



# Conducting Affordable Care Act, Community Health Needs Assessments (CHNA) Targeted at the Opioid Overdose Epidemic

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## HOW THE CHNA PROCESS CAN ADDRESS SUBSTANCE MISUSE

**S**ubstance use disorder and the contributing upstream social determinants should be considered a Community Health Needs Assessment (CHNA) priority in many communities because 68% of all fatal overdoses in the United States were opioid related.<sup>1</sup> This is a critical environment for opioid response partners to agree on key problems, prioritize evidence-based programs, and measure results. Local health departments (LHDs) frequently take the lead in local opioid overdose response where 81% of LHDs reported conducting opioid overdose prevention and response activities according to National Association of County and City Health Officials (NACCHO).<sup>2</sup>

The Affordable Care Act (ACA) aimed to change the paradigm of health care in the United States from a reactive, acute-care system to a proactive, prevention-based system. However, the ACA's requirement for community health needs assessments has not resulted in nonprofit hospitals addressing social determinants of health.<sup>3</sup> LHDs are actively involved in managing the opioid misuse epidemic in their districts. Although communication between hospitals and LHDs regarding CHNAs is common; collaboration through joint action is rare.<sup>4</sup>

According to the IRS CHNA requirements, a hospital facility may take into account all the relevant facts and circumstances in defining the community it serves that includes principal functions, such as a focus on a particular specialty area or targeted disease. Using the CHNA requirement to organize opioid response partnerships provides an opportunity to improve collaboration between LHDs, providers, and other response partners. The Internal Revenue Service (IRS) requires hospital organizations to meet Community Health Needs Assessment for Charitable Hospital Organization Section 501(r)(3) and Revenue Ruling 69-545 requirements to be treated as tax exempt. Every three years charitable hospitals must conduct a CHNA and adopt an implementation strategy to meet the community health needs.

This paper provides a strategic approach to support opioid response community planning as a targeted area through the Affordable Care Act Community Health Needs Assessment (CHNA) process. According to the Internal Revenue Service, to assess the health needs of its community, a hospital facility must identify the significant health needs of the community. This document helps justify opioid and related substance use disorder as a priority for the local community CHNA. The document also provides tools to help prioritize relevant health needs, as well as identify resources available to address them.<sup>5</sup>

The structure of the document is presented in steps as outlined in the Association for Community Health Improvement's, Community Health Assessment Toolkit.<sup>6</sup> Organizing an opioid focused CHNA is difficult because of the number of partners involved. LHDs currently collaborate on opioid response with public safety, emergency medical services, jails/juvenile



detention, courts, housing, behavioral health, community prevention, recovery community, and clinical treatment partners.<sup>2</sup> The IRS requires the CHNA process to include at least one state, local, tribal, or regional governmental public health department; and medically underserved, low-income, and minority populations in the community. In addition to soliciting input from the three required sources, a hospital facility may solicit and take into account input received from a broad range of persons located in or serving its community.



## COMMUNITY HEALTH ASSESSMENT TOOLKIT STEPS

### Step 1: Reflect and Strategize

Before beginning a new assessment cycle, CHNA collaborators should reflect on previous community health assessments to identify what elements worked well, areas for process improvement and whether implementation strategies had their desired impact. The ACA has been in place for over a decade and all hospitals should have conducted assessment and improvement programs. Also, collaborators should review prior CHNAs to determine if opioid and substance use was declared a priority in the past, and if so what programs were implemented (e.g., social determinants, overdose response, prescribing reform). The CHNA team should then work to identify additional stakeholders.

According to the IRS requirements, a hospital facility may determine whether a health need is significant based on all the facts and circumstances present in the community it serves. This section helps demonstrate burden, scope, severity, or urgency of the health needs related to the opioid misuse epidemic.

## CHNA should include both opioid and other non-opioid substance use

The high opioid fatality rate in the U.S. can draw focus on addressing opioid overdoses at the expense of other factors required for long term success. Opioid deaths increasingly include other illicit substances (Figure 1).

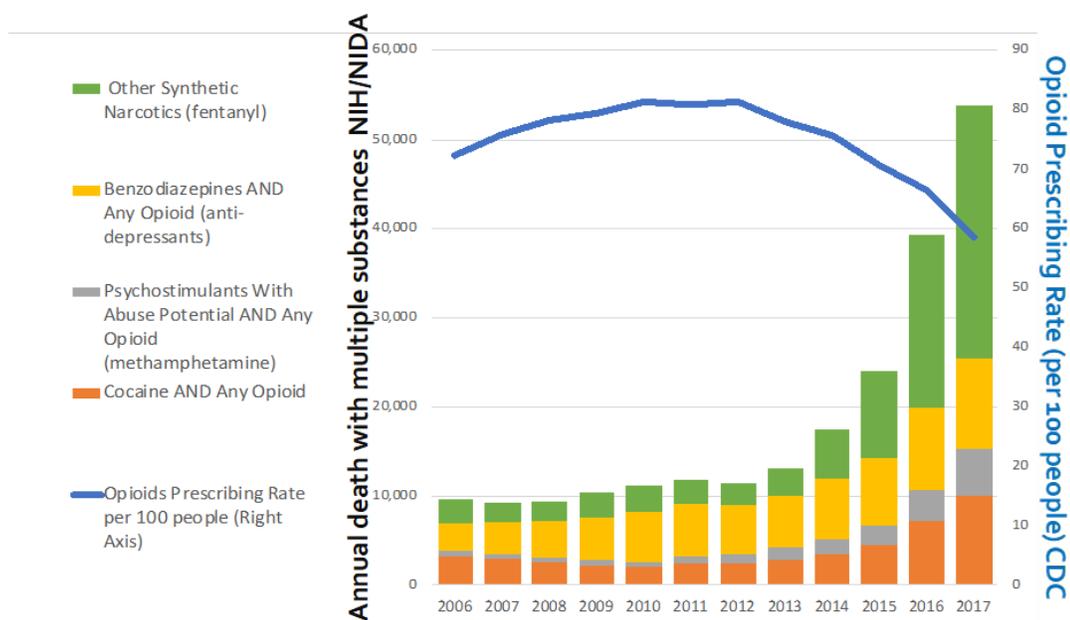


Figure 1. Deaths from overdose with Fentanyl and opioids combined with other substances as opioid prescribing changes<sup>7</sup>

As the supply of prescription opioids began to decline in 2012 fentanyl and other illicit substance related deaths increased.<sup>8</sup> Although opioid supply is a key factor in substance use disorder, fundamentally the crisis is fueled by economic and social upheaval, its etiology closely linked to the role of opioids as a refuge from physical and psychological trauma, concentrated disadvantage, isolation, and hopelessness.<sup>9</sup>

The co-occurring rise of opioid and other substance related deaths in Figure 1 shows the need for substance use response programs to shift from an opioid-only approach to address societal problems associated with substance use disorder that underpin the epidemic.<sup>10</sup> Focusing only on opioid supply-side controls resulted in the population acquiring other substances. A broader perspective can put the community using multiple illicit substances as the central focus when assessing priorities and interventions.

