999 to 2016 with different rates of change over time, $p < 0.05$.
[2]Significant increasing trend from 1999 to 2006, then decreasing trend from 2006 to 2016, $p < 0.05$.
NOTES: Deaths are classified using the *International Classification of Diseases, Tenth Revision*. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Drug overdose deaths involving selected drug categories are identified by specific multiple-cause-of-death codes: heroin, T40.1; natural and semisynthetic opioids, T40.2; methadone, T40.3; and synthetic opioids other than methadone, T40.4. Deaths involving more than one opioid category (e.g., a death involving both methadone and a natural or semisynthetic opioid) are counted in both categories. The percentage of drug overdose deaths that identified the specific drugs involved varied by year, with ranges of 75%–79% from 1999 to 2013, and 81%–85% from 2014 to 2016. Access data table for Figure 4 at: https://www.cdc.gov/nchs/data/databriefs/db294_table.pdf#4.
SOURCE: NCHS, National Vital Statistics System, Mortality.

There is no definitive count of how many people in the U.S. suffer from an opioid use disorder, but the National Security Council has estimated that the number addicted to prescription or illicit opioids in 2016 was over 2 million.[6] The CDC estimates 48.5 million Americans have used illicit drugs or misused prescription narcotics.[7] A Pew Research Center study in August 2017 discovered that 46 percent of all adult Americans know or knew a family member or friend who suffers from a substance use disorder.

There is a potential for a very high return on investment for developing a program that significantly reduces the instances of opioid use disorder. The impact on individuals with this problem is beyond quantification, negatively affecting everything from relationships to income to the quality and length of life. And, of course, the damage extends to the family and to society in general. "The cost of the country's opioid crisis is estimated to have exceeded $1 trillion from 2001 to 2017, and is projected to cost an additional $500 billion by 2020," according to a careful analysis released by Altarum, a nonprofit health research and consulting institute.[8]

Even those alarming numbers may be low. In November 2017, the President's Council of Economic Advisors undertook a detailed study of the economic impact of the opioid crisis and estimated the cost in 2015 alone was a total of $504 billion.[9]

There is an opportunity cost beyond these numbers, as governmental agencies find their work on other projects curtailed to devote scarce resources toward this crisis. The sheer size of the overall financial cost to society, as well as the cost of human life, justifies a major investment in this battle.

A PBS documentary provided a detailed explanation of the addiction process and discussed some of the preventive measures and treatment possibilities that have been tried.

## b. The Need for a Multidisciplinary Approach

There are many studies, theories and exhortations on how the nation might better-address the opioid crisis. The most-notable and perhaps most-influential strategic approaches are found in the report of the President's Commission on Combatting Drug Addiction and the Opioid Crisis, in guidance documents from the Centers for Disease Control and Prevention; and in relevant documents from the Substance Abuse and Mental Health Services Administration's Center for the Application of Prevention Technologies.

The President's initiative is intended to:

- Reduce drug demand through education, awareness and prevention of over-prescribing
- Cut off the flow of illicit drugs across our borders and within communities
- Save lives by expanding opportunities for proven treatments for addictions.[10]

In its prescription-overdose Prevention for States program, the CDC lists a package of strategies that states are encouraged to support, covering the follow potential points of action:

**Maximizing Prescription Drug Monitoring Programs (PDMP)**

- Moving toward universal registration and useMaking PDMPs easier to use and access
- Making PDMP data more timely
- Expanding and improving proactive PDMP reporting to identify and address inappropriate prescribing patterns
- Using PDMP data to better-understand the prescription drug overdose epidemic

**Community or Insurer/Health Systems Interventions**

- Providing technical assistance to high-burden communities and counties
- Improving opioid prescribing interventions for insurers and health systems
- Enhancing use of evidence-based opioid prescribing guideline

**Policy Evaluations**

- Evaluating interventions to better-understand what works to prevent prescription drug overdoses

**Rapid Response Project**

- Implementing a project to advance an innovative prevention approach and respond to new and emerging crises and opportunities[11]

The SAMHSA prevention portfolio tends to focus most directly on averting overdose deaths through these potential strategies:

- STRATEGY 1: Encourage providers, persons at high risk, family members and others to learn how to prevent and manage opioid overdose
- STRATEGY 2: Ensure access to treatment for individuals who are misusing opioids or who have a substance use disorder
- STRATEGY 3: Ensure ready access to naloxone
- STRATEGY 4: Encourage the public to call 911
- STRATEGY 5: Encourage prescribers to use state PDMPs[12]

The Center for the Application of Prevention Technologies also provides a framework for addressing community-oriented prevention programs. It stresses individual-level strategies, environmental strategies (including communication and education, as well as enforcement), and collaboration across stakeholder groups and communities of interest.[13]

The National Institute on Drug Abuse (NIDA) recognizes that several distinct groups can contribute to the prevention of opioid use disorder. NIDA urges clinicians to "take measures to prevent the escalation of a patient's misuse to a substance use disorder" by prescribing only what is necessary and watching for signs of "doctor shopping." NIDA suggests that patients should follow the prescription regimen they are given, and that pharmacists can be the first line of defense in recognizing problematic patterns in prescription drug use. NIDA also recommends the formulation of abuse-deterrent drug products; the development of safer medications; more research to better-understand effective chronic pain management; and the creation of measures to prevent the non-medical use of prescription medications.[14]

States have begun forming coalitions to address opioid use in various ways, building on and going beyond federal programs to mobilize stakeholders. For instance, the California Health Care Foundation brought into being the California Opioid Safety Network, which supports local coalitions of health care, public safety, education and others to focus on three basic strategies: 1) substantially reduce the prescribing of opioid pain medicines, 2) improve access to medical and medically assisted treatment and 3) make naloxone widely available to treat overdoses.[15] The Public Health Institute, which operates the California Opioid Safety Network, conducted an assessment of this strategy in 2017; it concluded that "within just 18 months after launch, more than 90% of coalitions facilitated adoption of safer prescribing guidelines, more than 75% increased access to naloxone to reverse overdoses, and more than 50% expanded use of medication-assisted addiction treatment."[16]

In Massachusetts, after conducting a thorough study of the causes and effects of the crisis, the state enacted a law containing a broad variety of prevention-focused steps and revising treatment protocols covering educational efforts, police response, school efforts and other measures.[17]

The National Safety Council publishes a state-by-state analysis of major steps that have been taken (or not taken) to address the opioid epidemic. In its most-recent report, the NSC cites uneven progress in the states on strategies to undertake six major actions:

- Mandate prescriber education
- Implement opioid prescribing guidelines
- Integrate PDMP programs into clinical settings
- Improve data collection and sharing
- Treat opioid overdoses
- Increase availability of opioid use disorder treatment[18]

## Common Threads

During the nation's "war on drugs," which began in 1971, the focus of major governmental programs was on reducing the use of illegal drugs through concurrent strategies of reducing supply and demand. More recently, after a general recognition that this approach was not succeeding, there has been a much greater emphasis on treatment. In particular, the rise in deaths from accidental overdoses has encouraged a growing allocation of resources aimed at saving lives.

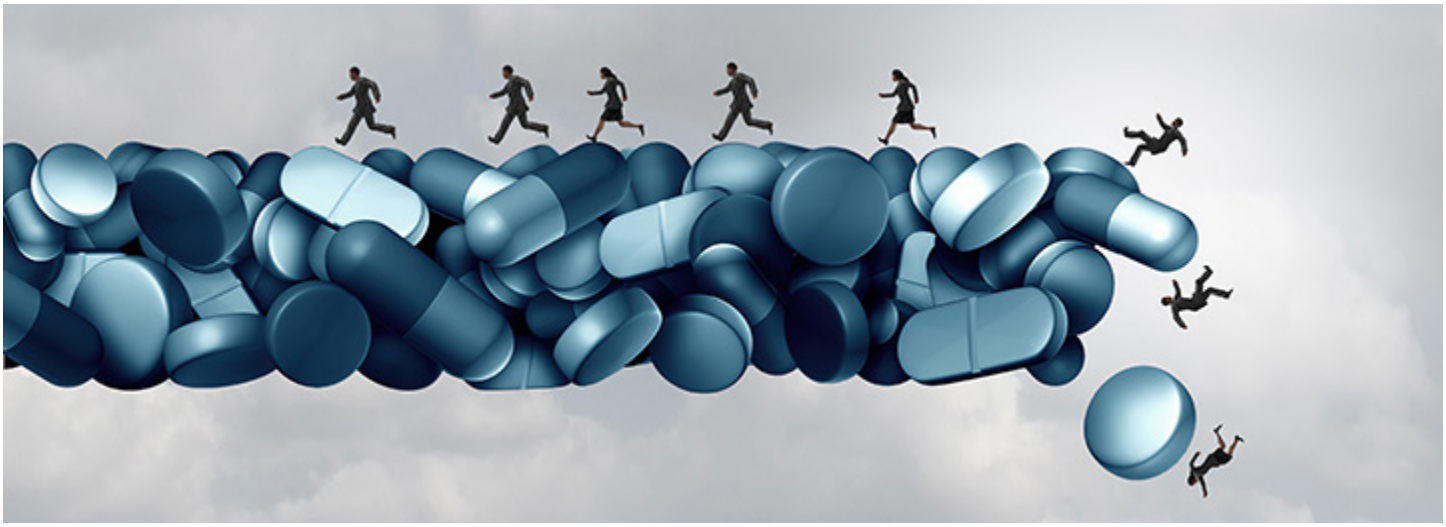
All the major guidelines and recommendations for treatment of a substance use disorder recognize the efficacy of medication-assisted responses, largely focused on methadone and more recently on buprenorphine, both of which reduce withdrawal symptoms and do not produce the euphoria of the opioid options. However, NIDA's suggestions for treating addiction add this: "Research has shown that methadone maintenance is more effective when it includes individual and/or group counseling, with even better outcomes when patients are provided with, or referred to, other needed medical/psychiatric, psychological, and social services (e.g., employment or family services)."

The prevention strategies address both the supply and demand sides of the struggle, but the realization that the overprescribing of pain medication contributed to the rise of substance use disorder, and consequently to greater overdose death rates, has led clinicians and researchers to dig more deeply into the factors that may foster drug misuse. As a result, increasing attention is being paid to the social and environmental factors of health and well-being, as well as to adverse childhood experiences that have shown to influence a proclivity for developing a substance use disorder.

Throughout the recommended strategies for prevention and treatment, two common threads stand out from an analysis of their elements:

•**Thread 1**. Executing strategies for reducing opioid use disorder must be a multidisciplinary effort. Because there are numerous components that involve multiple disciplines to implement, it is essential that there be a coordinated and integrated effort involving public safety, health care providers, pharmacists, social services, public health and education officials. Each discipline has a contribution to make in creating and applying the evidence-based findings that will make a difference in making progress against this epidemic. Peer specialists who serve as advisors and mentors are also an important part of the team approach to addressing the opioid problem.

- **Thread 2**. Information-sharing across jurisdictions and disciplines is essential. Whether for collaborative treatment related to an individual or for population health for a community, the capabilities to share data, information and knowledge among the relevant stakeholders is a common theme of every identified strategy and program.



## Multidisciplinary Collaboration Requirements

When policy-makers and practitioners study the origins and advancements of the opioid crisis, it becomes immediately clear that reducing its rate of growth requires efforts involving education, social work with families, public safety, emergency medical services, courts, health care professionals, public health officials and workers, probation officers, pharmacists and other elements of government at all levels. Most importantly, stakeholders in the effort must include the voices of patients and the general public, whose support for such programs is essential. Peer specialists with first-hand experience in overcoming an opioid use disorder are also key players on the team.

