

Addiction overview and project description

Summary

Addiction is a complex problem at the root of many of Ohio's greatest health challenges, including drug overdose deaths. Ohio policymakers have responded to the addiction crisis with many policy changes, primarily focusing on opiate addiction.

HPIO is launching the Addiction Evidence Project to provide policymakers and other stakeholders with information needed to evaluate Ohio's policy response to the opiate crisis, and accelerate and continually improve strategies to address substance use disorders in a comprehensive, effective and efficient way. This policy brief sets the foundation for the project by describing the basics of addiction and a framework for a comprehensive policy response.

HPIO plans to post three types of tools on the HPIO [Addiction Evidence Project](#) website:

Evidence resource pages

Hubs for clinical standards and guidelines, expert consensus statements and recommendations, model policies and evidence registries

Policy inventories

Lists of Ohio legislation, regulations, funding allocation amounts, practice guidelines, state agency initiatives and legislative initiatives

Policy scorecards

Analysis of strengths and gaps in Ohio's policy response to addiction

This project will address addiction in a comprehensive way that takes into consideration policy changes in the following areas (see figure 6):

Prevention	Treatment	Recovery
Harm reduction	Overdose reversal	Data and evaluation
Children, youth and families	Law enforcement	Criminal justice

Addiction and health

Addiction, also known as substance use disorder, is a chronic, relapsing brain disease characterized by compulsive drug seeking and use, despite harmful consequences.¹ Addiction is influenced by genetic, behavioral and environmental factors, and can negatively affect physical, mental, social and spiritual health and wellbeing.²

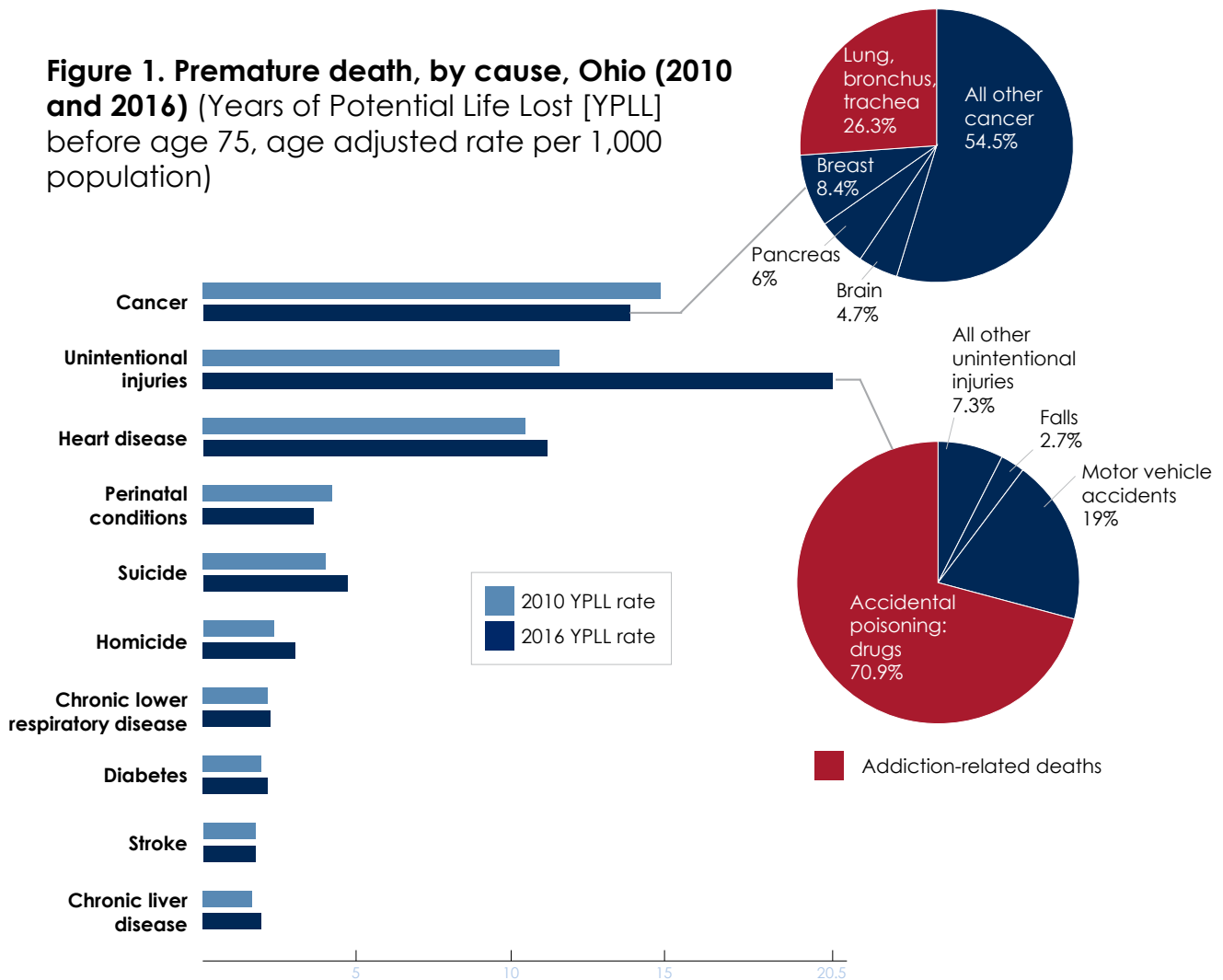
Addiction often starts with occasional use of substances such as alcohol, tobacco, marijuana or prescription opioids, but then progresses to more problematic and frequent use, including:

- Craving and frequent drug seeking
- Increasing tolerance (higher dose needed to produce same effect)

- Continuing to use, even when it causes problems with relationships, employment, parenting, etc.
- Wanting to cut down or stop using, but having difficulty or not being able to abstain³

Addiction is at the root of many of Ohio's greatest health and healthcare spending challenges. The HPIO [2017 Health Value Dashboard](#) found that Ohio ranked in the bottom quartile of states for drug overdose deaths, adult smoking and children exposed to secondhand smoke. Addictions to opiates (including prescription opioids, heroin and fentanyl) and nicotine are direct contributors to these challenges.

Figure 1. Premature death, by cause, Ohio (2010 and 2016) (Years of Potential Life Lost [YPLL] before age 75, age adjusted rate per 1,000 population)



Source: Ohio Department of Health, Bureau of Vital Statistics

Figure 1 lists the top 10 leading causes of premature death in Ohio. Addiction to nicotine, opiates, alcohol or other drugs directly or indirectly contributes to most of these causes of early death. The connection is particularly strong for cancer (tobacco use causes lung cancer) and unintentional injuries (mostly drug overdose deaths).

Opiate addiction, excessive alcohol use and other forms of substance abuse have widespread negative consequences for individual and family wellbeing, healthcare spending, employment, child welfare and the criminal justice system. In addition, tobacco use is a significant healthcare cost driver for public and private payers.⁴

Pathways to addiction

Many factors contribute to the likelihood that an individual will become addicted to a drug, including:

- **Genes:** Scientists estimate that genetic factors account for 40 to 60 percent of a person's vulnerability to addiction.
- **Other biological factors:** Adolescents and people with mental health disorders are at greater risk.
- **Family and peers:** Influences from parents, peers and school (see risk and protective factors in figure 2).
- **Community:** Neighborhood conditions, socio-economic factors and social norms (see risk and protective factors in figure 2).
- **Availability of the drug:** Easy access to and affordability of drugs increases risk.⁵

Figure 2. **Risk and protective factors for adolescent and young adult substance use**

	Risk factors	Protective factors
Individual	<ul style="list-style-type: none"> Genetic susceptibility to alcohol or drug use and addiction Starting substance use at a young age Aggressive behavior and persistent behavior problems in childhood Favorable attitudes toward substance use and low perception of risk Exposure to trauma and adverse childhood experiences⁶ 	<ul style="list-style-type: none"> Good self-control and interpersonal skills Spirituality Resiliency (ability to adapt to change and stressful events in healthy ways)
Peers and school	<ul style="list-style-type: none"> Poor academic performance Lack of commitment to and engagement with school Peer substance use 	<ul style="list-style-type: none"> Academic competence Recognition for positive behavior Opportunities for positive social involvement
Family	<ul style="list-style-type: none"> Lack of parental supervision and clear expectations Family conflict, abuse and neglect Parents' favorable attitude toward drug use and/or history of substance misuse 	<ul style="list-style-type: none"> Attachment and positive communication with parents Marriage (for adults)
Community	<ul style="list-style-type: none"> High availability of substances, low cost of alcohol and other drugs Laws and norms favorable to substance use, including alcohol and tobacco Community disorganization and high crime rates Media portrayal of substance use Low socioeconomic status 	<ul style="list-style-type: none"> Opportunities for positive social involvement Healthy beliefs and standards for behavior, positive community norms that communicate clear and consistent expectations about not misusing alcohol and other drugs

Source: Adapted from The Surgeon General, Facing Addiction in America, 2016 and National Institute on Drug Abuse, Drugs, Brains and Behavior: The Science of Addiction, 2014.