Substance supply-side reduction strategies have seldom been balanced with concerted efforts to engage and retain people with opioid use disorder (OUD) or poorly-managed pain in a comprehensive spectrum of care.<sup>11</sup> Addressing the misuse crisis through isolated interventions can lead to unintended consequences. Interventions that limit prescription opioid supply should be coupled with programs that educate providers on tapering prescribed patients' opioids, and an increase in the availability of treatment programs.

Childhood trauma is an example as evidence for expanding scope and partnership to include social determinants. With respect to opioid use, adverse experiences during childhood (e.g., parental substance use, emotional neglect, physical and sexual abuse) have been linked to opioid dependence and earlier age of injection drug use initiation. The Adverse Childhood Experiences (ACE) questionnaire was developed to examine the long-term effects of childhood experiences on medical problems and examines a wide array of childhood adversity. Early prevention strategies could use high ACE scores as a marker for adolescents at risk for early opioid initiation. Including the ACE measure in assessment batteries for patients seeking treatment of opioid use disorders may provide a standardized way to identify patients at heightened risk for injection and overdose.<sup>12</sup>



**Establishing robust, trusting relationships with community stakeholders fosters a welcoming and inclusive environment, creating a stronger sense of joint ownership of CHNA process.**

## Step 2: Identify and Engage Stakeholders

Establishing robust, trusting relationships with community stakeholders fosters a welcoming and inclusive environment, creating a stronger sense of joint ownership of CHNA process. It is important to engage community stakeholders not simply as sources of input for CHNAs, but as equal partners with shared accountability and investment in addressing health concerns.<sup>13</sup>

According to the IRS requirements, the health needs of a community include requisites for the improvement or maintenance of health status both in the community at large and in particular parts of the community, such as particular neighborhoods or populations experiencing health disparities. The requirements encourage the CHNA collaborators to address social, behavioral, and environmental factors that influence health in the community.

Step 1 showed that mortality involves people using multiple substances, and that risk of opioid misuse can start in childhood. This CHNA toolkit provides several methods to assess the health needs of that community as the scope of substance use assessment expands from opioids to include other substances. Each of the CHNA collaborators may understand the population relevant to their mission; and collaboration could improve if their experience could be shown relative to other collaborators' missions. For example, emergency responders and law enforcement administer opioid overdose treatments, see substance use emergency department visits, opioid misuse, and death. Clinical prescribers write prescriptions, and diagnose opioid

use disorder (OUD). Social workers encounter mental illness. Each has little insight in to the daily experiences of other collaborators environments.

The prevalence Venn diagram (Figure 2) displays populations to demonstrate the size of the at-risk populations across risk groups and at stages of addiction. The opioid misuse prevalence diagram provides a visual comparison of the size of various populations at risk of or experiencing opioid misuse. The circles represent the number of people who filled an opioid prescription, were diagnosed by a clinician with a mental health illness, acknowledged opioid misuse, meet clinical definition of an opioid use disorder (OUD), acknowledged using heroin in the last year, experienced a medical emergency related to opioids, are undergoing opioid medical assisted treatment, and have died.

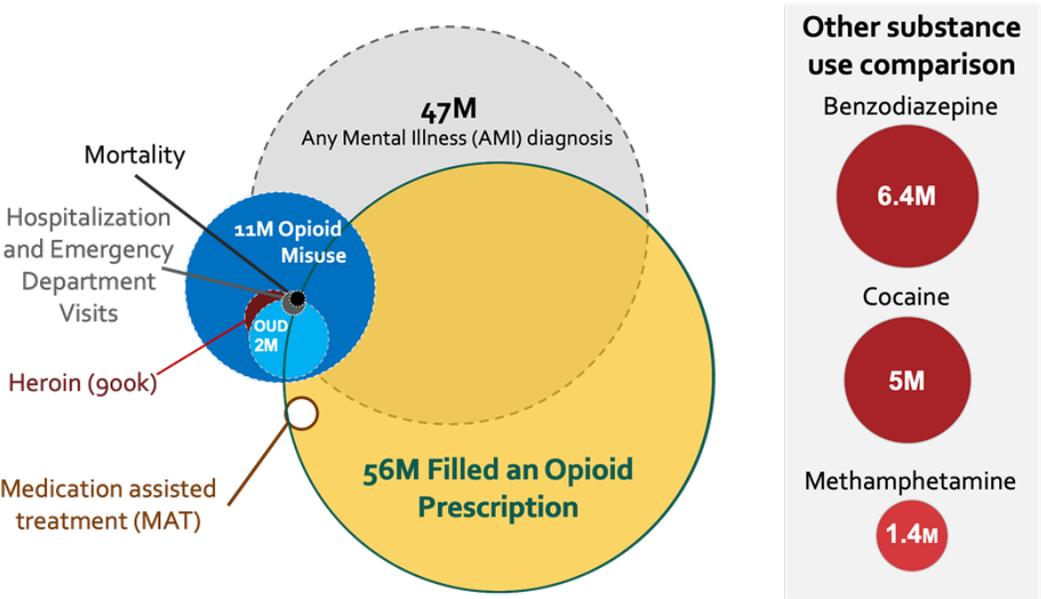


Figure 2. 2016-17 Annualized opioid related population counts with illustrative relationships

Figure 2 represent annualized rates for surveys performed in 2016–2017 with details provided in Appendix A.<sup>14 15 16</sup> Size and position are based on relationship with opioid prescribing. The placement and degree that circles overlap is an estimate for illustrative purposes to encourage conversation with logic described in Appendix A. Combining data from several national surveys provides a high-level view of population size sufficient to illustrate the scope of national substance use disorder. The dashed border of the circles shows estimated relationships based on quantities and supporting research in Appendix A. Circles representing heroin, Benzodiazepine, cocaine, and methamphetamine are provided to compare the population size to those using opioids. Recent surveys have studied prescription opioid with heroin use to provide a person-centered view. The surveys used to develop Figure 2 were provided without relationships that compare combined opioid substance use prevalence with other substances.