A truly collaborative effort by these participating disciplines and organizations is essential to mounting a successful prevention program. Each discipline must see itself in the program and undertake the work it can contribute to successful efforts, working closely with other collaborators to achieve mutually beneficial results. The Lazarus Project in North Carolina offers advice based on its success in building a coalition of stakeholders at the local level to confront the crisis.[19]

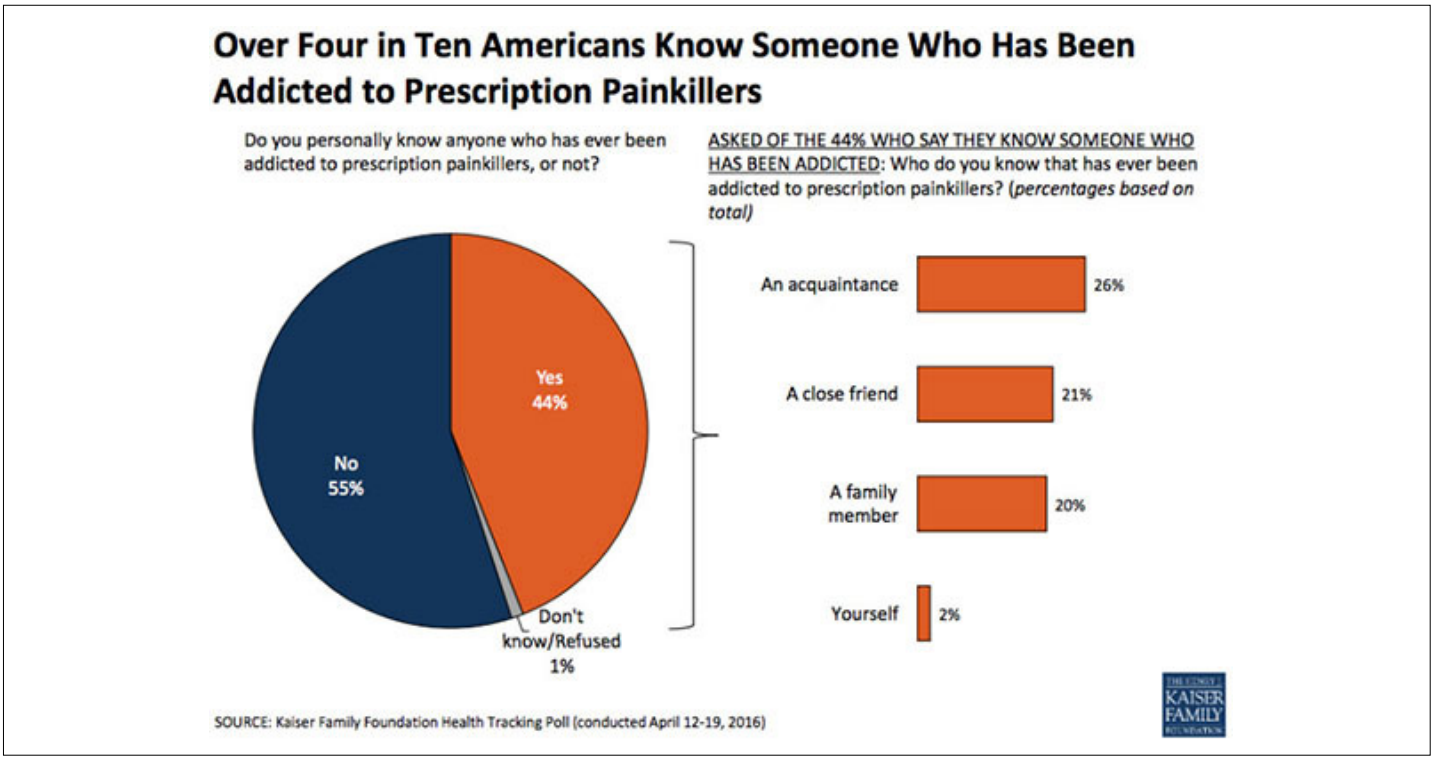
Closely tied to the conclusion that a collaborative approach is indispensable is the recognition that, for such an effort to succeed, there must be a deep and broad sharing of information about the individuals endangered by the epidemic, with sufficient detail to make a synergistic approach work. Put another way, a lack of information-sharing is a reason such efforts fail. Communities formed in many environments throughout the country have attested to this fundamental reality.

Many obstacles must be overcome to make information-sharing a positive contributor to dealing with the prevention of opioid use disorders. Individual disciplines have long rejected calls for exchanging data with other disciplines on the grounds of protecting privacy and civil liberties, and various federal and state statutes and regulations have contributed to this impasse. Information is also often viewed as a key to individual or organizational power, and sharing it is seen as a danger to personal or organizational control. Still, it is clear that for a community of interest to collaborate on a prevention effort, more information is vital to enable collaboration and joint problem-solving activities

## Humanizing the Issues with Use Cases

To illustrate, assess and humanize potential solutions that are realistic and practical, it is helpful to create a scenario describing a representative path that a person with a substance use disorder may follow – from initial exposure to addictive substances; to longer-term destructiveness; to the escalating engagement of social services, the justice system, and the health and human services workforce. At every juncture, there are a set of points where information is required to support making the best decision. It is clear that the amount of information required, and its sources, should be carefully considered and grow as the complexity of the individual's path increases.

Tracking these decisions and examining each one to identify the specific information required to promote good case treatment planning and decision-making is a helpful way to understand how that information must be acquired and shared. An example of analyzing a case study in this way follows:



## Kerry's story:

Kerry is a 47-year-old mother with one adult son and three minor children – a daughter who is 16, another daughter who is 6, and a son who is 4. For 13 years, Kerry was a manager at a shipping warehouse, and she was up for a promotion to be a district area manager.

In 2013, while driving home from work, Kerry was in a car accident that resulted in her requiring spine surgery. Her surgeon prescribed two non-abuse-deterrent pain-relieving opioids, one short-term and one longer-acting. Staff kept her pain very well controlled while she was in the hospital. When she was discharged, Kerry received a prescription for 60 extended-release, long-acting opioids (a 30-day supply) and 120 of the short-acting opioids for "breakthrough pain as needed."

*[Information required: any factors showing a predisposition toward addiction, past prescription history, allergies, basic medical information, history of mental illness, criminal record, exposure to adverse childhood experiences, prior involvement with social services]*

Kerry remained on both medications for several months. When her surgeon began to taper Kerry from the opioids, she continued to report pain that interfered with her sleep and work. Her surgeon told her that due to the nature of her injury, complete relief was unlikely, and she should see her family doctor for ongoing pain management. Kerry's family doctor was sympathetic and prescribed the same opioids she'd been taking, but after she requested early refills several months in a row, he refused further prescriptions. There was no discussion of alternative withdrawal protocols.

*[Information required: past prescription history and current dosage, past engagement with opioids, prescriptions by other physicians, allergies, basic medical information]*

Kerry had to have the medications to get through the day. On days when she ran out, she felt too debilitated to go to work, and many days when she went to work, she left early. She never revealed her medication use to her employer, nor did she take advantage of her Employer Assistance Program (EAP) benefits. Finding sources who would prescribe the opioids to stay on top of her growing need for pain medicine became a priority. Several doctors and pharmacies refused to write prescriptions or fill them for her. A few noticed via the prescription drug-monitoring program that she was seeing more than one doctor at a time and frequenting several pharmacies. Also during this period, Kerry enrolled in two different detoxification programs, but once discharged, she could not remain abstinent and she returned to opioids shortly after each one.

*[Information required: past prescription history and current dosage, past engagement with opioids, prescriptions by multiple physicians, allergies, basic medical information, traumatic experiences, social and environmental factors, experience and outcomes from treatment programs]*

Eventually, Kerry was arrested for speeding in her car and she failed a sobriety test. She was arrested, and her children were temporarily placed into foster care. Because she was able to prove that the opioids she was on were prescribed for her, she pled guilty to a misdemeanor and was placed on probation. Her children were returned, with the child welfare system providing in-home supervisory services pursuant to a family service plan.

*[Information required: past prescription history and current dosage, past engagement with opioids, prescriptions by multiple physicians, allergies, basic medical information, traumatic experiences, social and environmental factors, experience and outcomes from treatment programs, family support and treatment programs and outcomes, care plans from family services]*

Unfortunately, because she missed so much work, Kerry lost her job and could not find other employment. She then lost her house because she fell behind in her mortgage. For two weeks, the family lived in the one-bedroom apartment of her adult son until the landlord threatened to evict him, so they moved to a family shelter. At the shelter, Kerry applied for and was granted TANF, Medicaid and Food Stamps for herself and her three minor children. As a requirement for receiving these federal benefits, Kerry also completed the interviews necessary to file for child support from her former husband (her 16-year-old daughter's father) and from her two younger children's fathers.

*[Information required: past prescription history and current dosage, past engagement with opioids, prescriptions by multiple physicians, allergies, basic medical information, traumatic experiences, social and environmental factors, experience and outcomes from treatment programs, income and expense situation, family history of support services]*

As Kerry continued to struggle with her addiction, as her access to prescribed medications dwindled and then ended, she sought alternative relief. She began to purchase pills on the street, but the price continued to rise, and she became aware that heroin was much less expensive. Her 22-year-old son told her that heroin could address her pain. Reluctantly, she asked him to obtain some for her, which he did. She came to use heroin as a substitute. She would often stay out all night. Because she was violating the shelter rules, she and her children were evicted. The shelter notified child welfare services and the three children were placed into foster care, each in a different home.

*[Information required: Past prescription history and current dosage, past engagement with opioids, prescriptions by multiple physicians, allergies, basic medical information, traumatic experiences, social and environmental factors, experience and outcomes from treatment programs, family history of support services, prior history of services to children, children's medical and school records]*

A week later, Kerry lost control of the car she was driving and hit a traffic light pole. When the police arrived and searched the car, they found seven "big bags" of heroin in the pocket of a coat that was in the back seat. Kerry was arrested on charges of felony drug possession, intent to distribute heroin and impaired driving and violating her probation. Kerry was placed in the county jail because she could not make bail.

At the arraignment hearing, a public defender explained that Kerry was going through heroin withdrawal because of her opioid addictions, and the judge transferred her to the jurisdiction of a specialized drug court. There, the judge approved her request to participate in another detox program. The drug court's pre-trial services worker contacted the behavioral health system, which sent a case manager to the courthouse to assess Kerry; the recommended treatment was a specialized 30-day detox program for women who had previously been in treatment and relapsed quickly thereafter. A vacancy in this program was expected in three days. Following the assessment, Kerry was taken back to the county jail, and her case manager made arrangements for her to be transported from there to the treatment facility once a bed became available.

During her stay at the detox program, Kerry was concerned about how she was going to maintain her sobriety, so she called the behavioral health office case manager for help. Kerry also told the case manager that she was worried that, once she left the treatment facility, she would have no place to live where her children could visit and eventually be returned to her custody. Kerry asked the case manager to arrange for a visit with her children while she was in rehab. The case manager tried several times to reach the child welfare social worker, but they never connected.

*[Information required: substance use disorder diagnoses, housing support services provided, past engagement with opioids, prescriptions by multiple physicians, allergies, basic medical information, traumatic experiences, social and environmental factors, treatment plans and experience and outcomes from treatment programs, family history of support services, prior history of child welfare services to children, children's medical and school records]*

The County Human Services Director has seen the increasing number of opioid-related cases that are impacting caseloads across her continuum of services. Mental health, child welfare, adult and aging services, housing and homelessness services, and drug and alcohol departments are all dealing with the consequences of this growing crisis. The increased usage of heroin, as well as fentanyl, has been particularly troublesome. The director is hearing from her counterparts in law enforcement, corrections, first responders, public health care and the courts that their respective caseloads also are being affected by this epidemic on a daily basis.

*[Information required: data describing the portion of the caseload related to opioid use and addiction, caseload statistics for law enforcement, mental health, child welfare, adult services, housing services showing the percentage of cases involving opioid use disorder, meaningful statistics about the extent of particular drug involvement, overdose (both fatal and non-fatal) statistics by geographical area]*

The elected County Board of Supervisors has begun to see the fallout from the crisis, reflected in the increased reporting in various departments of overtime pay and personnel vacancies. Informally, they are hearing of opioid-related problems from their constituents and, in some cases, from family and friends reporting the personal impact on their own lives of circumstances not very different from those experienced by Kerry and her family. The Board of Supervisors was also keenly aware of the President's declaration of the opioid epidemic as a public health emergency – as well as of years of ongoing media reports on the crisis by CNN, CBS' 60 Minutes, the New York Times and Washington Post, and numerous state and local journalistic organizations.