Risk and protective factors

Decades of research have identified several risk and protective factors for addiction, which are summarized in figure 2. Effective prevention strategies are designed to strengthen protective factors and reduce modifiable risk factors.

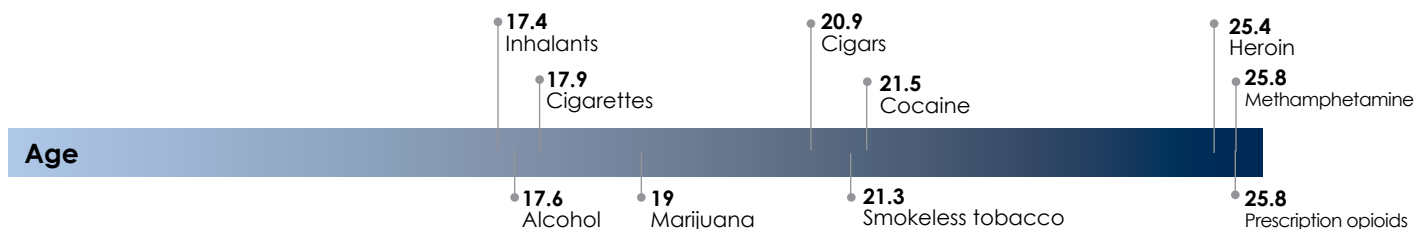
Age at first use

There is strong evidence that adolescence is a critical risk period for addiction. Addictive drugs are particularly harmful to the adolescent brain because it is still developing. Adults who began

using alcohol or other drugs during adolescence are at greater risk of developing addiction than those who started drug use at a later age.⁷

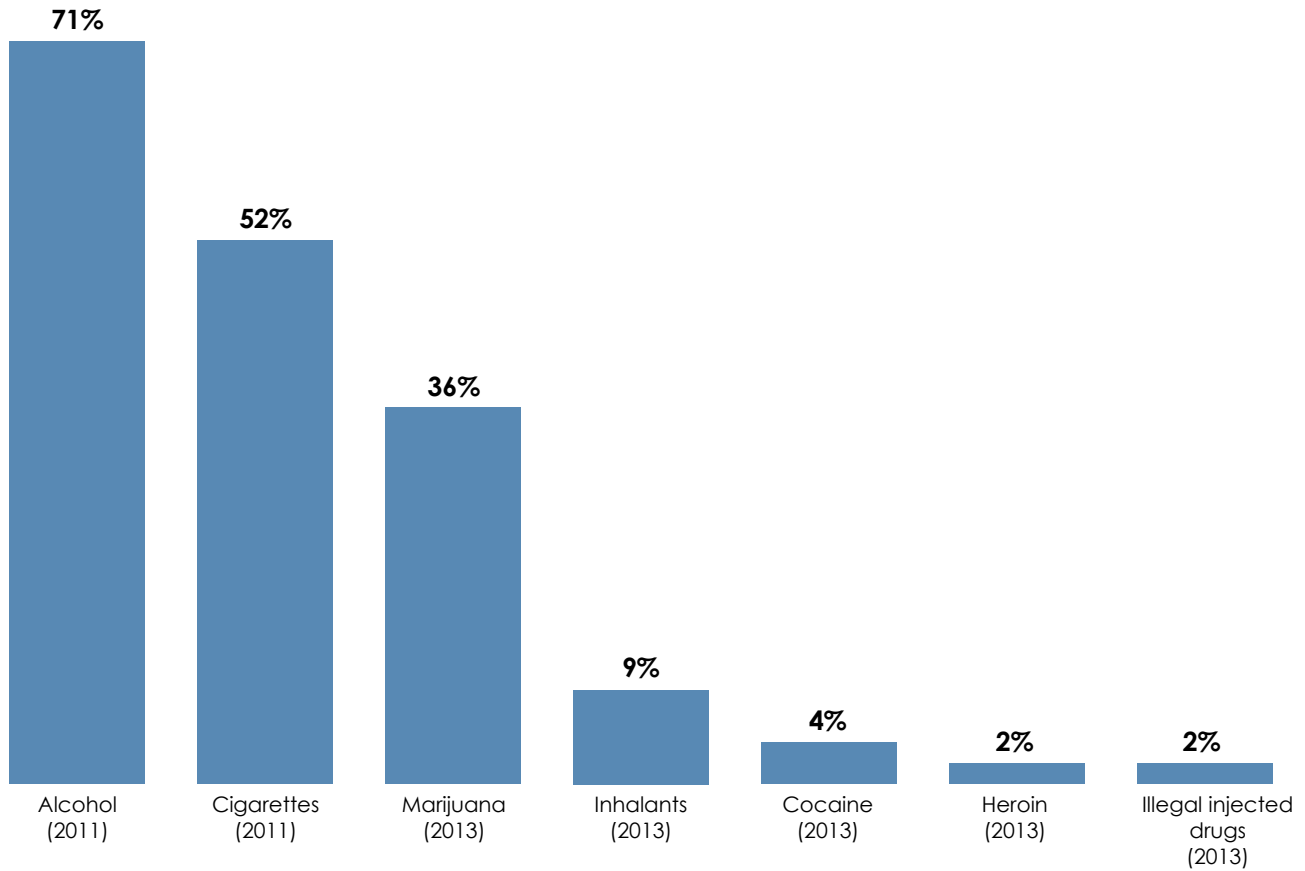
Adolescents typically begin by experimenting with legal substances, such as alcohol and cigarettes.⁸ The average age of first use of these substances is about seven years younger than the average age of initiation for illegal drugs such as heroin and methamphetamine (see figure 3). Similarly, a majority of Ohio high school students have tried alcohol and cigarettes, while far fewer have tried cocaine or heroin (see figure 4).