The diagram helps collaborators understand and discuss populations affected by substance use disorder that they don't encounter as part of their normal duties. The surveys used to create this national level figure offer state level populations, and state specific diagrams can be developed using the same surveys.

Below are three dynamics in which CHNA collaborators can interpret the diagram to engage discussion:

**1. Comparing Size of Circles:** The high death rates from opioid misuse may result in communities focusing response programs on mortality and emergency department visits. The blue circles represent people reporting on surveys that they are misusing opioids and with a clinically defined opioid use disorder (OUD) that may be candidates for prevention programs. The grey circle shows the comparative size of at risk with any mental illness (AMI) condition. Adverse Childhood Experiences (ACE) can contribute to developing AMI. Furthermore, the red circles allow comparison of opioid use versus other substances. The small black and dark grey circles show death and overdose which are frequently the focus of opioid response programs.

**2. Comparing Populations within Overlapping Circles:** The overlap of opioid prescriptions and AMI is an area of significant risk. Clinician prescriber training highlights elevated addiction risk for people with behavioral health issues which is important because chronic pain frequently co-occurs within the AMI population. Despite the risk, half the opioid prescriptions, by volume, have been prescribed to the AMI population.<sup>17</sup> Clinical trials for prescription opioids products have excluded people with depression and other AMIs, therefore the details of the risk and how addiction progresses in that population are not well studied.<sup>18</sup>



**3. People Traversing Between Circles:** How a person uses substances can change over time. Therefore, as people move between populations, the circles would resize and change degree of overlap as time passes. For example, CDC statistics shows the opioid prescribing rate has been decreasing since 2012. As this occurs the size of the yellow filled-prescription circle shrinks. The opioid misuse and OUD populations outside of the opioid prescription circle are likely receiving pills through diversion.<sup>14</sup> As the supply of opioids to the misusing population decreases the population may suffer more overdoses, migrate to treatment, or switch other illicit substances.<sup>11</sup>



### Step 3: Define the Community

Specifying the focus and population characteristics determines the scope of the CHNA and implementation strategies. Focusing assessments on this population is difficult because the variety of social and health issues creates a large population of interest.

As noted in Step 1; Adverse Childhood Experiences (ACE) during childhood have been linked to opioid dependence and earlier age of injection drug use (IDU). Furthermore, mental health issues are associated with chronic pain comorbidities. Mental health affected populations have high risk for substance use disorders, and opioids are no exception.<sup>19</sup> This population is likely to seek pain management, and has a very high risk for misuse.<sup>20</sup> As seen in Step 1, the population using illicit substances and misusing prescribed opioid are not independent. For mental health patients, the root cause of pain may be non-medical.<sup>21</sup> Rather than simply providing a high, opioids reportedly relieve psychological/emotional problems or provide an escape from life stressors.<sup>22</sup>

The mental health afflicted population seeks opioids to address psychiatric stress and the initial opioid source weather through a provider prescription or illicit diversion.

Due to this complex nature of the community, CHNA teams should review evidence based screening tools when identifying and defining the at-risk community. An example screening tool is Shortening the Screener and Opioid Assessment for Patients with Pain-Revised (SOAPP-R).<sup>23</sup>

The toolkit provides the following example case definition for the at risk community that factors in the complexity of opioid misuse epidemic. CHNA participants should create a case definition that suits their local community. For example:

- People that have experienced an overdose of prescription opioids or other illicit substance.
- People with a clinically diagnosed opioid use disorder (OUD).
- People prescribed opioids with known risk factors: include family and personal histories of substance misuse, history of sexual abuse, history of alcohol misuse, and other diagnosed behavioral health issues. Within this group white race, age 35-44 years and male sex are higher risk.<sup>24 25</sup>
- Geographies with deindustrialization: A stagnant local economy influencing local culture and atmosphere can be a facilitator of not only overdose, but also drug addiction.<sup>26</sup>



## JOURNEY MAP

Journey maps are an effective artifact for the CHNA participants to determine areas of focus in defining the community. A joint understanding among CHNA collaborators is necessary for effectively completing Steps 4 and 5. Journey maps convey information in a way that is memorable, concise, and that helps CHNA coalitions develop a shared vision. The map can show a lifecycle of addiction and systems view to help define populations on interest for the CHNA. Within the collectively developed vision, coalitions can assess and prioritize evidence based opioid response programs, policies, systems, funding sources, and data.

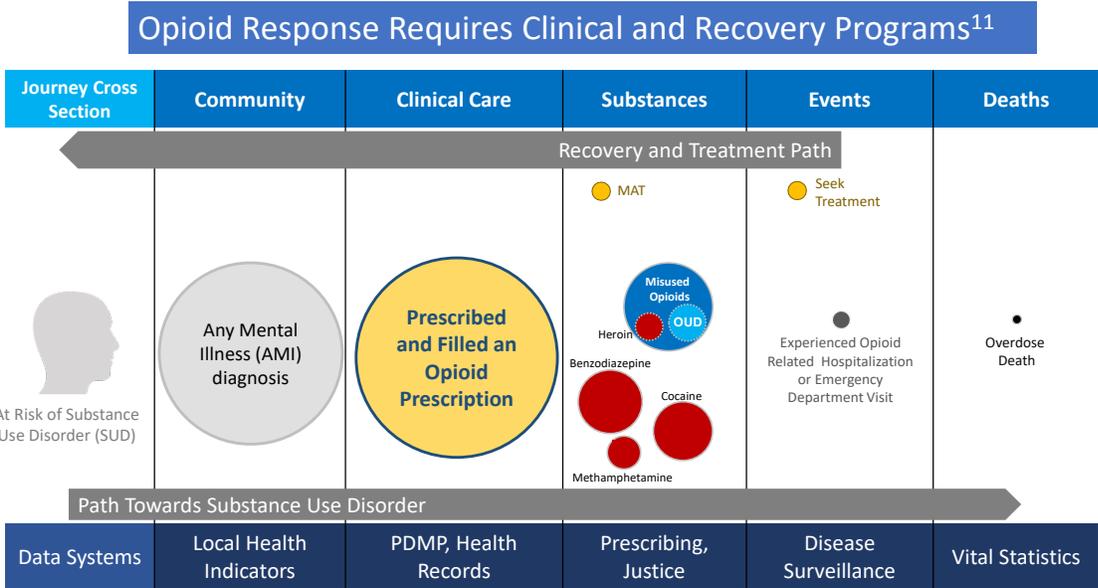
The CHNA is an opportunity for collaborators to show leadership in building understanding and awareness of the community's shared fate.<sup>13</sup> Leadership is about vision, about people buying in, about empowerment and, most of all, about producing useful change.<sup>27</sup> Applying a journey map of the people affected by substance misuse aids CHNA coalitions in overcoming organizational silos, and defining a vision that considers impact over a person's lifespan. Through the CHNA organizations have the chance to interact with those at risk earlier, more effectively, and in a coordinated fashion.