Once a quarter, the Human Services Director and her counterparts in the courts, law enforcement, the jail, public health and education, along with invited department heads, gather for an early-morning breakfast meeting with the Board of Supervisors. Recently, one supervisor indicated that he was considering placing on the agenda for the next meeting how the County Human Services Director was responding to the opioid/heroin epidemic in their jurisdiction. At the quarterly breakfast meeting, the Human Services Director calls for the formation of a task force to address the epidemic.

She identifies the cross-jurisdictional program silo challenges she currently faces and cites the need to be "out in front" of this issue with the Board of Supervisors. She especially wants to get a sense of the magnitude of the numbers of people with this illness, and to know if the different systems are dealing with the same clients or different clients, and finally whether there could be more cross system case planning. She then introduces her Drug and Alcohol Director, who presents Kerry's case as one that is typical. She calls for the task force to deal with this epidemic in the same manner in which Homeland Security's cross-jurisdictional challenges were addressed over a decade ago. She also calls for the establishment of a county network of services, both within government and within the community to address the larger goal of enhanced information sharing to achieve more coordinated, client-centered care.

*[Information required: data describing actual opioid use and addiction, caseload statistics for law enforcement, mental health, child welfare, adult services, housing services showing the percentage of cases involving opioid use disorder, meaningful statistics about the extent of particular drug involvement, overdose (both fatal and non-fatal) statistics by geographical area, data describing the types, age, gender and other social characteristics of those with substance use disorder, research showing trends in all of the above categories of data, projections of longer term trends, evidence-bases strategies that have worked elsewhere in dealing with the opioid crisis]*

# III. The Role of Data in Decision-Making

The development of a coherent, consistent and coordinated program to prevent opioid use disorders necessitates 1) a foundation for the acquisition and 2) The use of data to help in the formulation of policy and in the provision of services to an individual. These two objectives are closely related but vary in the specifics of what data should be collected and what data should be shared across stakeholder groups.

Data that will enable better decisions on how to mitigate the likelihood of developing a substance use disorder includes specific information about the at-risk individuals, including their early life experiences and environmental factors. For example, the initial decision of whether to prescribe an opioid for pain management should be informed by individual history and proclivity toward addiction.

Access to such detailed, personal information is clearly critical for physicians. However, to formulate policy and programs, particularly in the realm of population health, decision-makers need aggregate data that helps define the extent of the problem and the possible factors that have created it.

A key principle in the acquisition of useful data is that it must support the measurement of how well individual programs or projects or policies are achieving their objectives. The metrics themselves are significant, as we have seen in the importance of measuring outcomes, not just outputs, of a particular strategy or program.

There is a proven methodology for addressing the issue of what data to share and how to share it. In the work of the Standards Coordinating Council, empowered by the Program Manager of the Information Sharing Environment (ISE) created by Congress, the IJIS Institute created a playbook expressly to provide detailed advice for building an information-sharing environment.

## a. Information-Sharing Requirements across Disciplines

The starting point for defining information-sharing requirements is an analysis of the scenarios that reveal the needs for data to promote better decision-making. As illustrated in the section above, tracing the decision-making path that a person follows through various phases of treatment and service is a strong framework for uncovering the specific data that is required. This analysis is defined and described as a "play" on the Standards Coordinating Council website.

Once the requirements of decision-makers and service providers are identified, a sometimes-difficult discussion needs to take place about how organizations can and will share sensitive information beyond their own borders. A major, early impediment to doing so is a concern for privacy and civil liberties, which must be addressed to meet legal and regulatory constraints, as well as individual agency policies. This issue is critical to the sharing of personally identifying data, which is essential for making information available for a variety of service providers engaged in preventative measures. A common process of managing consents is often a fundamental part of successful information-sharing. Policies and technical considerations for safeguarding data are also critical.

A useful resource on confidentiality and privacy relating to information-sharing efforts is a NIC webinar in which several subject-matter experts provide important insights on the topic. In addition, the NIC Collaboration Hub includes a Confidentiality and Privacy Group, where members share resources and engage in discussions on relevant issues. The NIC Hub also includes an Opioid Group.

Significant programs that have addressed and resolved these issues include:

- New York City's HHS Connect, a domain-based HHS information-sharing network
- San Diego's Health Connect program, which brings together patients and doctors
- Allegheny County (PA)'s long-established Data Sharing for Health program
- Montgomery County (MD)'s Healthy Montgomery, which consolidates data across agencies

## b. Evidence of Program Success

Each of the plays in this document has specific (and hopefully measurable) objectives associated with it, either inherently or defined by the community selecting that strategy for implementation as a part of its prevention effort. The sustainability of whatever program or strategy is adopted will be determined by the extent to which data is collected to show that its objectives have been or are being met. While overall goals may be less specific about time frames, quantifiable objectives are most useful when a particular measure is expressed with a time frame in which it will be achieved; e.g., reduce opioid prescriptions by 10 percent in one year.

Selected metrics should always be derived from the program objectives, and they should be clear enough to indicate that the program is working in accord with an articulated theory of change. Many agencies and community groups have developed dashboards containing measures of success for individual programs, so stakeholders can see progress – or the lack of it – in a timely and easy-to-understand form. A number of commercial offerings provide such a function. Some statewide dashboards also have been created to provide ongoing data on program outcomes; these include Minnesota's and Rhode Island's, which tracks its action plan to prevent overdose deaths.

## c. Gauging Outcomes across Disciplines and Jurisdictions

Decision-makers invariably want any program to have an impact on society that can be measured in ways that justify continued investment and attention. In the case of opioid use disorder prevention strategies, demonstrating real progress is critical. The obvious metric that has captured the public's and media's attention is the number of overdose deaths, which has risen dramatically during the past five years. But additional measures that legislatures – and people generally – want to know also include the number of non-fatal overdoses and of individuals who have used opioid for pain management or have succumbed to opioid use disorders.

Federal and state repositories collect data that, in many cases, can be extracted to focus on a particular community or geographical area. But at the local level, it may be necessary to find sources that can be combined to reflect the experiences and knowledge of law enforcement, schools, pharmacies, health providers and social services.

Some jurisdictions have created multi-agency repositories and analysis tools to combine data from multiple sources and produce extremely useful reports on the state of opioid use and overdoses. The strategy of the Drug Monitoring Initiative (DMI) at the Regional Operations Intelligence Center in New Jersey is "focused on establishing a multi-jurisdictional, multi-state, drug-incident information sharing environment that could collect and analyze drug seizures, overdoses, related criminal behavior, and related emergency medical services, to better understand the heroin and opioid epidemic in New Jersey. The components of the DMI include the collection of data, analysis, and the distribution of analytical products to constituents. The strategy also includes an outreach component to support private and public sectors and drug awareness training for public safety officials."[20]

A particularly useful tool that any community can take advantage of is the mobile Overdose Detection Mapping Application (ODMAP) software developed by the Baltimore-Washington High Intensity Drug Trafficking Area organization. ODMAP allows law enforcement and other first responders to capture data when there is an overdose and when medication is administered that saves a life. ODMAP has the capability to analyze overdose spikes and provide real-time alerts using mapping technology. The intent is to inform public safety and public health organizations of unusual patterns/trends of overdose increases to improve response times.

ESRI, the maker of the widely used ArcGIS system, has created a tool for the presentation of data to a community in a spatial view that can display an Opioid Awareness story map.

While there have been many studies of program effectiveness related to substance use disorders, there is still much to be learned about the many innovative programs that have been tried throughout the country. Because this field is still new, relatively few tools are available to help evaluators assess specific interventions. The National Implementation Research Network is a helpful resource for understanding methods for evaluation; it has fostered the development of such tools as Hexagon for evaluating specific intervention strategies.[21] Hexagon is useful for evaluating strategies (plays) for adoption in an integrated framework of responses. The tool itself provides a framework for discussion and decision-making around two major components: (1) assessing the readiness of a site in terms of capacity, fit and need and (2) assessing the utility of the program or intervention being considered in terms of the evidence supporting it, its usability and the support services available.

## d. Standards and Models that Can Help

Automation – consistent with the protection of privacy and civil liberties – is the way to make information-sharing consistent and useful across collaborating domains to improve decision-making and processes that aid prevention as well as treatment. The key to successful automation is developing standards that allow a common understanding and use of terms as the basis for exchanging data throughout the participating organizations. Standards have been proposed to make such information exchanges easier to implement and less costly for participants.

One tool developed as a result of collaboration among state, local and federal officials is the National Information Exchange Model (NIEM), which is designed to promote cross-boundary information-sharing. NIEM is, first, a definition of terms (data elements) that have been harmonized across multiple domains including justice, health, human services,

homeland security and others. It is also a methodology for defining standards for the exchange of information across domains in ways that conform to the definitions, so that computers can interpret the data without human intervention.

The data components defined in NIEM are organized into 1). core components that are of interest to more than two domains and 2). domain-specific components of interest to a particular domain such as justice. The way to start using NIEM is to define the elements of information that are needed in a particular exchange (ex., a patient case file), and then search the NIEM dataset to find out if these elements are already defined there. NIEM provides tools to search and then to create a schema that, in effect, is the specification for writing a code that will enable the information exchange.

NIEM is the only cross-domain methodology and structure that creates standards for specific exchanges. If more than two systems need to exchange data, NIEM is the best way to create the specifications for doing so. NIEM is not itself a standard, but is built on international standards for things like date, time, address, etc. It is a methodology for using the many existing standards for data elements from their most-authoritative sources, and for creating derivative exchanges that can be a true standard that multiple systems can be trained to interpret. It is a way to create a translation between systems that must deal with common topics but speak different languages.

An information system architecture is an important part of a strategy to build the capacity for information-sharing, and considerable work has been conducted to formulate frameworks for creating this capability. One of the most extensive was done under the auspices of the Standards Coordinating Committee to create Project Interoperability, which defines a generic architecture useful for designing an information-sharing function.

The Administration for Children and Families (ACF) of the U.S. Department of Health and Human Services has recently published its own interoperability guide, which attempts to define ways to make information-sharing more feasible and easier to automate though the use of standards and tools. In an article about the interoperability initiative, ACF explains:

> *"We are also examining existing technical architecture frameworks, including the National Human Services Interoperability Architecture (NHSIA), to promote effective planning and design of integrated systems. Ideally, NHSIA will provide the basis for interoperability with other communities, such as with those organizations leveraging the Medicaid Information Technology Architecture. Alignment of both architectural and data standards frameworks across human services and critical partners is a major attribute of the ACF Interoperability Initiative."*[22]

NHSIA proposes a framework to facilitate information-sharing, improve service delivery, prevent fraud and provide better outcomes for children and families.[23] In addition, several states have created data sources revolving around but not limited to open data to help measure the success of prevention programs. Pennsylvania, for example, has created a code-a-thon in which open data is used to enable technologists to develop applications that may help in the prevention of opioid use disorders:

*"Julie Snyder, director of Pennsylvania's Office of Data and Digital Technology, said that the state recently released 30 data sets that could prove useful for combating the opioid crisis or shedding awareness about its extent. Those data sets come from myriad departments throughout the state, and they are related to a wide range of topics, from corrections to drug and alcohol rehabilitation to the police numbers associated with opioid-related arrests."*[24]

Data visualization is an important tool in helping to understand the issues related to substance use disorder. Washington State's Department of Health publishes a portal that displays key metrics related to the opioid crisis at the county level, with tools to explore the data further.[25] There are numerous state programs that provide reference materials and resources for understanding of the issues related toof information sources and data.

## e. Potential Funding

The Washington State Department of Health has taken an innovative step toward full integration of health infrastructure by bringing together its PDMP program with electronic health records (EHRs) using the state's Health Information network. By integrating these systems, the state was able to justify the work and expense of linking these systems under the criteria for "meaningful use" by the U.S. Department of Health and Human Services, and thereby qualify for federal grant support.[26]

The U.S. Justice Department's Bureau of Justice Assistance (BJA) issues periodic grant offerings relating to the crisis. An example is the 2018 Comprehensive Opioid Abuse Site-based program. Searching for "opioids" on BJA's list of funding opportunities shows the ones relevant to this topic.