Figure 3. **Average age of drug-use initiation (among ages 12-49), U.S. (2015)**



Source: 2015 National Survey on Drug Use and Health⁹

Figure 4. **Percent of Ohio high school students who have ever tried alcohol, tobacco and other drug use (at least one time in their lives) (2011 and 2013)¹⁰**



Source: 2011 and 2013 Youth Behavioral Risk Factor Surveillance Survey (Youth Online interactive database, Centers for Disease Control and Prevention)

The road to opiate addiction and Ohio’s overdose epidemic

In 2015, Ohio had the third highest drug overdose death rate in the country.¹¹ Unintentional drug overdose deaths became the second leading cause of premature death in Ohio in 2016, surpassing heart disease.¹²

Widespread prescribing of opioid medications is recognized as a major driving factor of the drug overdose epidemic.¹³ The U.S. consumes far more opioids per person than any other country¹⁴, and Ohio has higher rates of opioid consumption than most other states.¹⁵

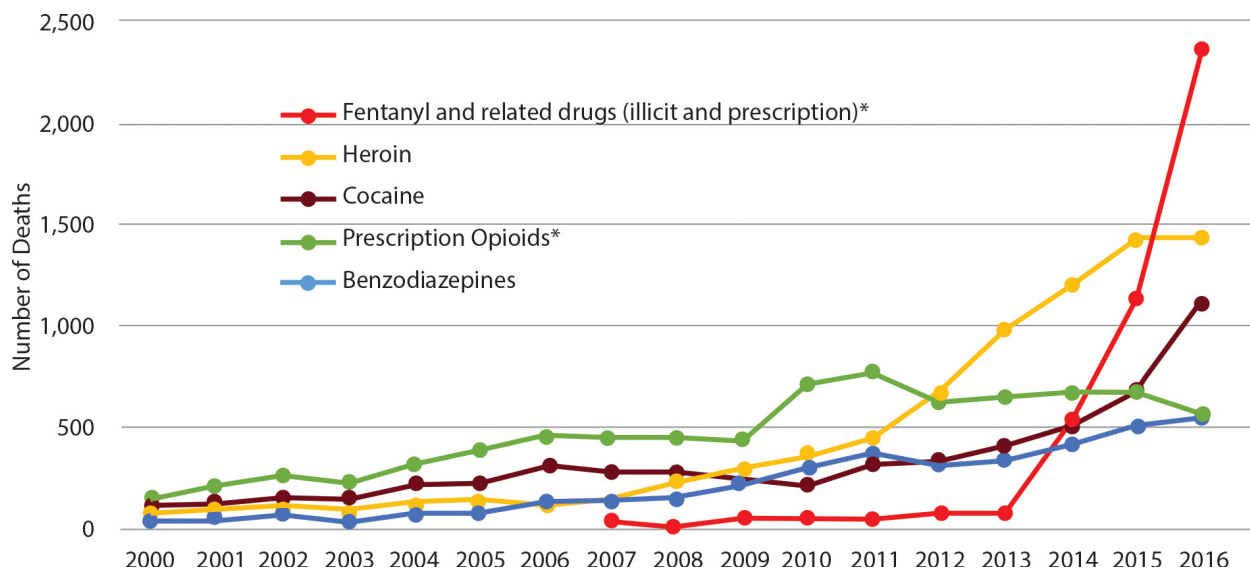
Healthcare providers are the primary source of opioids; one study found that 97 percent of people taking strong prescription painkillers for two months or more started with a prescription from a doctor, rather than from some other source (such as