**The Community Health Needs Assessment is an opportunity for collaborators to show leadership in building understanding and awareness of the community's shared fate.**



Different organizations with a stake in community health are accountable for varying services and often rely on targeted funding streams with specific requirements for processes and outcomes. As such, it is important to identify cross-sections of interests and align assessment processes and data in a manner that contributes to shared efforts to address health concerns in local communities (Figure 3).<sup>13</sup>



## Cross Section Approaches to Identify Collaborators that Can Help Define the Community

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**COMMUNITY** Geographically defined communities affected by both active overdoses and with concentrations of at-risk populations. Populations at risk of overdose identified through common health department, emergency department or justice systems. Deidentified clinical and payer data could be used to locate areas of concentration for clinical diagnoses of domestic abuse, mental illness, chronic pain. Schools, churches, park and recreation, and other non-governmental organizations interact with at-risk populations in these communities. People with life experience using substances, their families and friends.

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**CLINICAL CARE** Organizations that prescribe opioids, and manage post-addiction recovery programs that aid transition back into communities. Organizations to invite include behavioral health and pain management providers, health insurance companies, rehabilitation service organizations. People undergoing treatment may also be required to work with justice system court and parole officers.

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**SUBSTANCES** Prescription and illicit: Organizations manage supply and dispensing of prescription opioids. Also includes justice and law enforcement organizations that monitor and measure illicit drug trafficking and use. Opioid agonists used in treatment are controlled substances managed by organizations in this cross section.

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**EVENTS** Local health departments, emergency response, and overdose tracking organizations respond to and monitor events where harm occurs to the population. Local jails, juvenile detention, and court system manage overdose events. Hospital units treating for neonatal abstinence syndrome (NAS) identify pregnancy related outcomes.

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**DEATHS** Vital records organizations, coroners, mortuaries.

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Table 1. Journey Map Cross Section Descriptions

CHNA participants may naturally view the exercise from the cross section associated with their role, and the diagram helps participants consider other perspectives. The journey map (figure 4) aligns the different organization through a journey and the experience of the population at risk with the cross sections of organizations of interest. A journey map model can address the expanding impact of people using both illicit substances and prescription opioids; and assumes substance use disorder is an endemic condition.

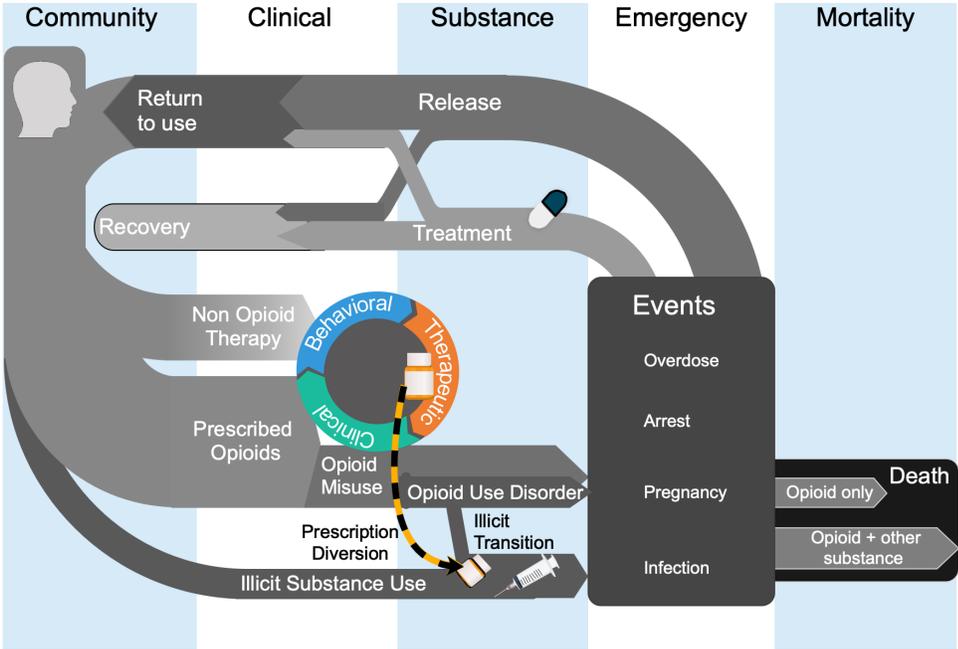


Figure 4. Journey map of population at risk of substance misuse

Simulation models show that relatively low states of endemic opioid addiction can be obtained by focusing on medical prevention followed by aggressive treatment of remaining cases—even when the probability of relapse from treatment remains high.<sup>28</sup> Therefore the shape of the journey map is circular from at-risk through release and only ends in recovery or death.



## THE JOURNEY MAP GLOSSARY

Element	Description
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### Community: At-risk person's day to day environment

<b>At-Risk Population</b>	<ul style="list-style-type: none"> <li>Population per the case definition. The map shows possible pathways from the perspective of a person at risk. A person may not seek clinical care nor illicit substance use and remain at risk. The journey does not have to involve traversing all pathways. Factors influencing the journey may include access to care, or social networks.</li> </ul>
<b>Return to use</b>	<ul style="list-style-type: none"> <li>Recurrence and reinstatement of a substance use disorder.</li> </ul>
<b>Recovery</b>	<ul style="list-style-type: none"> <li>The process of improved physical, psychological, and social well-being and health after having suffered from a substance use disorder. The model shows an end state for illustrative purposes, but is an ongoing process.</li> </ul>

### Clinical: Person's interaction with clinical organizations and clinicians

<b>Non-Opioid Therapy</b>	<ul style="list-style-type: none"> <li>Non-opioid pain therapy options available in the form of pharmaceuticals, medical devices, physical therapy,</li> </ul>
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cognitive behavioral therapy. The goal is to relieve acute pain and manage chronic pain through appropriate combination of clinical, behavioral, and therapeutics.