The Health Resources and Services Administration's (HRSA) Federal Office of Rural Health Policy has released a funding opportunity for the FY 2018 Rural Communities Opioid Response Planning initiative. About 75 grants will be awarded to rural communities. Awardees will receive up to $200,000 for one year to develop plans for implementing opioid use disorder prevention, treatment and recovery interventions designed to reduce overdoses in rural populations. Separately, HRSA awarded over $396 million to combat the crisis in its FY 2018 opioid program.

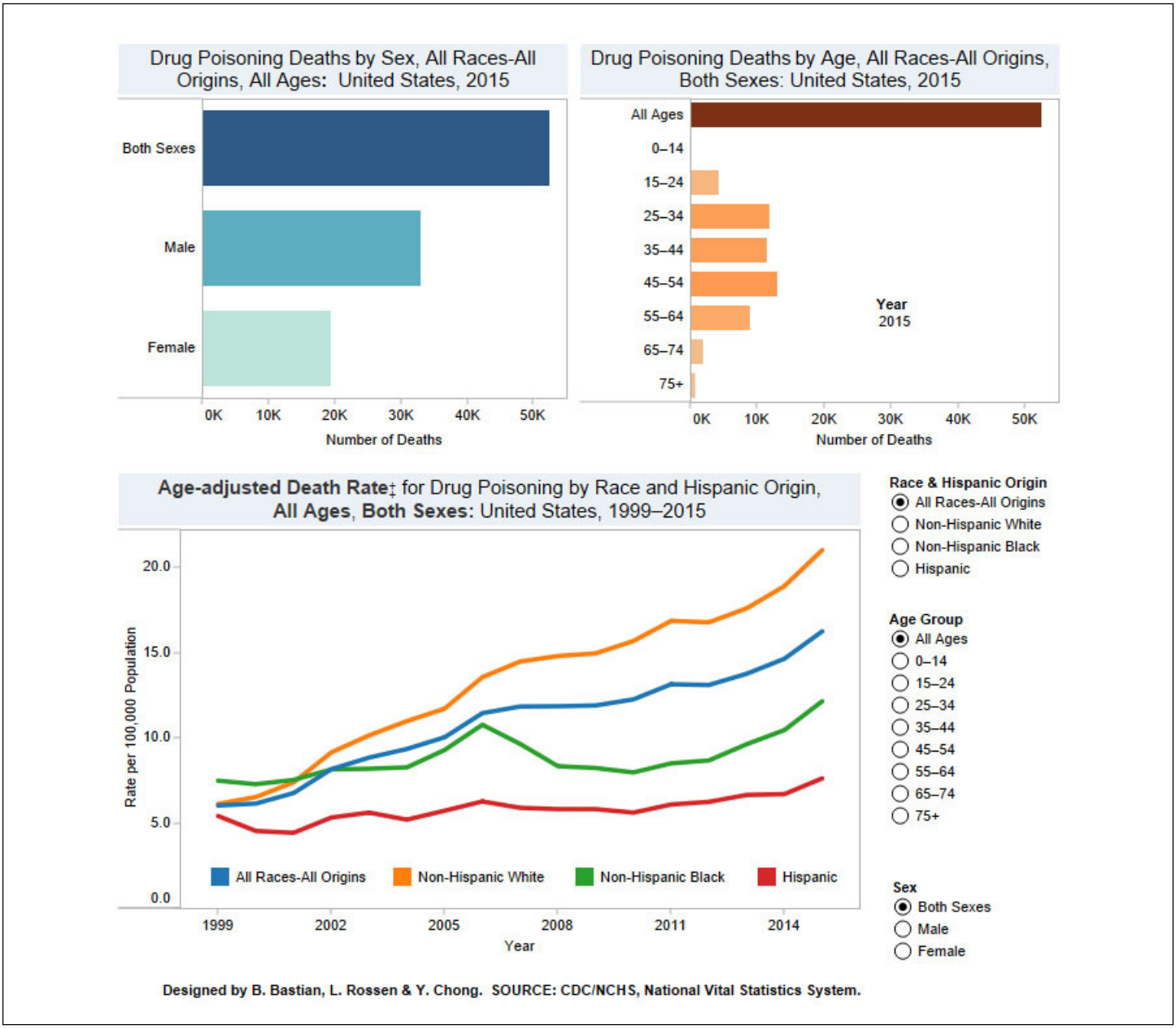
SAMHSA makes grant funds available through the Center for Substance Abuse Prevention, the Center for Substance Abuse Treatment and the Center for Mental Health Services. It lists funding opportunities that support programs for substance use disorders and mental illness, and explains the grant application, review and management processes.

In a June 2018 letter to state Medicaid directors, the Centers for Medicare and Medicaid Services laid out opportunities for the use of Medicaid technology to support applications addressing the opioid crisis, and discussed potential funding opportunities for efforts addressing the Medicaid population.

The Community Blog on grants.gov periodically publishes a post that forecasts upcoming grant opportunities related to opioid topics, including for many of the plays covered in this playbook.

The Bureau of Justice Assistance (BJA) in the U.S. Department of Justice periodically offers solicitations for grant funding to support prevention efforts and other projects related to opioid use disorder. An example is the 2018 Comprehensive Opioid Abuse Site-based Program solicitation, which funded a variety of strategies covering several of the plays described herein. The Office of Juvenile Justice and Delinquency Prevention in the DOJ also offers such solicitations, such as the 2018 Opioid Affected Youth Initiative program.

In 2018, the National Center for Complementary and Integrative Health at the National Institutes of Health announced a funding opportunity for behavioral intervention research that leverages a $1 billion initiative by SAMHSA. As part of the 21st Century Cures Act, State Targeted Response to the Opioid Crisis Grants have been distributed to all 50 states and U.S. territories to expand access to evidence-based prevention, treatment and recovery support services; reduce unmet treatment needs; and help to prevent opioid overdose deaths.[27]



## The Plays

The word "play" in this document refers to a specific idea, initiative or strategy that a community, jurisdiction, government and/or organization might select to bolster collaborative efforts to prevent opioid use disorders. The play descriptions attempt to define purposes, goals and objectives, theories of change, ways to implement the strategy, evidence of the previous success or lack thereof, and resources for further study/examination. These plays are intentionally short synopses of current knowledge, designed to be a starting point for group discussion and further exploration of how each might benefit the population served.

This list is not exhaustive. Many strategies have been proposed and many trials have been conducted as the entire nation seeks answers to the question of how to cope with this historic epidemic. We selected the plays below because they appear to have traction by virtue of their perceived or actual positive value/impact. Research to provide concrete evidence of the success of various strategies (plays) has been emerging over the past decade, but there are still many that have not been exposed to evidentiary evaluations.[28] Inclusion of the plays on this list was based either on demonstrable evidence of their value or actual impact.

### 1. Remove the stigma

Addiction is a disease. Educating the public, health care professionals, health care systems and plans, community organizations and law enforcement about that reality – and, as a result, about the need for prevention, detection and treatment with a comprehensive team approach – may be the most important component of any program to stem the tide of opioid use disorders.

There is considerable research about the extent to which the stigma of drug use or misuse impedes the prevention or treatment of the problem. In a paper on this topic, SAMHSA explores the extent to which words matter in the effort to address misuse.[29] In addition, the negative effects of the stigma associated with substance use disorder have been documented, as has discrimination in employment and social relationships.[30]

Substance use disorders are often treated as a moral and criminal issue, rather than as a health concern. This is especially true of illegal substances, which are perceived more negatively than legal ones. The use of particular substances (e.g. heroin) has not only been deemed deserving of social disapproval and moral condemnation, but has

also been designated as a crime. This criminalization exacerbates stigma and produces exclusionary processes that deepen the marginalization of people who use illegal substances. Therefore, the social processes and institutions created to control substance use may actuality contribute to its continuation.[31]

An article proposing to frame the opioid epidemic as a public health issue states that:

> *The national dialogue around opioids has been dominated by several approaches that on their own are inadequate or harmful. "War on drugs" approaches that would increase arrests and incarceration to deter drug use and distribution have had long-term scarring effects on many communities, primarily those of color, without measurably reducing access to street drugs. Likewise, defining drug use as an individual's moral failing that can be remedied through willpower alone is inconsistent with biological triggers that create susceptibility to addiction. The moral failing approach also fails to recognize the role of trauma and adverse childhood experiences in addiction. Most importantly, the willpower approach lacks evidence for efficacy. Likewise, a single-minded focus on abstinence led to opposition from several self-help advocates against highly effective treatments such as methadone, buprenorphine, and harm reduction. Moving beyond moralized and punitive approaches to addiction could help reduce stigma and increase acceptance of treatment, not only for people who use opioids but also for the safety and wellbeing of society at large*.[32]

Considerable research has found that there are positive effects on recovery from efforts to remove the stigma associated with substance use disorder, both from professional interactions with the patient and self-inflicted stigma.[33]

Programs aligned with this play will seek to change the culture of interaction with those who have substance use disorders. The specific components include educational programs, small group discussions, seminars and training in specific approaches, and language that professionals – ranging from police to health care providers – should avoid. Rachel Wurzman gives this Ted talk on how social isolation fuels opioid addiction.

Changing the cultural view of substance use disorders will require the development of a shared vision between public safety and public health, as well as other stakeholders. Committees or task forces dedicated to just this initiative could be helpful in developing such a vision.

### Goals and Objectives

The goal of this play is to reduce the effect of stigma in interactions between individuals with substance use disorders and the professionals with whom they come into contact, as well as the effect of behaviors related to self-stigma. Creating non-judgmental interaction patterns can increase the probability of recovery and reduce the likelihood of continued disorders.

### Theory of Change

If the environment of interaction by professionals (police, health care providers, etc.) can be become more non-discriminatory and non-judgmental, there is a higher probability that the road to recovery will be shorter and more likely to result in a positive outcome.

### Example

The Toronto Drug Strategy Implementation Panel has published a report on its initiative to deal with the stigma problem. It includes recommendations for program content.

### Resources

SAMSHA has developed a brochure on how to create a stigma-reduction initiative.

Ohio created a brochure to describe better language about substance use disorders.

The Central East Addiction Technology Transfer Center has published an anti-stigma toolkit that provides a comprehensive set of guidelines for reducing stigma related to substance use disorder. It is available at https://attcnetwork.org/centers/new-england-attc/coming-light-breaking-stigma-substance-use-disorders

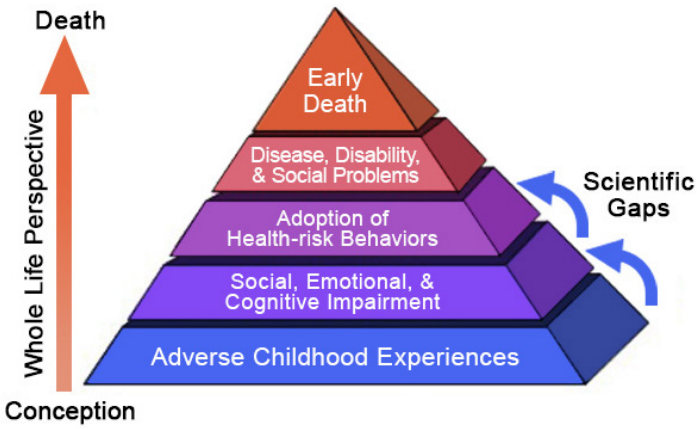
Shatterproof has a useful guide on language that should be avoided in dealing with people suffering from substance use disorder.

## 2. Reduce the risk of developing an opioid use disorder [34]

According to the Center for the Application of Prevention Technologies (CAPT) in SAMHSA, adverse childhood experiences (ACEs) – including stressful or traumatic events such as abuse and neglect – are "strongly related to the development and prevalence of a wide range of health problems throughout a person's lifespan, including those associating with substance misuse." This image from CAPT illustrates the impact of ACEs throughout a lifetime.