illegally).¹⁶ According to one study, chronic pain (44 percent), pain after surgery (25 percent) and pain after an accident or injury (25 percent) are the most common reasons for taking opioid painkillers.¹⁷ Another study that analyzed prescribing patterns from 2007 to 2012 found that primary care providers (family practice, internal medicine, non-physician prescribers and general practice) accounted for about half of all dispensed opioid prescriptions in the U.S., followed by surgery and dentistry providers.¹⁸

Evidence for the effectiveness of opioids for treating chronic pain (>three months) is minimal¹⁹, and the longer a person takes pain pills, the more likely he/she is to become dependent or addicted. A 2017 study found that the risk of long-term use increases sharply after five days.²⁰

Prescription drug overdose deaths (excluding fentanyl) peaked in Ohio in 2011, and opioid

Figure 5. **Overdose deaths in Ohio, by drug type (2000 to 2016)**



*Excludes deaths involving fentanyl and related drugs

Source: 2016 Ohio drug overdose data: General findings, Ohio Department of Health

prescribing peaked in 2012.²¹ As prescription opioid deaths were declining, deaths from heroin and fentanyl rose substantially (see figure 5).²² Studies have found that many heroin users first became addicted to prescription pain killers before transitioning to heroin.^{23,24,25} In recent years, Ohio also has seen a growing number of overdose deaths involving cocaine and benzodiazepines (such as Xanax, Klonopin, Ativan, etc.).²⁶

These trends indicate that although policy changes may reduce the supply of one type of drug (such as prescription opioids), other drugs may emerge and be widely used unless the underlying demand for addictive substances is also reduced through effective prevention and treatment.

Comprehensive policy response

Given the complexity of addiction and its far-reaching consequences for several systems and outcomes, policymakers in Ohio have embraced the need for a comprehensive approach. The Governor's Cabinet Opiate Action Team, for example, brings together several state agencies to combat opiate abuse across the sectors they serve, and the Ohio House of Representatives' Speaker's Task Force on HOPES (Heroin, Opioids,

Prevention, Education and Safety) held meetings across the state to gather input from medical professionals, addiction experts and the public at large. In addition, local communities are developing comprehensive strategic plans, such as the [Franklin County Opiate Action Plan](#) and the [Hamilton County Heroin Coalition Strategic Action Plan](#).

HPIO worked with the Addiction Evidence Advisory Group (see page 10) to develop a framework for the key elements of a comprehensive policy response to addiction (figure 6) that builds upon work being done in Ohio and a similar framework from the national Addiction Policy Forum.

The framework places individuals, families and communities at the center, with health, well-being and economic vitality as the goals. The framework describes a comprehensive approach that engages and coordinates multiple systems and addresses all stages of the life course. Policy areas are divided into nine categories, spanning the public health, behavioral health, children services, law enforcement and criminal justice systems. See the glossary on page 8 for definitions of these categories, examples and state agencies with a leadership role.

HPIO Addiction Evidence Project

There is evidence for what works to prevent, treat and recover from addiction. Progress is being made across the country and throughout Ohio, but more can be done to identify and implement effective strategies in a widespread and coordinated way.

The HPIO Addiction Evidence Project will provide state policymakers and other stakeholders with tools to:

- Quickly find existing information about what works
- Review addiction policy changes enacted in Ohio in recent years
- Assess the extent to which new policies align with existing standards and evidence
- Identify areas where Ohio policy can be better aligned with standards and evidence, including potential gaps in Ohio's response to the opiate crisis

HPIO plans to post three types of tools on the [HPIO Addiction Evidence Project](#) website:

- **Evidence resource pages:** Hubs for clinical standards and guidelines, expert consensus statements and recommendations, model policies and evidence registries
- **Policy inventories:** Lists of Ohio legislation, regulations, funding allocation amounts, practice guidelines, state agency initiatives and legislative initiatives
- **Policy scorecards:** Analysis of strengths and gaps in Ohio's policy response to addiction