- Prescribed Opioids**
  - A family of drugs used therapeutically to treat pain, that also produce a sensation of euphoria (a “high”) and are naturally derived from the opium poppy plant (e.g., morphine and opium) or synthetically or semi-synthetically produced in a lab to act like an opiate (e.g., methadone and oxycodone)-<sup>29</sup>
- Illicit Substance**
  - Illegal use forbidden by law of prescription opioids or other controlled substance by other than the patient prescribed as instructed by the clinician. Also includes other drugs that are illegal use or possess.
- Treatment**
  - Enrollment and attendance of evidence based treatments. Examples include Medication-Assisted Treatment (MAT) and Screening, Brief Intervention, and Referral to Treatment (SBIRT). MAT is the use of medications, in combination with counseling and behavioral therapies, to provide a “whole-patient” approach to the treatment of substance use disorders. SBIRT is an evidence-based practice used to identify, reduce, and prevent problematic use, misuse, and dependence on alcohol and illicit drugs.
- Release**
  - Any action after an overdose event where care was administered (e.g. emergency, arrest or misuse) that does not result in evidence based treatment follow-up.

### Substance: Person in relation to how they are using substances

- Opioid misuse**
  - The use of a medication without a prescription or usage of a drug in a way other than as prescribed; or for the experience or euphoric feeling elicited.<sup>29</sup>
- Opioid use**
  - Problematic pattern of opioid use leading to disorder clinically significant impairment or distress.
- Prescription Diversion**
  - Acquiring opioid medications through dealers, sharing trading, inappropriately through legitimate medical practice, illegitimate medical practice, and theft,
- Illicit transition**
  - Initial use of opioids to treat pain may shift over the course of care as tolerance develops. If the patient is not tapered off the drug and cared for safely, lead to dependence with a shift to opioid misuse, OUD, or use of illicit drugs.

## Emergency: Opioid misuse resulting in harm

<b>Overdose</b>	<ul style="list-style-type: none"><li>• CDC defines an opioid overdose as an injury to the body (poisoning) that happens when a drug is taken in excessive amounts. An overdose can be fatal or nonfatal</li></ul>
<b>Arrest</b>	<ul style="list-style-type: none"><li>• Encounters with police could mean arrest and diversion to a drug court, or imprisonment.</li></ul>
<b>Pregnancy</b>	<ul style="list-style-type: none"><li>• Pregnancy with risk of birth resulting in neo-natal abstinence syndrome (NAS).</li></ul>
<b>Infection</b>	<ul style="list-style-type: none"><li>• Shared needles use can produce infections with Hepatitis, HIV, or other transmissible diseases.</li></ul>

## Mortality

<b>Death</b>	<ul style="list-style-type: none"><li>• Mortality of the person using drugs as a result of opioids with or without other substances</li></ul>
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Table 2. Journey Map Glossary of Terms

The Recovery Research Institute publishes the “Addictionary,” a source for CHNA collaborators to explore common terminology which offers advice on language in a manner that addresses stigma.<sup>29</sup>

## Systems View Examples

CHNA collaborators should adapt a system view where interventions incorporate upstream and downstream implications when considering response programs. For example, opioid use changed as insurers limited coverage of non-pharmaceutical options, and the use of opioids became more common.<sup>9</sup> This was reversed years later with policies to reduce opioid supply (Figure 1). Opioid dependence and addiction do not dissipate as prescription opioid supply contracts. Instead, individuals who lose access turn to cheaper, more accessible, and more potent black market opioid alternatives including heroin and fentanyl which have a drastically higher risk of overdose because of the lack of regulation over the contents, quality, and dosage in black market opioid products. Removing access to prescription opioids without replacing this therapy with other pain management modalities and delivering evidence-based opiate substitution treatment led to unmanaged withdrawal or substitution with more potent opioids.<sup>11</sup>

The person centered journey can provide detail to enable application of Social-Ecological Models that are based on the complex interplay between individual, relationship, community, and societal factors. A social ecological framework was used to examine barriers to community-based substance use treatment among individuals with OUD in Appalachian Kentucky following release from prison. Examples of barriers included networks with limited knowledge of treatment, high caseloads, lack of substance use disorder education for parole/probation officers.<sup>30</sup>

NACCHO is working with several local health departments to implement opioid response programs which have impact that can be shown through the journey map in Figure 5.

- **Harm reduction services:** Syringe service programs provide access to clean needles. The programs link people injecting substances to any community resource they need, including medicated assisted treatment. These programs also help reduce local outbreaks of HIV and Hepatitis, and enable people to enter treatment and recovery without the additional burden of a serious infection.
- **Academic Detailing:** A clinician education technique that employs 1-on-1 outreach by trained “detailers” to assist clinicians to provide evidence-based care. In the context of the opioid epidemic, it can be utilized to support clinicians to better understand their opioid prescribing practices, and therefore better align their practices with recommended guidelines. Better opioid management practices can reduce the quantity and duration of opioids prescribed, help clinicians recognize patients with OUD, and educate clinicians on tapering.

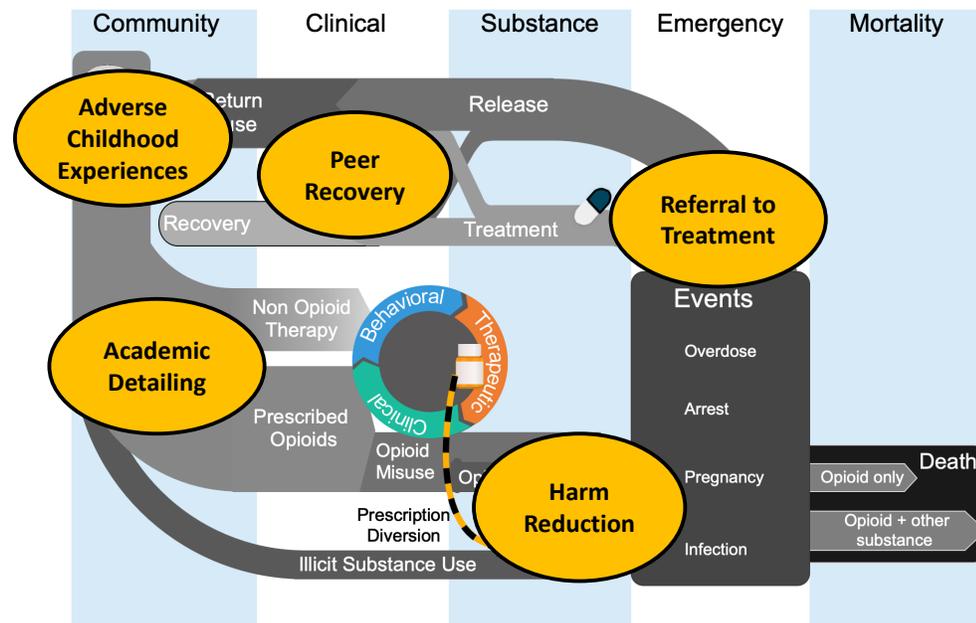


Figure 5. Aligning Evidence Based Programs with the Journey Map

## Step 4: Collect and Analyze Data

Community health needs assessments (CHNAs) include a combination of quantitative demographic and health data as well as qualitative data that reflects the experiences and opinions of community stakeholders. Substance use population specific data can be summarized and displayed using the Venn diagram and Journey Map to highlight the particular health needs of the populations at risk.