In a policy brief, the Campaign for Trauma-Informed Policy and Practice reports a recent study that finds "over 80% of the patients seeking treatment for opioid addiction had at least one form of childhood trauma, with almost two-thirds reporting having witnessed violence in childhood."[35] A 2017 study showed that, even in people over 50, mental health issues and substance use disorders are significantly associated with ACEs, leading to the conclusion that prevention strategies should take this correlation into account.[36]

The research on this topic began with a foundational study of ACEs in 1998. In this significant work, persons who had experienced four or more categories of childhood exposure, compared to those who had experienced none, had 4- to 12-fold increased health risks for alcoholism, drug abuse, depression and suicide attempts, among other negative outcomes.[37]




Source: Center for the Application of Prevention Technologie

SAMHSA has developed a Strategic Prevention Framework (SPF) as a planning process for preventing substance misuse. SPF's five steps and two guiding principles offer prevention professionals a comprehensive process for addressing substance misuse and related behavioral health problems. SPF's effectiveness begins with a clear understanding of community needs and involves community members in all stages of the planning proces


The steps of SPF include:

Step 1: Assess Needs: What is the problem, and how can I learn more?

Step 2: Build Capacity: What do I have to work with?

Step 3: Plan: What should I do and how should I do it?

Step 4: Implement: How can I put my plan into action?

Step 5: Evaluate: Is my plan succeeding?

SPF also includes two guiding principles:

1. Cultural competence: The ability to interact effectively with members of diverse populations

2. Sustainability: The process of achieving and maintaining long-term results[38]

Ohio has developed its own version of the SPF to create the Ohio Strategic Planning Framework as it is applied to the opioid crisis.

## Goals and Objectives

The development of one or more plays that address the impact of ACEs on the development of substance use disorders is a very important component of a community strategy for prevention. The goal is to halt or reduce the extent to which ACEs leads to substance use disorder or that influences the development of such disorders. It could be argued that policies and programs directly aimed at reducing the prevalence of ACEs is in itself an aspect of prevention strategies in as much as we have seen the high correlation with substance use disorder.

Objectives for each such initiative under the play could be structured to reduce the propensity for substance use disorder by a specified percentage within a specified time period for a particular set (cohort) of people having a common ACEs scoring.

## Theory of Change

A significant number of studies have strongly concluded that reducing exposure to adverse childhood experiences will reduce the likelihood of a person developing a substance use disorder. Well-documented programs that can have this effect include: home visiting, parenting assistance, parent/child interaction therapy and others that focus on the reduction of ACEs. [39] The theory of change is that by offering evidentiary-based programs that reduce the number of ACEs, the likelihood of fostering the development of a substance use disorder is lessened.

Another relevant theory applies to the design of treatment programs for current addicts. By improving the resilience of those having an experience leading to a substance use disorder, the perpetuation of this condition can be reduced or eliminated.

## Examples

Seeking Safety,[40] an approach developed by Dr. Lisa Najavits, addresses trauma-related problems and substance use at the same time. It is the most evidence-based model for people with both trauma and addiction. Seeking Safety can be delivered by peers, as well as by counselors or other professionals. Seeking Safety is also the lowest-cost evidence-based model available for trauma and addiction, and has shown especially strong results for heavy drug users.

Dr. Stephanie Covington has developed several evidence-based, gender-responsive programs: ***Helping Women Recover, Beyond Trauma and Beyond Violence.*** The two newest interventions are Healing Trauma: ***A Brief Intervention for Women and Exploring Trauma: A Brief Intervention for Men.*** All the programs incorporate knowledge about gender differences in risks of and responses to trauma. Treatment strategies include approaches for treating trauma

and substance use disorders: cognitive-behavioral, mindfulness, body-oriented (i.e., yoga) and expressive arts.[41]

The City of Martinsburg, WVA, has developed an innovative collaboration between law enforcement and the schools, also including other stakeholders, to directly approach ACEs as a preventive measure against opioid use disorder. This program provides evidence of progress in reducing the level of the problem in this jurisdiction.[42]

The RxSafe program in Marin County, CA, has invested in a community prevention action team to explore the upstream factors that facilitate the development of opioid use disorders, as part of a comprehensive community-based approach to the opioid crisis.[43]

The Ohio Department of Mental Health and Addiction Services (OhioMHAS), Bureau of Prevention, has adopted a strategic planning process that combines the Prevention Institute's Adverse Community Experiences and Resilience Framework with SAMHSA's Strategic Prevention Framework to develop multi-sector collaboration addressing opioid use disorders. The Ohio approach takes a community trauma approach that galvanizes efforts to explore community and environmental factors of health that can be addressed by a coalition of participants.[44]

The Substance Use Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act (H.R.6), which focuses on changing provisions to state Medicaid programs and Medicare requirements to address substance use disorders (SUDs), incorporates language related to trauma-informed care in the health, early childhood and education sectors, including:

- Authorization of the Centers for Disease Control and Prevention to support states in collecting and reporting data on ACEs for children and adults;
- Creation of an interagency task force to recommend best practices related to the identification, prevention and mitigation of trauma across the lifespan, and to better coordinate the federal government's response;
- Authorization of increased funding for the National Child Traumatic Stress Initiative to provide technical assistance, direct service, evaluation, and dissemination of best practices related to trauma-informed care for children and families;
- Creation of grants to connect education and mental health agencies to increase students' access to evidence-based trauma treatments and services with learnings disseminated by the Secretary of Education; and
- Recognition of the relationship between early adversity and SUDs by requiring the Secretary of Health and Human Services to disseminate information and resources to early childhood programs and educators on how to recognize and respond to early childhood trauma.

## Resources

SAMSHA has produced a guidebook on "Building Resilient and Trauma-Informed Communities."

The Prevention Institute has created a framework for "Addressing and Preventing Community Trauma."

ACEs Resources offers substantial resources, including tools, briefings, grant resources and supporting documents.

## 3. Reduce the use of opioids for pain mitigation

The literature abounds with research and stories of how individual patients became addicted to opioids for pain management and how such addiction was sustained long beyond that need. A clear consensus has emerged that one very important way to reduce the use and misuse of prescription drugs, as well as illicit drugs, is to control and limit the use of opioids for pain management. This strategy requires a substantial educational effort aimed at physicians and patients about the risks and cautions in the use of opioids for this purpose. In a real sense, the effort under this play seeks to change the culture of pain management to provide more of a focus on protocols for weaning patients from the use of opioids.

The Chronic Pain Initiative (CPI), a project of Project Lazarus and Community Care of North Carolina, lists some activities that have been successfully implemented:

- Promoting adoption of the CPI toolkit for primary care providers, emergency departments and care managers.
- One-on-one provider education or "academic detailing" on pain management.
- Continuing medical education sessions on pain management, appropriate prescribing and diversion control.
- Continuing education for pharmacists on diversion, forgery and the use of the Prescription Drug Monitoring Program (PDMP).
- Promoting provider and dispenser use of the PDMP.
- Information concerning the Good Samaritan Law and prescribing naloxone.[45]

Another example of how to build a collaborative effort is reflected in the work of the Northern Shenandoah Valley Substance Abuse Coalition in the Commonwealth of Virginia. NSVSAC[46] is a coalition of law enforcement, health care, substance abuse treatment, and youth advocacy organizations and families impacted by substance abuse and addiction in the state's Winchester region. The group formed in May 2014 following a community heroin summit in Winchester convened by the Northwest Virginia Regional Drug Task Force.

## Goals and Objectives

The basic goal of this strategy is simply to reduce the quantity of opioids prescribed for long-term pain management, following guidelines to limit the use of opioids for this purpose.

Measurable objectives can be constructed along the lines of making a percentage decrease in the number of opioid prescriptions filled that are for longer than a specified time period.

## Theory of Change

Reducing the number of long-term prescriptions will result in fewer people becoming addicted to opioids beyond pain management, thereby reducing the addiction rate and, in particular, overdoses resulting in death.

## Examples

California has created a Statewide Opioid Safety (SOS) Workgroup under the auspices of the State Health Officer, focusing on promoting safe prescribing guidelines as a singular pillar of the prevention program. California issued guidelines for prescribing controlled substances for pain in 2014, and then adopted the 2016 prescribing guidelines issued by the Centers for Disease Control and Prevention (CDC). The California Department of Public Health has issued educational materials to promote and disseminate these guidelines throughout the state.

The CDPH Director/State Health Officer, in partnership with the SOS Workgroup, developed and disseminated a health care provider resource letter in March 2017 offering encouragement and resources on best prescribing practices and assistance for patients who may need special medical guidance due to opioid addiction and substance use disorder treatment.

Massachusetts enacted legislation that calls for these constraints on prescribing opioids:

- Imposes a seven-day limit on prescribing opioids to a patient for the first time.
- Mandates that prescribers check the Prescription Monitoring Program (PMP) every time a Schedule II or III narcotic is prescribed.
- Allows patients to request a partially filled opioid prescription.
- Instructs all prescribers to complete appropriate training in pain management and addiction, to be determined by boards of registration.
- Prior to issuing an extended-release long-acting opioid in a non-abuse deterrent form for outpatient use for the first time, says a practitioner must evaluate the patient's current condition, risk factors, history of substance use disorder, if any, and current medications; and must inform the patient and note in the patient's medical record that the prescribed medication, in the prescriber's medical opinion, is an appropriate course of treatment based on the patient's medical need.
- Directs the prescriber and patient to enter into a written pain management treatment agreement for prescriptions for extended-release, long-acting opioids.
- Requires the Department of Public Health to establish a voluntary non-opioid directive form, indicating to all practitioners that an individual shall not be administered or offered a prescription or medication order for an opioid.
- Establishes a benchmarking mechanism for prescribers. The Department of Public Health determines mean and median quantity and volume of prescriptions for opioids within categories of similar specialty or practice types. Prescribers who go beyond the mean or median will be sent a notice that they have exceeded the limit.[47]

## Resources

The CDC produced prescription drug guidelines related to opioids in 2016.

The American Academy of Pain Medicine and its board of directors have researched and approved certain evidence-based clinical practice guidelines for treating pain patients.

The *Permanente Journal* published the "Physician Guide to Appropriate Opioid Prescribing for Noncancer Pain" by Timothy Munzing, MD.

## 4. Reduce the supply of opioids from illegitimate sources

The President's opioid initiative contains a provision for federal efforts to focus on interdicting the flow of international and domestic illicit drug supply chains, including by requiring definitive package markings on all shipments into the U.S. as a way of tracking suspicious ones. Carrying this effort forward at the state and local levels includes the potential for such activities as:

- detecting and disrupting distribution channels for illicit drugs through local or online means
- working with the DOJ Opioid Fraud and Abuse Detection Unit to prosecute corrupt or criminally negligent doctors, pharmacies and distributors
- strengthening criminal penalties for dealers of fentanyl and other synthetic opioids

One of the most effective activities for supporting this strategy is the deployment of drug task forces designed to disrupt the flow of illegitimate drugs such as heroin and fentanyl. For jurisdictions not yet working with such a multi-agency, multi-jurisdictional task force, a useful play might be to create one and link it to the Drug Enforcement Administration (DEA) and other federal resources, including DOJ funding sources to sustain this effort on a local/regional level. Local task forces have been successful in disrupting and even eliminating distribution networks.

Since most heroin and fentanyl originate outside the U.S., much of the counter-narcotics programming is at the federal level. The 2018 SUPPORT for Patients and Communities Act calls for the Postal Service to step up inspections of all packages coming into the country in order to detect the presence of heroin and synthetic opioids such as fentanyl. However, the current delivery systems in the U.S. are geared to local distribution, and for many years there have been effective multiagency drug task forces in place that concentrate on detecting and destructing distribution channels at the local level, frequently in conjunction with state and federal agencies. As noted in the Washington State strategic plan, funding for such entities has been cut just as the extent of the opioid crisis has grown.[48]

The Drug Enforcement Administration currently maintains and supports 271 drug task forces throughout the country.[49]

For jurisdictions that match the criteria, many are involved in the formation of High Intensity Drug Trafficking Area (HIDTA) task forces. The HIDTA program, created by Congress through the Anti-Drug Abuse Act of 1988, provides assistance to federal, state, local and tribal law-enforcement agencies operating in areas determined to be critical drug-trafficking regions of the United States. This grant program is administered by the Office of National Drug Control Policy (ONDCP). There are currently 28 HIDTAs, encompassing approximately 18 percent of all counties in the United States and 66 percent of the U.S. population.[50]

The Congressional Research Service has published a history and discussion of HIDTA.