Process and timeline

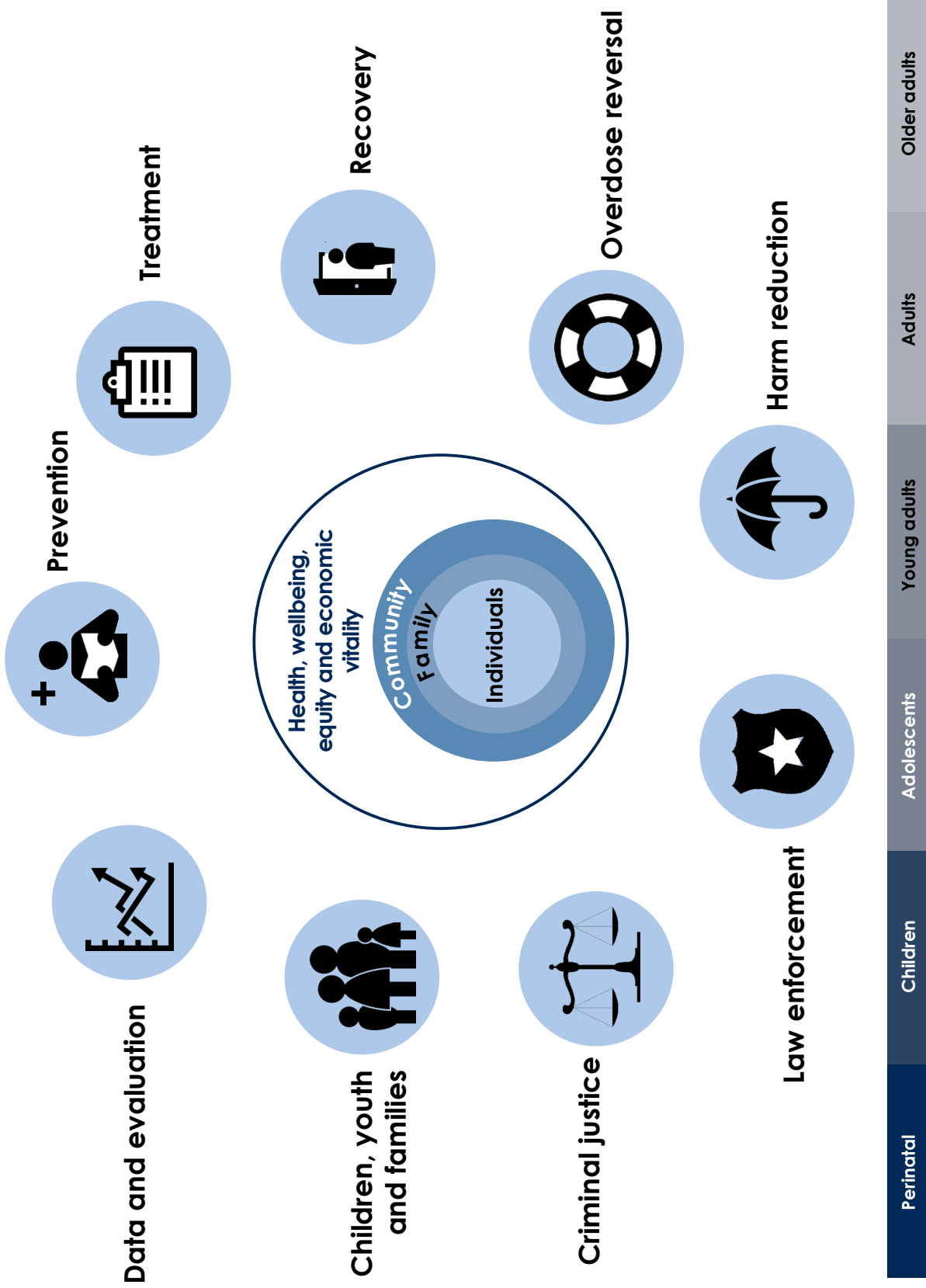
Starting in May 2017, HPIO began convening an Addiction Evidence Advisory Group made up of 21 representatives from state and local, public and private organizations with expertise in prevention, behavioral health treatment and recovery, child welfare and criminal justice (see list on page 10). This group identified a role for HPIO to help policymakers navigate the large volume of information about addiction, find credible sources of evidence and take stock of the effectiveness of current approaches to the opiate crisis.

Throughout 2018 and 2019, HPIO plans to continue working with the Advisory Group and to launch the evidence resource pages, policy inventories and policy scorecards described

above. HPIO will develop these tools in phases, starting with prevention, treatment and recovery. The first product, [Evidence resource page: Prevention, treatment and recovery](#), was released in December 2017.

HPIO plans to release the policy inventory and policy scorecard for prevention, treatment and recovery in 2018. Future phases will address the other topics listed in figure 6, depending on resource availability and capacity.