### Challenges

Given the breadth of the challenge in addressing substance use, there are many potential data sources of interest. The challenge is in determining which data is relevant to the local population that can be used to help the CHNA team. Successfully identifying and recruiting important CHNA collaborators in Step 3 brings partners that can suggest, acquire, and analyze data from their domains. Qualitative data from CHNA collaborators is an important source of information.

Data is available that may be useful in defining the community and that can help prioritize project and enable programs. When investigating and selecting data sources the CHNA collaborators should consider challenges associated with making the data useful.

Challenge	Description
<b>PRIVACY/ ACCESS</b>	CHNA teams should seek population level and deidentified data because privacy laws limit access to personally identifiable data. State and local government secondary use policies or lack of resources may also limit access to social determinant data of interest. Access is also limited by the CHNA collaborator skills in using systems necessary to organize and analyze the data. Information on populations with behavioral health diagnoses may have additional levels of privacy protection. Commercially available data may require a purchase.
<b>LOCAL RELEVANCY</b>	The population of interest should be identifiable within the data. Surveys from CDC and SAMHSA provide views into populations at national and state level, but weren't designed to allow community level assessment. Geographically based data may be limited to querying on first three digits of a zip code for privacy protection. The limited zip code regions may not map well to the community geographies of interest. Data should also be analyzable at demographic level when assessing sub-populations.

**STIGMATIZED  
POPULATION**

Gathering data for CHNA substance use planning requires collected data from a population that may not wish to be studied due to stigma and law enforcement.

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**EVENT FOCUSED**

State opioid dashboards and public health surveillance system measure emergency department or mortality events. Reportable disease and syndromic surveillance systems exist nationwide accessible by local public health departments. These are good for tracking overdoses, but they are de-identified with no person level linkages between clinical, claims, PDMP prescribing data that is necessary for effective big-data systems.

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**TIME RELEVANT**

Surveys take time to conduct and compile for publication. Public and private medical claims data provide a good overview of clinical activity, but are typically released six months to a year after clinical encounter.

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**DATA OVERLAP**

Some systems may collect data in a similar area of the journey map or population. Candidate data sources should be compared prior to acquisition to prevent redundant efforts.

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**Table 3. Challenges in determining what data is relevant**

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The Department of Health and Human Services published Data Sources and Data-Linking Strategies to Support Research to Address the Opioid Crisis which highlights commonly used data (e.g., Commercial insurance claims, Medicaid claims, Medicare claims, Electronic health records, Prescription Drug Monitoring Programs (PDMP), Mortality, Policy).<sup>31</sup> CHNA teams should understand the organizations and systems that produce the data, and engage important system and data owners in the planning and prioritization process.

The CHNA team can review data sources from the HHS Data-Linking Strategies report and other studies to provide local context using the Venn diagram and journey map.

Cross Section	Candidate Data Sources
COMMUNITY	<ul style="list-style-type: none"> <li>• US Area Deprivation Index (ADI)</li> <li>• Schools: Substance use summary reports</li> <li>• Bureau of Economic Analysis, American Community: Survey with local economic, poverty, income</li> <li>• Centers for Medicare and Medicaid Services (CMS): Rates of Medicaid, Medicare vs private coverage</li> <li>• Recovery and peer counseling provider census. National Survey of Substance Abuse Treatment Services (NSSATS)</li> <li>• Parks: Overdose and syringe/paraphernalia encounters</li> <li>• National Survey on Drug Use and Health (SAMHSA)</li> </ul>
CLINICAL	<ul style="list-style-type: none"> <li>• Medical claims: Medicare, Medicaid, commercial (IQVIA, Marketscan, Health Care Cost Institute)</li> <li>• Hospital Electronic Health Records (EHR). Other local EHR records from organizations like the Veterans Health Administration.</li> <li>• Treatment Episodes Data Set-Admissions (TEDS-A)</li> <li>• Drug Abuse Warning Network (DAWN) (reestablished program)</li> <li>• DEA Active Controlled Substances Act Registrants Database :(ACSA)</li> </ul>
SUBSTANCE	<ul style="list-style-type: none"> <li>• Prescription Drug Monitoring Programs (PDMP)</li> <li>• Commercial prescribing data (IQVIA, Marketscan, Health Care Cost Institute)</li> <li>• Justice system illicit substance intelligence</li> <li>• Centers for Medicare and Medicaid Services Part D opioid prescribing</li> </ul>
EMERGENCY	<ul style="list-style-type: none"> <li>• National Highway Traffic Safety Administration: EMS data, NEMSIS</li> <li>• CDC Enhanced State Opioid Overdose Surveillance (ESOOS), National Syndromic Surveillance Program, BioSense</li> <li>• CDC National Notifiable Diseases Surveillance System (NNDSS) for infection</li> <li>• High Intensity Drug Trafficking Areas (HIDTA) Program: ODMAP</li> <li>• USDA/NORC: Opioid Misuse Community Assessment Tool</li> </ul>
MORTALITY	<ul style="list-style-type: none"> <li>• CDC National Death Index (NDI)</li> <li>• CDC National Vital Statistics System Multiple Cause of Death (NVSS MCODE)</li> <li>• CDC WISQARS Web-based Injury Statistics Query and Reporting System</li> <li>• CDC WONDER</li> <li>• State death certificates</li> </ul>

Table 4. Data Sources by Journey Map Cross Section

## Step 5: Prioritize Community Health Issues

Hospitals and community stakeholders go through a process to distinguish the most pressing community health needs based on the data collected. Teams should resist the temptation to limit partnerships and acknowledge the importance of insights and mobilization of community members. The importance of broad engagement enables a shift from an institutional or agency-based model of priority setting, to one that puts the community at the center<sup>13</sup>

Teams should engage a skilled third-party moderators to work with the collaborators to prioritize issues. NACCHO offers a Guide to Prioritization Techniques with several options: Multi-voting Technique, Strategy Grids, Nominal Group Technique, The Hanlon Method, Prioritization Matrix<sup>32</sup>

The Public Health Institute, Best Practices for Community Health Needs Assessment and Implementation Strategy Development discusses approaching prioritization through a two panel process. One focused on the science and current methods, and the other focused on practical application and implications for collaboration. In this process the “decision makers” frame the decisions to be made, and call for scientists to provide the evidence, science, and associated information, and then find a way to accommodate contextual issues such as economic constraints, values, and preferences.<sup>13</sup> CHNA organizers should assemble a library of evidence based programs for the team to review during the prioritization process.