### Theory of Change

By reducing the availability of illicit drugs, the task force will prevent the incidence of some substance use disorders and thereby decrease the number of people affected. It is far easier to articulate this theory than it is to measure the complex relationship between involved organizations and environmental values. A study published in Ireland in February 2017 proposes a performance measurement approach based on this theory of change.[51]

### Goals and Objectives

Drug task forces seek to identify and destroy distribution networks and their operations in specific jurisdictions. The objectives are to disrupt drug sales in all sectors, arrest and prosecute the sales and delivery forces, and otherwise upset the distribution process.

### Examples

Most states have developed statewide programs to create multijurisdictional task forces that focus on drug-related criminal activity.

Ohio has funded numerous task forces the have been found to be highly effective in addressing and interdicting drug crimes. Information is available in the state's most-recent annual report.

An evaluation of Illinois' multijurisdictional task forces showed that these units had a significantly higher arrest rate than local police agencies, and that the units supported the guidelines for implementation.

A state publication provides details of the evaluation.

Applied Research Services provided a thorough evaluation of Georgia's implementation of multijurisdictional task forces.

**Resources**

The Center for Task Force Training of the Bureau for Justice Assistance (BJA) offers training and technical support, including specifically relating to substance abuse.

## 5. Improve and implement better prescription monitoring programs

Laws in 49 of the 50 states support the creation of prescription drug monitoring programs (PDMPs), which require pharmacies to report to a state repository the sale of controlled substances in fulfillment of prescriptions. Most physicians who intend to prescribe an opioid for pain management therefore have the ability to determine if the patient has already gone to other physicians for the same or similar drugs, a practice sometimes referred to as doctor shopping.

In addition, the system records all prior disbursement of controlled substances to the patient, so the prescribing physician has a more complete picture of prior medications that may be in conflict. It took a number of years for state legislatures to enable these monitoring programs, and there was a reluctance to share information across state lines, but this capability has now been implemented in several regions around the country.

The PDMP concept is explained in detail in SAMHSA's Guide for Healthcare Providers. Much of the funding for the creation of the PDMP network has come from the Bureau of Justice Assistance in the Office of Justice Programs at the U.S. Department of Justice under the Harold Rogers Prescription Drug Monitoring grant program.[52] BJA has continued to fund improvements under this grant program and gives priority to funding state programs that introduce evidence-based practices to improve PDMP effectiveness.

The need for a play to address these systems is founded in the extent to which physicians and pharmacies actually have access to and use the PDMPs. Some doctors are either unaware of the system, unsure of how to use it or have concerns about its accuracy. So the essence of this play is to undertake efforts to ensure that doctors know about and use their state system; that they check across states to ensure that a patient is not "doctor shopping;" and that the prescription history for prior medication does not indicate that a new prescription should not be written.

The research on the impact of PDMPs is mixed. Because the policies requiring physicians to use a PDMP vary significantly across the states, it is difficult to conclude that the program directly prevents substance use disorder. However, in states where it is designed to motivate physicians and pharmacists to check with a PDMP before releasing controlled substances to the patient, the research shows a positive impact on reducing opioid use, which to some degree prevents the start of a substance use disorder.[53]

A common theme in numerous national and local initiatives addressing substance use orders includes the strengthening of these programs. States continue to upgrade and improve their PDMPs, including by:

- creating algorithms in the PDMP system to automatically validate the prescription vs. prior prescriptions to detect over-subscribing or mistakes in dosages
- mandating that pharmacies require patients to show identification prior to obtaining the medication
- mandating the use of the PDMP system by prescribers and pharmacists

The Prescription Drug Monitoring Program Training and Technical Assistance Center at Brandeis University has created a "Best Practices Checklist," which outlines many of the improvements that have been identified to make PDMP usage more effective.

### Goals and Objectives

The goal of a project to improve PDMP programs is to (1) ensure that the system does as much as possible to collect and make available data on past prescriptions and other indicators helpful to making decisions on prescriptions and (2) ensure that the system is used by physicians and pharmacists in dispensing controlled substances. While PDMPs are operated at the state level, local coalitions of interest can promote the inclusion and accessibility of the system to assure its maximum effectiveness. Greater use can be mandated legislatively, but also by efforts to educate and persuade physicians and pharmacists to take advantage of this effective tool. The PDMP instituted by the Bureau of Justice Assistance has published a presentation from SAMSHA that helps define goals for this work.

### Theory of Change

Having an effective and accessible PDMP, and ensuring its use in the process of dispensing medications, will reduce the number of people who begin the development of a substance use disorder because they have been prescribed excessive amounts of opioid medication.

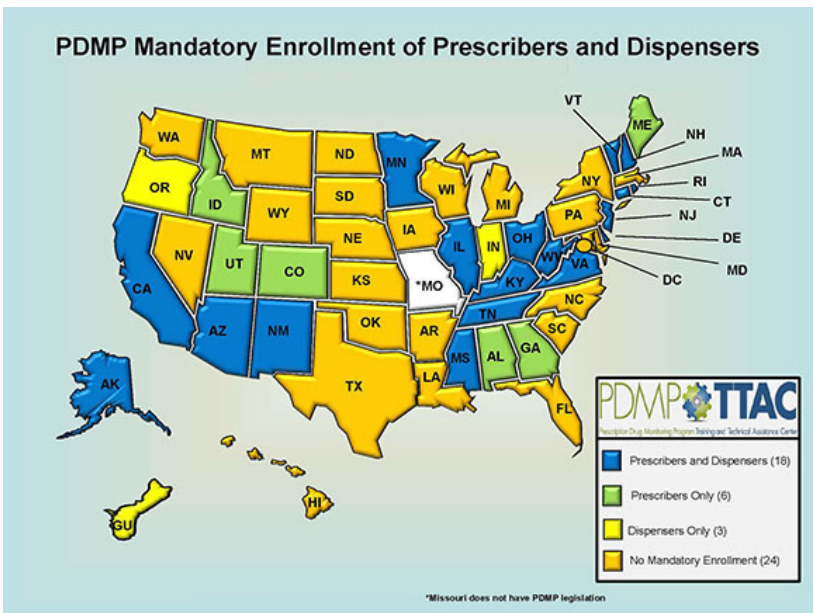
## Examples

Florida was one of the later entrants into PDMPs, but it has moved swiftly to create a program that has reduced opioid prescriptions written for pain management. The Florida PDMP, called E-FORCSE (Electronic-Florida Online Reporting of Controlled Substance Evaluation Program), has introduced a number of effective collaborative programs in its strategy. Through its 2013 Harold Rogers Data-Driven Multi-Disciplinary Approach to Reducing Prescription Drug Abuse Grant, a long-term collaboration has been established between the PDMP, law enforcement, and the public health and research community in Florida to:

- collect and analyze data by centralizing existing data sources
- complete practitioner surveys and establish a focus group
- increase the engagement of Florida's public health community in PDMP use via early participation in technical design and development of practitioner metrics
- work with interested parties and stakeholders to develop educational opportunities and brochures to educate health care practitioners regarding legitimate and appropriate use of controlled substances
- develop valid data-driven analytic strategies."[54]

Kentucky has become one of the leading showcases for PDMP programs. According to Peter Kreiner, principal investigator for the PDMP Center of Excellence at Brandeis University, the Kentucky All Schedule Prescription Electronic Reporting Schedule (KASPER) is regarded by many as a "gold standard" for state PDMPs. KASPER has published its reporting guide. Kreiner attributes its success to three primary factors: legislation that mandates physician and pharmacy compliance; ongoing innovation, such as improvements in timeliness of data reporting; and high levels of ongoing cooperation among key stakeholders.[55]

The Washington state Department of Health developed an innovative approach to creating its Prescription Monitoring Program (PMP) by focusing on integrating its registry with electronic medical records, so that separate inquiries to a PDMP system were not required.[56] The result was a dramatic increase in the use of the PDMP records. The state made this possible by using its health information exchange (HIE) as a transport mechanism to accomplish the integration with major health information systems. Washington also successfully positioned the process as qualifying under meaningful use regulations for federal funding support. The Association of State and Territorial Health Organizations has posted a story about this effort.




The BJA Comprehensive Opioid Abuse Program highlights additional examples of PDMPs.

## Resources

The CDC has a prevention program in which it funds states to enhance their PDMPs to improve their usefulness and support community efforts to maximize their value.

Additional information and resources are available from the National Alliance for Model State Drug Laws, the National Association of State Controlled Substances Authorities and the Prescription Drug Monitoring Program Training and Technical Assistance Center (the PDMP TTAC and the PDMP Center of Excellence have merged into a single program).

## 6. Reduce the involvement of opioid users in the criminal justice system

In a major study, individuals who reported any level of opioid use were more likely than those who reported no opioid use to have physical and mental health conditions and co-occurring substance use. Involvement in the criminal justice system increased with the intensity of opioid use, and any level of opioid use was significantly associated with involvement in the criminal justice system in the previous year. The study concluded that policies are needed that reduce criminal justice involvement among individuals with substance use disorders.[57]

The value of diverting people from involvement with the criminal justice system has been clear since the 1970's. Following recommendations from the President's Crime Commission report in 1967, the Law Enforcement Assistance Administration funded the creation of a program for Treatment Alternatives to Street Crime (TASC) expressly to test ideas for the diversion of low-level defendants into treatment programs instead of supervision resulting from criminal

convictions. Over the years, the focus of diversion programs has been on individuals charged with drug-related offenses, particularly those exclusively about drugs.

Central to diversion programs is "the understanding that a criminal conviction – misdemeanor or felony – triggers a cascade of collateral consequences that often severely hamper an individual's ability to become a productive member of the community. While policies and practices minimizing the use of incarceration certainly may be sound options, the conviction itself precludes or restricts an individual's pursuit of education, housing, and employment, and creates a platform for enhanced sanctions and consequences upon further justice system involvement."[58]

Many scenarios describe how individuals escalate engagement with the criminal justice system if there is no intervention, showing that such a path can result in the deepening of a substance use disorder. Since recidivism is often tied to further substance use and related activities, reducing its probability through diversion programs has the effect of preventing continued substance use disorder. Finding alternatives to arrest, prosecution and correctional supervision is therefore a reasonable part of any strategy to reduce opioid use disorder.

There are various points in the administration of justice where individuals can be diverted from further engagement with the criminal justice system. The major ones are (1) pre-arrest, (2) pre-trial and (3) post-adjudication. These intervention points are connected in what is termed the Sequential Intercept Model for providing a framework to link and coordinate a diversion strategy.

"The Sequential Intercept Model provides a conceptual framework for communities to use when considering the interface between the criminal justice and mental health systems as they address concerns about criminalization of people with mental illness. The model envisions a series of points of interception at which an intervention can be made to prevent individuals from entering or penetrating deeper into the criminal justice system. Ideally, most people will be intercepted at early points, with decreasing numbers at each subsequent point. The interception points are law enforcement and emergency services; initial detention and initial hearings; jail, courts, forensic evaluations, and forensic commitments; reentry from jails, state prisons, and forensic hospitalization; and community corrections and community support. The model provides an organizing tool for a discussion of diversion and linkage alternatives and for systematically addressing criminalization. Using the model, a community can develop targeted strategies that evolve over time to increase diversion of people with mental illness from the criminal justice system and to link them with community treatment."[59]

Police are increasingly "recognizing that increasing arrests of those with OUD will not improve individual and community outcomes, police have become a point of contact for those seeking help by facilitating immediate access to treatment.[60] These deflection and diversion initiatives can help with barriers (e.g., lack of knowledge of available services, shame and stigma, cost and lack of insurance/Medicaid, lack of transportation, long treatment waiting lists) that prevent individuals from receiving treatment."[2] There are a variety of diversion programs, including models in which individuals referred to police – once it is discovered they have a substance use disorder – can instead be transported to a treatment facility.

Substantial interest in and implementation of pre-trial diversion programs has developed over the past decade. After the police bring a case to the prosecutor, the prosecutor can elect to not file charges with the court and instead make a referral to a treatment program or, even after filing charges, the prosecutor can work to have the individual referred to treatment – in which case all charges are normally dropped.