Figure 6. Key elements of a comprehensive policy response to addiction



Source: Health Policy Institute of Ohio adapted from Addiction Policy Forum (2017)

Glossary

Key element from Figure 6	Definition	Examples	State agencies with leadership role
Prevention	<p>Interventions delivered prior to the onset of a disorder.</p> <p>Intended to prevent or reduce the risk of developing problem, such as underage alcohol use, prescription drug misuse or abuse and illicit drug use.</p> <p>May also include general health promotion strategies designed to create environments and conditions that support behavioral health and the ability of individuals to withstand challenges.²⁷</p>	<ul style="list-style-type: none"> • Home visiting programs to strengthen families, such as the Nurse-Family Partnership • School-based programs, such as the Good Behavior Game or Life Skills Training • Policies to reduce youth access to addictive substances, such as raising minimum age to buy tobacco products (Tobacco 21) • Start Talking! Campaign • Ohio Joint Study Committee on Drug Use Prevention • Opioid prescribing guidelines • Healthcare provider screening for alcohol and other drug use, such as Screening, Brief Intervention, and Referral to Treatment (SBIRT) 	<ul style="list-style-type: none"> • Ohio Department of Mental Health and Addiction Services • Ohio Department of Health • State of Ohio Board of Pharmacy • State Medical Board of Ohio • Ohio Attorney General
Treatment	<p>The use of any planned, intentional intervention in the health, behavior, personal and/or family life of an individual suffering from alcoholism or from another drug dependency designed to enable the affected individual to achieve and maintain sobriety, physical and mental health, and a maximum functional ability.²⁸</p>	<ul style="list-style-type: none"> • Outpatient counseling • Residential/inpatient services • Detoxification/ withdrawal management with follow-up care • Medication Assisted Treatment • Drug Abuse Response Teams (DARTs) and Quick Response Teams (QRTs) 	<ul style="list-style-type: none"> • Ohio Department of Mental Health and Addiction Services • Ohio Department of Medicaid • State of Ohio Board of Pharmacy • State Medical Board of Ohio • Ohio Attorney General
Recovery	<p>A process of change through which individuals improve their health and wellness, live a self-directed life and strive to reach their full potential.²⁹</p>	<ul style="list-style-type: none"> • 12-step programs, such as Alcoholics Anonymous • Recovery housing • Peer support 	<p>Ohio Department of Mental Health and Addiction Services</p>
Harm reduction	<p>Policies, programs and practices that aim primarily to reduce the adverse health, social and economic consequences of the use of legal and illegal psychoactive drugs without necessarily reducing drug consumption.³⁰</p>	<ul style="list-style-type: none"> • Syringe service programs (needle exchanges) to reduce transmission of HIV, Hepatitis C and other blood-borne diseases • Outreach and education services for people who use substances to encourage safer behavior and engagement with treatment • Overdose reversal (see below) 	<p>Ohio Department of Health</p>
Overdose reversal	<p>The use of naloxone (Narcan) or other medical intervention to reverse respiratory depression, caused by opioids that would otherwise have been harmful or fatal.³¹</p>	<ul style="list-style-type: none"> • Project DAWN naloxone education and distribution program • Naloxone rebate to first responders through the Attorney General's office • Good Samaritan laws to provide immunity from prosecution to those seeking emergency help for an overdose victim 	<ul style="list-style-type: none"> • Ohio Department of Health • Ohio Department of Public Safety • Ohio Department of Mental Health and Addiction Services • Ohio Attorney General
Surveillance and evaluation (also referred to as data and evaluation)	<p>Surveillance is the continuous, systematic collection, analysis and interpretation of health-related data needed for the planning, implementation and evaluation of policies and programs.</p> <p>Evaluation is the examination of the worth, merit, or significance of those policies and programs.³²</p>	<ul style="list-style-type: none"> • Vital Statistics reports on overdose death trends • Ohio Automated Rx Report System (OARRS) reports on opioid prescribing trends 	<ul style="list-style-type: none"> • Ohio Department of Health • State of Ohio Board of Pharmacy

Glossary (cont.)