## APPENDIX A

Table 5 describes the surveys and data used to develop the prevalence Venn diagrams in Figure 2.

Circle	Description	Size
<b>Filled an opioid prescription</b>	An opioid prescription is an initial or refill dispensed opioid pharmaceutical paid for by commercial third party, Medicaid, Medicare Part D, or cash. <sup>33</sup>	56M
<b>Any Mental Illness diagnosis (AMI)</b>	Adults with AMI were defined as having any mental, behavioral, or emotional disorder in the past year that met Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria. Overlap with filled prescriptions is based on studies that show 51% of opioids are prescribed to patients with mental health diagnosis (by volume). <sup>22</sup> The degree that AMI overlaps misuse and OUD is unclear because the NSDUH only reported all-substance data. <sup>14</sup> Diagram assumes some overlap because 9.2M Americans, 18 years or older, had both a substance use disorder and a mental illness diagnosis. <sup>14</sup>	47M
<b>Opioid Misuse</b>	2017 SAMHSA NSDUH survey data. <sup>14</sup> Opioid prescription drug misuse defined as use in any way not directed by a doctor, including use without a prescription of one's own; use in greater amounts, more often, or longer than told to take a drug; or use in any other way not directed by a doctor. The blue Opioid Misuse circle extends outside the prescription filled circle to represent people obtaining opioids without a prescription ("diversion"). <sup>34</sup> <sup>14</sup> For people who misused pain relievers, only 35% obtained through a prescription from one doctor.	11M
<b>Opioid Use Disorder (OUD)</b>	Defined as meeting clinical criteria for illicit or prescription drug dependence or misuse based on definitions found in the 4th edition of the DSM-IV. OUD placed outside of AMI circle because AMI is defined as excluding SUDs. <sup>14</sup>	2M

Circle	Description	Size
	<p>           OUD drawn to significantly overlap AMI and prescribed opioids because opioid use and DSM-5 OUD were strongly related to other nonmedical prescription drug use disorders, other drug use disorders, alcohol use disorder and nicotine use disorder, post-traumatic stress disorder, and schizotypal, borderline and antisocial personality disorders.<sup>35</sup> </p>	
<b>Hospital and Emergency Department</b>	<p>           CDC’s 2018 Annual Surveillance Report of Drug-Related Risks and Outcomes provides Nonfatal Overdose Hospitalizations and Emergency Department (ED) Visits data. Misuse events includes hospitalization and emergency department visits.<sup>33</sup> </p>	219k
<b>Medication Assisted Treatment (MAT)</b>	<p>           Clients receiving methadone, buprenorphine, or naltrexone could be in any type of care—outpatient, residential (non-hospital), or hospital inpatient. Included within 56M prescribed due to opioid agonists used with MAT.<sup>15</sup> </p>	382k
<b>Mortality</b>	<p>           Opioids account for 68% of all overdose deaths in the United States<sup>8</sup>This is disproportionately large when compared to other substances.         </p>	47k
<b>Other Substances</b>	<p>           Prescribed opioids are the major source contributing to the growth of populations using illicit substances. Synthetic opioids appear to be the primary driver of cocaine-involved death rate increases, and recent data point to increasing synthetic opioid involvement in psychostimulant-involved deaths. The NSDUH and CDC documentation has minimal information on poly-substance. There are various studies that show poly-substance use is an issue, but substances used varies regionally. The NSDUH includes heroin within the definition of opioid misuse.<sup>14</sup> </p>	

**Table 5. Description of populations and reasons for overlap**

## REFERENCES

1. Scholl L, Seth P, Kariisa M, Wilson N, Baldwin G. Drug and Opioid-Involved Overdose Deaths — United States, 2013–2017. *MMWR Morb Mortal Wkly Rep.* 2018;67(5152). doi:10.15585/mmwr.mm675152e1
2. [Environmental-Scan-V3-July-2019-FINAL-v2.pdf](https://www.naccho.org/uploads/downloadable-resources/Environmental-Scan-V3-July-2019-FINAL-v2.pdf). Accessed April 26, 2020. <https://www.naccho.org/uploads/downloadable-resources/Environmental-Scan-V3-July-2019-FINAL-v2.pdf>
3. Caffrey A, Pointer C, Steward D, Vohra S. The Role of Community Health Needs Assessments in Medicalizing Poverty. *J Law Med Ethics J Am Soc Law Med Ethics.* 2018;46(3):615-621. doi:10.1177/1073110518804212
4. Cramer GR, Singh SR, Flaherty S, Young GJ. The Progress of US Hospitals in Addressing Community Health Needs. *Am J Public Health.* 2016;107(2):255-261. doi:10.2105/AJPH.2016.303570
5. Community Health Needs Assessment for Charitable Hospital Organizations - Section 501(r)(3) | Internal Revenue Service. Accessed April 27, 2020. <https://www.irs.gov/charities-non-profits/community-health-needs-assessment-for-charitable-hospital-organizations-section-501r3>
6. Community Health Assessment Toolkit | ACHI. Accessed May 6, 2020. <https://www.healthycommunities.org/resources/community-health-assessment-toolkit>
7. National Institute on Drug Abuse. Number of National Drug Overdose Deaths Involving Select Prescription and Illicit Drugs. Published online March 2020. [https://www.drugabuse.gov/sites/default/files/overdose\\_data\\_1999-2018.xls](https://www.drugabuse.gov/sites/default/files/overdose_data_1999-2018.xls)
8. O'Donnell JK, Halpin J, Mattson CL, Goldberger BA, Gladden RM. Deaths Involving Fentanyl, Fentanyl Analogs, and U-47700 — 10 States, July–December 2016. *MMWR Morb Mortal Wkly Rep.* 2017;66(43):1197-1202. doi:10.15585/mmwr.mm6643e1
9. Dasgupta N, Beletsky L, Ciccarone D. Opioid Crisis: No Easy Fix to Its Social and Economic Determinants. *Am J Public Health.* 2018;108(2):182-186. doi:10.2105/AJPH.2017.304187
10. Poitras G. The prescription opioid epidemic: an update. *Medicolegal Bioeth.* 2018;Volume 8:21-32. doi:10.2147/MB.S170220
11. Beletsky L, Davis CS. Today's fentanyl crisis: Prohibition's Iron Law, revisited. *Int J Drug Policy.* 2017;46:156-159. doi:10.1016/j.drugpo.2017.05.050
12. Stein MD, Conti MT, Kenney S, et al. Adverse childhood experience effects on opioid use initiation, injection drug use, and overdose among persons