The National Institute of Justice, a coalition of the Center for Court Innovation, the RAND Corporation and the Association of Prosecuting Attorneys, in a multisite study, found that diversion programs in these jurisdictions appeared highly successful in reducing exposure to a conviction, in freeing up resources for criminal justice agencies and in reducing recidivism.[61]

A major focus of diversion programs that has been highly successful across the country is the creation of drug courts. A significant and thorough evaluation of these programs by the National Institute of Justice came to the following conclusions: "The impact evaluation found that adult drug courts significantly reduce participants' drug use and criminal offending during and after program participation. Drug court participants reported less drug use (56 percent versus 76 percent) and were less likely to test positive for drug use (29 percent versus 46 percent) than the comparison probationers. Participants also reported less criminal activity (40 percent versus 53 percent) and had fewer rearrests (52 percent versus 62 percent, but not statistically significant difference) than the comparison probationers. Differences in employment, schooling, community service and other outcomes were not statistically significant."[62]

## Goals and Objectives

The basic goal of this strategy is simply to divert first-time offenders from proceeding through the criminal justice system by engaging them in treatment alternatives that will benefit their long-term control of substance use disorders. Local programs have varying criteria for eligibility, but they generally focus their efforts on non-violent, first-time offenders. It can be difficult to quantify the impact of diversion programs, but indirect measures – for example, the percentage of people remaining in treatment over time and the recidivism rates related to re-arrest for drug-related charges – can be indicators of programmatic success.

## Theory of Change

The likelihood of extended opioid use will be reduced by diverting individuals from the criminal justice system. Offenders can be reintegrated into the community and sustain productive lives if they receive treatment rather than being criminally prosecuted and convicted.

## Examples

Numerous successful law-enforcement programs have been created around the country.

In King County, WA, police officers can refer individuals facing possible drug charges to case workers who conduct in-house assessments and then connect the individuals to treatment services. An evaluation concluded that participants in the program were less likely to be arrested and incarcerated than those in a comparison group.[63]

The City of Alexandria, VA, has introduced a novel program, called the Burner Phone Initiative, that aims to guide overdose patients onto a path that leads to treatment rather than the criminal justice system. Individuals in Alexandria who are revived from an overdose by a city official are taken to recover in a hospital, where a detective will meet them and exchange their personal cell phone with a burner phone. The burner phones are pre-programmed with the numbers of a detective and the city's substance use treatment program. When calling the latter number, patients speak with a social worker about their substance use and treatment options. Even if they do not pursue treatment, they are counseled about harm-reduction approaches, where to get free Narcan, etc. They can call a detective to discuss issues such as whether the drug they took was tainted. The phones are also used by treatment staff to try and engage overdose survivors.

In 2016, the Office of Community Oriented Policing Services hosted a forum with the White House Office of National Drug Control Policy and the Police Executive Research Forum to study the experiences of police agencies in collaborating with public health agencies to prevent or reduce opioid substance use through diversion programs. The report contains numerous examples of successful programs, including Montgomery County, MD, Dayton, OH, and Gloucester, MA.[64]

There are over 3,100 drug courts in the nation, and a substantial number of program descriptions are available from the resource centers cited below.

## Resources

The Police Assisted Addiction & Recovery Initiative (PAARI) provides support and resources to help law enforcement agencies nationwide create non-arrest pathways to treatment and recovery. Any law enforcement or public safety agency that creates such pathways can join PAARI free of cost to access resources such as technical assistance, coaching, program templates and tools, seed grants, convening, connections to treatment providers, a network of like-minded law enforcement agencies, and capacity-building and recovery coaches through AmeriCorps.

The Bureau of Justice Assistance in the Office of Justice Programs (OJP) within the U.S. Department of Justice has a Comprehensive Opioid Abuse Program, through which grant funds are available for diversion projects.

The Association of Prosecuting Attorneys has created a toolkit to support prosecutor-led diversion programs.

The National Drug Court Resource Center lists a wide variety of evidence-based practices that are useful in implementing drug courts at the local level. In addition, the National Center for State Courts publishes a directory of resources for implementing drug/DWI court programs. The OJP lists resources (including grant programs) available to support drug court programs, and has also published a listing of all of its programs that have to do with substance use disorder.

## 7. Provide medication-assisted treatment to inmates

On a national basis, 65 percent of all incarcerated offenders meet the criteria for suffering from a substance use disorder.[65] Research has shown that medication-assisted treatment (MAT), including with buprenorphine, methadone and extended-release naltrexone, can decrease opioid use, opioid-related overdose deaths, criminal activity and infectious disease transmission – while increasing social functioning and retention in treatment.[66] Numerous studies have shown that the provision of MAT has long-term impacts on preventing both continued substance use disorder and criminal behaviors, thereby both preventing such disorders and reducing crime.[67] In one recent study, a MAT program resulted in a 60 percent reduction in opioid overdose deaths among individuals who were recently incarcerated.[68]

### Goals and Objectives

The overriding goal of a MAT program in jails is to prevent the relapse to opioid use upon the offender's release from incarceration. Specific objectives for such a program could include: (1) a specific percentage reduction in overdose deaths for inmates after release, as compared to those not involved with MAT; and a percentage reduction in recidivism, as compared to a cohort not involved in MAT.

### Theory of Change

Incarceration for offenders with opioid use disorders comes most often with the hard detoxification experience and the effects of withdrawal. The consequences of this "immediate end to addiction" while incarcerated can be very damaging to offenders after release. At that point, they can be more-seriously impacted by returning to drug use, and may be more likely to experience overdoses that lead to death. The operational theory of change in instituting a MAT program is that if this discontinuity is erased, the offender is less likely to return to drug addiction behaviors or criminal activity. An expected outcome of the introduction of a MAT program is a reduction in the number of overdose deaths.

### Examples

The Rhode Island Department of Corrections recorded a 61 percent reduction in overdose deaths in less than a year after implementing a MAT. A new model of screening was instituted in July 2016 in the Department, which is a unified prison/jail, to implement MAT upon intake and to follow up after release into the community. Individuals arriving while receiving MAT were maintained on their respective medications regimens without tapering or discontinuing their use. A system of 12 community-located centers of excellence in MAT were established to promote transitions and referrals of released inmates.[69]

The Medication Assisted Treatment and Directed Opioid Recovery (MATADOR) program, introduced by the Middlesex County Sheriff's Office in Massachusetts, has had striking results. It combines the MAT concept with pre- and post-release counseling and other services, resulting in a non-recidivism rate of 82 percent.[70] In 2018, MATADOR program was recognized by the National Sheriffs' Association and the National Commission on Correctional Health Care as one

of five national "best practices."[71]

According to the Vera Institute, "The New York City jail system has run an opioid treatment program with MAT since 1987 and, more recently, some jails have piloted programs with injectable naltrexone, a non-habit forming, long-lasting medication which blocks the effects of opioids. The MATADOR program in Middlesex County, Massachusetts, for example, combines the use of naltrexone with substance use disorder counseling and continuity of care for participants upon return to the community. And, encouragingly, there are signs that other criminal justice stakeholders are beginning to embrace their role in combatting the opioid crisis."[72]

In Texas, the state Commission on Jail Standards and Department of State Health Services (DHS) partnered to implement comprehensive care coordination and education for women who are pregnant and involved in the justice system, 400 of whom are detained in county jails each month. To address opioid addiction in this population, county jails provide referrals to DHS services and DHS conducts outreach to the women while they're incarcerated, providing Methadone, counseling and education services, as needed.

Washington County, MD, also developed a collaborative approach between the Health Department, the local correctional facility, Conmed Health Care Management, Inc., and the Alcohol and Drug Abuse Administration. The county's MAT program builds on existing treatment services and includes risk and needs assessments, trauma-informed parenting guidance and care coordination. Through this partnership, behavioral health clinicians utilize telemedicine and site visits in detention centers to issue Vivitrol MAT, as appropriate.

Virtually all studies on the effectiveness of MAT emphasize that behavioral therapy and counseling are essential and integral parts of the program.[73]

## Resources

The Bureau of Justice Assistance has issued a Promising Practices Guidelines for Residential Substance Abuse Treatment publication. BJA has also supported the development of a Prison/Jail Medication Assisted Treatment Program Manual. In addition, grant funding and technical assistance from BJA may be available.

The National Sheriff's Association approved a resolution supporting the development of MAT programs in jails.

The American Society of Addictive Medicine has developed guidelines for the placement, continued stay and transfer/discharge of patients with addiction and co-occurring conditions.

## 8. Expand treatment programs after incarceration

Research has shown a high rate of overdose deaths from drug abuse following inmates' release from prison or jail. A key finding in a major study by the Massachusetts Department of Correction was that the likelihood of an inmate released from prison dying from an opioid overdose was 56 times higher than for someone not previously incarcerated.[74] The study also showed that "receiving evidence-based opioid agonist treatment following a nonfatal overdose was associated with a reduced risk of a subsequent fatal opioid overdose. This suggests that overdose survivors have a short window of opportunity after a nonfatal overdose to reduce their risk of death by undergoing an evidence-based medication-assisted treatment (MAT)."

A focus on offender reentry programs has long been a hallmark of U.S. Department of Justice programs, if only for the attempt to improve the high rates of recidivism nationwide. DOJ grant programs and technical assistance have spurred considerable interest at the state and local levels, where recidivism problems are well known. However, the systematic inclusion of prevention programs for abating the relapse into the misuse of prescription drugs, or the use of illicit drugs, is not as widespread as could be the case given the logical correlation between the use of drugs and criminal activity.

An integrated substance use disorder treatment program designed expressly for offenders released from prison or jail will need to encompass a breadth of treatments, which may include both behavior modification and medication-assisted treatment. In a study on the effectiveness of treatment programs in the criminal justice system, the following principles of treatment for offenders were proposed:

- tailoring services to fit the needs of the individual
- targeting criminogenic factors associated with criminal behavior
- incorporating treatment planning into criminal justice supervision and being sure treatment providers are aware of correctional supervision requirements
- providing continuity of care for released drug abusers re-entering the community
- providing a balance of rewards and sanctions to encourage pro-social behavior and treatment participation
- using an integrated treatment approach for offenders with co-occurring drug abuse and mental health disorders.[75]

Evaluations of post-release substance use disorder treatment have generally shown positive results for reducing both relapse rates and recidivism.

The American Psychiatric Association issued a policy statement in 2016 that said: "It is essential for continuity of care that offenders who received some form of substance use treatment while incarcerated have community treatment resources available after release. Aftercare planning should include attention to the medical, mental health and substance use disorder needs of inmates and detainees as well as regular, random testing for substance use, coupled with low-level sanctions for relapses. When indicated, inmates and detainees should be referred to programs specializing in the treatment of individuals with co- occurring psychiatric and addictive disorders. The menu of options for aftercare should include the entire spectrum of addiction programs, including treatment with medications for alcohol and opioid use disorders (e.g. methadone, buprenorphine, extended-release injectable naltrexone), outpatient psychosocial interventions, and residential rehabilitation facilities."[76]

It is clear from abundant research, which shows greater success when a MAT program is fully integrated with behavioral health treatment programs, that a collaborative effort between health care providers and behavioral health departments can have a positive effect on preventing the reoccurrence of substance use disorders.

### Theory of Change

The provision of substance use disorder treatment for a sufficient period of time, and including a robust set of methods, will have the effect of diminishing the prospects of relapse, preventing the further use of opioids and other substances, and reducing the probability of recidivism.

### Examples

Studies show that treatment has a positive impact on recidivism and relapse when combined with continuing community care, but caution is needed in drawing conclusions owing to methodological problems with some of the research, as well as the relatively low proportion of inmates who access care following release. More research,

using stronger designs and controlling for selection bias, is needed on the types and length of post-release care that are most effective for reducing relapse and recidivism.[77] There has been relatively little research on the impact of other types of prison treatment. Recent pilot studies suggest that MAT (included extended-release naltrexone) may have promise for improving outcomes for offenders with opioid dependence. There has been very little research on effective treatment models or modalities for offenders on probation or parole, although most are under such supervision.