Key element from Figure 6	Definition	Examples	State agencies with leadership role
Children services (a focus of the children, youth and families key element)	Services, including support for families and caregivers, designed to help children who have been or are at risk of becoming victims of abuse or neglect, commonly referred to as child protective services. ³³	<ul style="list-style-type: none"> • Case management to prevent out-of-home placements • Foster care • Group homes and residential care 	Ohio Department of Job and Family Services
Law enforcement	The activities of the agencies responsible for maintaining public order and enforcing the law, particularly the activities of prevention, detection and investigation of crime and the apprehension of criminals. ³⁴	<ul style="list-style-type: none"> • Interdiction (seizures of illegal drugs) • Enforcement of opioid prescribing and distribution regulations • Bureau of Criminal Investigation lab testing 	<ul style="list-style-type: none"> • Ohio Attorney General • Ohio Department of Public Safety • State of Ohio Board of Pharmacy • State Medical Board of Ohio
Criminal justice	The criminal justice system is the collection of institutions involved in apprehending, prosecuting, defending, sentencing and punishing those who are suspected or convicted of criminal offenses. ³⁵	<ul style="list-style-type: none"> • Drug courts • Sentencing reform • Re-entry services 	<ul style="list-style-type: none"> • Ohio Attorney General • Ohio Supreme Court • Ohio Department of Rehabilitation and Corrections • Ohio Department of Youth Services

Related items	Definition
Addiction	<p>A primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.</p> <p>Characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one's behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission.³⁶</p>
Dependence	A state in which an organism only functions normally in the presence of a substance, experiencing physical disturbance when the substance is removed. A person can be dependent on a substance without being addicted, but dependence sometimes leads to addiction. ³⁷
Opiate/opioid	<p>Opiates include the illegal drug heroin, synthetic opioids such as fentanyl, and pain relievers available legally by prescription, such as oxycodone (OxyContin®), hydrocodone (Vicodin®), codeine, morphine, and many others. These drugs are chemically related and interact with opioid receptors on nerve cells in the body and brain.</p> <p>Opioid pain relievers are generally safe when taken for a short time and as prescribed by a doctor, but because they produce euphoria in addition to pain relief, they can be misused.³⁸</p>
Prescription Drug Monitoring Program (PDMP)	<p>An electronic database that tracks controlled substance prescriptions in a state.³⁹</p> <p>Ohio's PDMP is called Ohio Automated Rx Report System (OARRS).</p>
Substance use disorder	<p>A medical illness caused by repeated misuse of a substance or substances. Substance use disorders are characterized by clinically significant impairments in health, social function and impaired control over substance use and are diagnosed through assessing cognitive, behavioral and psychological symptoms.</p> <p>Substance use disorders range from mild to severe and from temporary to chronic. They typically develop gradually over time with repeated misuse, leading to changes in brain circuits governing incentive salience (the ability of substance-associated cues to trigger substance seeking), reward, stress, and executive functions like decision making and self-control. Note: Severe substance use disorders are commonly called addictions.⁴⁰</p>
Withdrawal management (also referred to as "detox" or "detoxification")	<p>The medical and psychological care of patients who are experiencing withdrawal symptoms as a result of ceasing or reducing use of their drug of dependence.⁴¹</p> <p>Medically-assisted detoxification is only the first stage of addiction treatment and by itself does little to change long-term drug abuse.⁴²</p>

HPIO Addiction Evidence Project Advisory Group

Name	Organization
Carol Baden	Ohio Attorney General
Andrea Boxill	Ohio Department of Mental Health and Addiction Services; The Governor's Cabinet Opiate Action Team
Lori Criss	Ohio Council of Behavioral Health & Family Service Providers
Jolene Defiore-Hyrmer	Ohio Department of Health
Joan Englund	Mental Health Advocacy Coalition
Paul Hicks	Ohio Hospital Association
Shancie Jenkins	Ohio Department of Health
Lesli Johnson	Ohio University
Teresa Long	Columbus Public Health (former)
Dustin Mets	CompDrug
Alisha Nelson	Ohio Attorney General
Amy O'Grady	City of Columbus
Jim Ryan	Alcohol and Drug Abuse Prevention Association of Ohio
Shawn Ryan	BrightView
Stephen Snyder-Hill	Columbus Public Health
Ann Spicer	Ohio Academy of Family Physicians
Molly Stone	Ohio Department of Mental Health and Addiction Services
Mary Wachtel	Public Children Services Association of Ohio
Cheri Walter	Ohio Association of County Behavioral Health Authorities
Kathy Yokum	Ohio Department of Mental Health and Addiction Services

Notes

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HPIO core funders

- Interact for Health
- Mt. Sinai Health Care Foundation
- The George Gund Foundation
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- The Cleveland Foundation
- HealthPath Foundation of Ohio
- Sisters of Charity Foundation of Canton
- Sisters of Charity Foundation of Cleveland
- Cardinal Health Foundation
- United Way of Greater Cincinnati
- United Way of Central Ohio
- Mercy Health
- CareSource Foundation
- SC Ministry Foundation



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