with opioid use disorder. *Drug Alcohol Depend.* 2017;179:325-329. doi:10.1016/j.drugalcdep.2017.07.007

13. Barnett K. Best Practices for Community Health Needs Assessment and Implementation Strategy Development: A Review of Scientific Methods, Current Practices, and Future Potential. Published online February 2012. Accessed May 4, 2020. <http://www.phi.org/wp-content/uploads/migration/uploads/application/files/dz9vh55o3bb2x56lcrzyel83fwfu3mvu24oqqvn5z6qaeiw2u4.pdf>
14. Lipari RN. Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health. Published online 2018:82.
15. Substance Abuse and Mental Health Services Administration. National Survey of Substance Abuse Treatment Services (N-SSATS): 2015. *HHS Publ No SMA 17-5039*:271.
16. U.S. Opioid Prescribing Rate Maps | Drug Overdose | CDC Injury Center. Published March 12, 2020. Accessed April 29, 2020. <https://www.cdc.gov/drugoverdose/maps/rxrate-maps.html>
17. Davis MA, Lin LA, Liu H, Sites BD. Prescription Opioid Use among Adults with Mental Health Disorders in the United States. *J Am Board Fam Med.* 2017;30(4):407-417. doi:10.3122/jabfm.2017.04.170112
18. Sullivan M. Depression Effects on Long-term Prescription Opioid Use, Abuse, and Addiction: *Clin J Pain.* Published online March 2018:1. doi:10.1097/AJP.0000000000000603
19. Abuse NI on D. Part 1: The Connection Between Substance Use Disorders and Mental Illness. Accessed September 29, 2018. <https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders/part-1-connection-between-substance-use-disorders-mental-illness>
20. Agüera L, Failde I, Cervilla JA, Díaz-Fernández P, Mico JA. Medically unexplained pain complaints are associated with underlying unrecognized mood disorders in primary care. *BMC Fam Pract.* 2010;11(1):17. doi:10.1186/1471-2296-11-17
21. Skala K, Reichl L, Ilias W, et al. Can we predict addiction to opioid analgesics? A possible tool to estimate the risk of opioid addiction in patients with pain. *Pain Physician.* 2013;16(6):593-601.
22. Cicero TJ, Ellis MS. Understanding the demand side of the prescription opioid epidemic: Does the initial source of opioids matter? *Drug Alcohol Depend.* 2017;173:S4-S10. doi:10.1016/j.drugalcdep.2016.03.014
23. Finkelman MD, Kulich RJ, Zacharoff KL, et al. Shortening the Screener and Opioid Assessment for Patients with Pain-Revised (SOAPP-R): A Proof-

- of-Principle Study for Customized Computer-Based Testing. *Pain Med Malden Mass.* 2015;16(12):2344-2356. doi:10.1111/pme.12864
24. Brady JE, Giglio R, Keyes KM, DiMaggio C, Li G. Risk markers for fatal and non-fatal prescription drug overdose: a meta-analysis. *Inj Epidemiol.* 2017;4. doi:10.1186/s40621-017-0118-7
  25. Ciesielski T, Iyengar R, Bothra A, Tomala D, Cislo G, Gage BF. A tool to assess risk of de novo opioid abuse or dependence. *Am J Med.* 2016;129(7):699-705.e4. doi:10.1016/j.amjmed.2016.02.014
  26. McLean K. "There's nothing here": Deindustrialization as risk environment for overdose. *Int J Drug Policy.* 2016;29:19-26. doi:10.1016/j.drugpo.2016.01.009
  27. Kotter JP. Management Is (Still) Not Leadership. *Harv Bus Rev.* Published online January 9, 2013. Accessed May 9, 2020. <https://hbr.org/2013/01/management-is-still-not-leadership>
  28. Battista NA, Percy LB, Strickland WC. Modeling the Prescription Opioid Epidemic. *Bull Math Biol.* 2019;81(7):2258-2289. doi:10.1007/s11538-019-00605-0
  29. Addictionary - Glossary of Substance Use Disorder Terminology. Recovery Research Institute. Accessed May 9, 2020. <https://www.recoveryanswers.org/addiction-ary/>
  30. Bunting AM, Oser CB, Staton M, Eddens KS, Knudsen H. Clinician identified barriers to treatment for individuals in Appalachia with opioid use disorder following release from prison: a social ecological approach. *Addict Sci Clin Pract.* 2018;13(1):23. doi:10.1186/s13722-018-0124-2
  31. Corporation R. Data Sources and Data-Linking Strategies to Support Research to Address the Opioid Crisis. :102.
  32. NACCHO. Guide to Prioritization Techniques. <https://www.naccho.org/uploads/downloadable-resources/Guide-to-Prioritization-Techniques.pdf>
  33. Centers for Disease, Control and Prevention, U.S., Department of Health and Human, Services, Centers for Disease Control and Prevention. Centers for Disease Control and Prevention. Annual Surveillance Report of Drug-Related Risks and Outcomes — United States, 2017. Published online August 31, 2017. <https://www.cdc.gov/drugoverdose/pdf/pubs/2017-cdc-drug-surveillance-report.pdf>
  34. Simeone R. Doctor Shopping Behavior and the Diversion of Prescription Opioids. *Subst Abuse Res Treat.* 2017;11. doi:10.1177/1178221817696077
  35. Saha TD, Kerridge BT, Goldstein RB, et al. Nonmedical Prescription Opioid Use and DSM-5 Nonmedical Prescription Opioid Use Disorder in the United States. *J Clin Psychiatry.* 2016;77(6):772-780. doi:10.4088/JCP.15m10386