A full set of practices and components for programs seeking to improve post-release treatment programs is provided in the Treatment Improvement Protocol (TIP) developed by SAMSHA for this express purpose. While somewhat dated, TIP describes best practices for designing and implementing a program based on evidence of success.

The Virginia Department of Corrections has instituted a substance use disorder treatment program for inmates and, by extension, for post-release treatment. "Upon release, the participants are required to transition into an outpatient substance use disorder treatment program provided by a local Community Service Board (CSB) that employs a multi-faceted approach to treatment including the use of medication, counseling and wrap-around services."[78]

California has a Substance Abuse Treatment and Recovery (STAR) Program. "The STAR program provides relapse prevention education to parolees with substance use disorder treatment needs. STAR is designed to help parolees understand addiction and recovery as an ongoing process, not a singular event. STAR teachers work closely with students to help them identify their needs and develop a plan of action that will support post-release recovery activities."[79]

## Resources

The Justice Center under the Council of State Governments offers a resource page.

The National Institute of Drug Abuse provides a rich set of publications related to treatment and prevention modalities and provides funding for research on drug abuse issues.

The GAINS Center at SAMSHA provides resources and links to further information related to criminal justice and behavioral health.

The National Reentry Resource Center lists a grant program under the Second Chance Act Reentry Program for Adults with Co-Occurring Substance Use and Mental Disorders.

## 9. Reduce the risk of opioid-based treatment

It has become clear that the extensive, long-term use of opioids that are legitimately prescribed for pain management increases the risk of a patient becoming addicted and thereby developing a substance use disorder. A fundamental and widespread approach to the mitigation of this risk is to ensure that: (1) both the prescriber and the patient fully understand the consequences of taking the drug and (2) the physician and the patient have a clear and unequivocal understanding of the conditions under which the prescription will be continued.

This strategy only relates to a situation where the physician and the patient have agreed that the use of opioids is the solution of choice, as opposed to finding an alternative approach to pain management. It is also assumed that the provisions for controlling the amount and duration of the prescription are consistent with the guidelines referenced in Play 2 above.

In utilizing this strategy, the first step in reducing risk is to provide physicians and patients with the information they need. Literature, briefings to community groups and handouts in medical offices are all parts of an educational effort to ensure that every party is aware of the guidelines and constraints for using an opioid as a long-term medication.

The California Department of Public Health (CDPH) has developed "The Risks Are Real," a statewide campaign designed to encourage patients to talk to their doctors about options for safe pain management and addiction treatment. A preview of the campaign outlining how coalitions can utilize its materials to amplify their community-based opioid overdose prevention programs is available through a recording, slides and campaign FAQs.

Having achieved greater awareness of the risks and constraints, a number of organizations have promoted the concept of a written doctor-patient agreement that documents their mutual understanding of the issues involved in any long-term treatment program. There are numerous examples of policies that over the years have been expressed as such "contracts,"[80] and models have been proposed by many professional organizations. They typically define circumstances in which the contract will be voided, such as failing a urine test.[81]

However, the concept of a doctor-patient "contract" has been seen by many as too legalistic an approach for something as personal and important as pain management. There have been cases of severe damage done to patients by the strict enforcement of contract terms.[82] In general, the mere act of laying out this understanding between the physician and the patient is seen as a way of imposing a stigma on the patient that presumes a violation of the agreement.[83]

An updated means of documenting a doctor-patient understanding is proposed in an article in the Cleveland Clinic Journal of Medicine, which argues that the term "controlled substance agreement" is better and less obnoxious than "narcotic contract." The authors further suggest that the agreement must:

- engage the patient, emphasizing the shared, reciprocal obligations of physician and patient
- address goals of treatment that are personalized and mutually agreed-upon and that incorporate the patient's values and preferences
- explain treatment options in a way that is understandable and informative for the patient[84]

### Goals and Objectives

The goal of this strategy is to ensure that physicians and patients fully understand the risks and obligations each has in undertaking opioid-based treatment, and to make clear the conditions for its continuation. The objective is to document this understanding, so it is clear to the patient.

### Theory of Change

Patients are less likely to develop opioid use disorders if they receive sufficient education and agree to a clear, written understanding as the basis for and conditions of treatment using opioids.

### Examples

Massachusetts law (Chapter 52) requires the physician and the patient to create a contract covering the use of opioids: "In the event that a practitioner recommends that an extended-release long-acting opioid be utilized during the course of long-term pain management, the practitioner shall enter into a written pain management treatment agreement with the patient that appropriately addresses the benefits as well as the risk factors for misuse of the prescribed substance under guidelines published by the department. Such an agreement shall be filed in the patient's medical record or included in the patient's electronic health record."

The New Hampshire Board of Medicine has published strict rules that require the development of a written agreement that contains at least the following:

- The requirement of safe medication use and storage
- The requirement of obtaining opioids from only one prescriber or practice
- The consent to periodic and random drug testing
- The prescriber's responsibility to be available or to have clinical coverage available[85]

**Resources**

The New Hampshire Medical Society provides sample agreements.

The American Academy of Pain Management publishes a template.

## 10. Make provisions for safe disposal of unused opioids

Two-thirds of teenagers who have misused prescription drugs get them from their family and friends, according to a report from SAMHSA.[86] The conclusion reached by many practitioners is that it is important to clear out medicine cabinets at home that contain unused drugs, particularly opioids. Doing so is not as simple as might be expected, however, as regulations require that law enforcement take custody of discarded controlled substances (rather than, for example, making it easy to just return the drugs to a pharmacy). Many communities have organized annual drives during which people can give their unused controlled substances to the police, who then dispose of them in approved ways.

Studies evaluating such take-back programs generally show a positive outcome for removing drugs from broad availability. Recent research shows a more-positive impact for programs that allow drugs to be turned in at any time, rather than just once or twice a year.[87]

Task-based programs need a methodology for collection and disposal, as well as a marketing/awareness effort to persuade citizens to participate.

### Goals and Objectives

The goal of drug take-back programs is simply to reduce the amount of controlled substances that are contained in readily openable places, such as home medicine cabinets. Objectives in many programs are stated in the specific amounts of drugs that are turned in.

### Theory of Change

By reducing the amount of controlled substances that are easily obtained from friends and family, this program will prevent the development of substance use disorders by those who have ready access to these medicines without a prescription.

### Examples

The sweeping Massachusetts law (Chapter 52) that addresses the opioid crisis calls for the establishment of a drug stewardship program, to be paid for by pharmaceutical companies, that makes it easier for patients to safety dispose of unwanted and unused medications. The law became effective Jan. 1, 2017 (Section 31).

In June 2007, the La Crosse County, WI, Solid Waste Department became the first permanent collection site in the state. The county developed a unique strategy for disposing of unwanted pharmaceuticals, specifically controlled substances. Employees from the department are conditionally deputized by the county sheriff to receive controlled substances. County residents are allowed to drop off any unused medications at the hazardous waste facility. Under supervision by the deputized staff, residents drop off their drugs through a funnel into a gallon drum of solvent that dissolves them. The program is funded through a tax levy, grants and fees charged to non-area residents and businesses.[88]

The San Diego Police Department has set up boxes at two of its locations where citizens can just drop off expired or unused prescriptions.[89]

### Resources

The U.S. Drug Enforcement Administration works with state and local agencies to create national drug take-back programs, which have been successful in removing significant amounts of controlled substances from the streets. At its most-recent take-back event, the DEA set a record, collecting about 447 tons at almost 5,400 sites in all 50 states (US DEA Public Affairs, 2016).

What Works for Health includes references and resources for Wisconsin's program.

## 11. Encourage the use of non-opioid formulations for pain management

As it has become clear that long-term pain management using opioids increases the likelihood of patients developing a substance use disorder, research has intensified on finding effective alternatives. Meanwhile, there are already significant, evidence-based alternatives that physicians are finding useful. Based on an evaluative compilation of the alternative treatments, physicians can consider the following substitutes:

- Ketamine has been endorsed by the American Academy of Emergency Medicine, with some limitations for patients who have complications related to psychiatric disorders.
- Nitrous oxide has long been prescribed in pediatric situations for pain reduction, and its use seems to be growing as more doctors seek alternatives to opioid-based medications.
- Intravenous lidocaine has been shown to be effective for a variety of specific situations.[90]

Other non-pharmacological treatments have been developed and tested and well. St. Joseph's Healthcare System in Paterson, NJ, has developed the Alternatives to Opioids (ALTO) program, which utilizes protocols that primarily target five common conditions: renal colic, sciatica, headaches, musculoskeletal pain and extremity fractures. Administrators say they have successfully treated more than 300 patients under the new program, and they see ALTO as a model that other hospitals can duplicate. Among the alternative therapies called for in the ALTO program are trigger point injections, nitrous oxide and ultrasound-guided nerve blocks. [91]

The CDC Chronic Pain Guidelines and National Safety Council recommendations highlight and underscore the need to utilize alternative, non-opioid pharmacologic therapies to treat chronic pain. Physical therapy, occupational therapy, water therapy, acupuncture, yoga, Tai chi and massage have all been recognized as effective interventions to treat chronic pain.[92]

A strategy on this topic involves educating both physicians and patients on the options available and their consequences (strength, side effects, etc.). Health care providers can develop and set guidelines that call for the use of non-opioid alternatives. This strategy would include efforts required to stay current with the emerging research and development of new alternatives for pain management, including from the various aggressive research programs undertaken by the National Institutes of Health and the CDC.

### Goals and Objectives

The goal for this play is to develop and institutionalize practices across the health care continuum that minimize the use of opioid-based treatments where possible and appropriate. The objective is to put in place protocols for the active consideration of alternative therapies.

### Theory of Change

Substituting alternative treatments for opioid-based pain management will result in fewer patients who develop substance use disorders resulting from long-term reliance on opioids.

### Examples

The Colorado Chapter of the American College of Emergency Physicians (COACEP) has published guidelines for responding to the opioid crisis, along with practice recommendations that call for non-opioid treatment alternatives as the first course of action in pain management.[93]

The University of Tennessee Medical Center has developed a protocol of alternative pathways to treatment based on giving priority to non-opioid treatments. The program is described in a video.

### Resources

The American Hospital Association has published materials in support of educational efforts, as well as examples of practices dealing with non-opioid treatments.[94]

The National Safety Council has published a 2018 report in which it assesses state practices that support the use of non-non-opioid treatments.

The CDC has published its 2018 Guideline for Prescribing Opioids for Chronic Pain.[95]

The research plan of the National Institutes of Health describes NIH's program aimed at finding alternatives to addictive substances.[96]

## Summary and Next Steps

These plays reflect current practices and thinking by numerous organizations and collaboratives that have sought to define programs and strategies to prevent substance use disorders. Not all plays obviously will be applicable to all jurisdictions, and there will be further developments as innovative approaches are created to address the nation's opioid crisis. It is our hope that this set of plays, as well as others that are subsequently added, will give local collaboratives a set of ideas on which to base prevention-focused actions appropriate for their communities.

The entire body of research on this crisis has made it very clear that collaboration across agencies, organizations and domains/sectors will be essential to finding ways to better-prevent opioid use disorders. It is also clear that community progress toward these ends will require a much more open and consistent sharing of information that helps form a continuity of care across the interests and focuses of the many organizations that can make a difference.

The intent of this report is to provide a starting point, and then to become a living document that can be refined and updated to reflect the best evidence-based practices and programs found to have a positive impact. Your comments and contributions will help to make this goal a reality. Mail to nic@stewardsofchange.org

We conclude with a quote from a valued colleague, Joshua Rubin, who is Program Officer for Learning Health System Initiatives and who oversees the Opioid Group on the NIC Collaboration Hub. In our view, Josh succinctly encapsulates the problem and envisions a path forward:

"The opioid epidemic is a human-created, Kafkaesque nightmare. Combatting this crisis requires unprecedented, multi-stakeholder, cross-sector and cross-disciplinary collaboration. Sharing data is just the beginning; together, we must seek truth, mobilize actionable knowledge, implement what works and do what is right. Our collective work must be supported by the four pillars of community, collaboration, caring and commitment. We share an imperative to eradicate this epidemic, as well as to never let anything like this crisis happen again to our families, our friends, our communities and our nation."

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