JOINT STATE GOVERNMENT COMMISSION

General Assembly of the Commonwealth of Pennsylvania

OPIOID ADDICTION TREATMENT IN PENNSYLVANIA

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REPORT

Opioid Addiction Treatment in Pennsylvania

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JOINT STATE GOVERNMENT COMMISSION	
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The Joint State Government Commission was created in 1937 as the primary and central non-partisan, bicameral research and policy development agency for the General Assembly of Pennsylvania.[1]

A fourteen-member Executive Committee comprised of the leadership of both the House of Representatives and the Senate oversees the Commission. The seven Executive Committee members from the House of Representatives are the Speaker, the Majority and Minority Leaders, the Majority and Minority Whips, and the Majority and Minority Caucus Chairs. The seven Executive Committee members from the Senate are the President Pro Tempore, the Majority and Minority Leaders, the Majority and Minority Whips, and the Majority and Minority Caucus Chairs. By statute, the Executive Committee selects a chairman of the Commission from among the members of the General Assembly. Historically, the Executive Committee has also selected a Vice-Chair or Treasurer, or both, for the Commission.

The studies conducted by the Commission are authorized by statute or by a simple or joint resolution. In general, the Commission has the power to conduct investigations, study issues, and gather information as directed by the General Assembly. The Commission provides in-depth research on a variety of topics, crafts recommendations to improve public policy and statutory law, and works closely with legislators and their staff.

A Commission study may involve the appointment of a legislative task force, composed of a specified number of legislators from the House of Representatives or the Senate, or both, as set forth in the enabling statute or resolution. In addition to following the progress of a particular study, the principal role of a task force is to determine whether to authorize the publication of any report resulting from the study and the introduction of any proposed legislation contained in the report. However, task force authorization does not necessarily reflect endorsement of all the findings and recommendations contained in a report.

Some studies involve an appointed advisory committee of professionals or interested parties from across the Commonwealth with expertise in a particular topic; others are managed exclusively by Commission staff with the informal involvement of representatives of those entities that can provide insight and information regarding the particular topic. When a study involves an advisory committee, the Commission seeks consensus among the members.[2] Although an advisory committee member may represent a particular department, agency, association, or group, such representation does not necessarily reflect the endorsement of the

[1] Act of July 1, 1937 (P.L.2460, No.459) (46 P.S. § 65), amended by the act of June 26, 1939 (P.L.1084, No.380); the act of March 8, 1943 (P.L.13, No.4); the act of May 15, 1956 (1955 P.L.1605, No.535); the act of December 8, 1959 (P.L.1740, No.646); and the act of November 20, 1969 (P.L.301, No.128).

[2] Consensus does not necessarily reflect unanimity among the advisory committee members on each individual policy or legislative recommendation. However, it does, at a minimum, reflect the views of a substantial majority of the advisory committee, gained after lengthy review and discussion.

department, agency, association, or group of all the findings and recommendations contained in a study report.

Over the years, nearly one thousand individuals from across the Commonwealth have served as members of the Commission's numerous advisory committees or have assisted the Commission with its studies. Members of advisory committees bring a wide range of knowledge and experience to deliberations involving a particular study. Individuals from countless backgrounds have contributed to the work of the Commission, such as attorneys, judges, professors and other educators, state and local officials, physicians and other health care professionals, business and community leaders, service providers, administrators and other professionals, law enforcement personnel, and concerned citizens. In addition, members of advisory committees donate their time to serve the public good; they are not compensated for their service as members. Consequently, the Commonwealth of Pennsylvania receives the financial benefit of such volunteerism, along with the expertise in developing statutory language and public policy recommendations to improve the law in Pennsylvania.

The Commission periodically reports its findings and recommendations, along with any proposed legislation, to the General Assembly. Certain studies have specific timelines for the publication of a report, as in the case of a discrete or timely topic; other studies, given their complex or considerable nature, are ongoing and involve the publication of periodic reports. Completion of a study, or a particular aspect of an ongoing study, generally results in the publication of a report setting forth background material, policy recommendations, and proposed legislation. However, the release of a report by the Commission does not necessarily reflect the endorsement by the members of the Executive Committee, or the Chair or Vice-Chair of the Commission, of all the findings, recommendations, or conclusions contained in the report. A report containing proposed legislation may also contain official comments, which may be used in determining the intent of the General Assembly.[3]

Since its inception, the Commission has published more than 350 reports on a sweeping range of topics, including administrative law and procedure; agriculture; athletics and sports; banks and banking; commerce and trade; the commercial code; crimes and offenses; decedents, estates, and fiduciaries; detectives and private police; domestic relations; education; elections; eminent domain; environmental resources; escheats; fish; forests, waters, and state parks; game; health and safety; historical sites and museums; insolvency and assignments; insurance; the judiciary and judicial procedure; labor; law and justice; the legislature; liquor; mechanics' liens; mental health; military affairs; mines and mining; municipalities; prisons and parole; procurement; state-licensed professions and occupations; public utilities; public welfare; real and personal property; state government; taxation and fiscal affairs; transportation; vehicles; and workers' compensation.

Following the completion of a report, subsequent action on the part of the Commission may be required, and, as necessary, the Commission will draft legislation and statutory amendments, update research, track legislation through the legislative process, attend hearings, and answer questions from legislators, legislative staff, interest groups, and constituents.

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[3] 1 Pa.C.S. § 1939 ("The comments or report of the commission . . . which drafted a statute may be consulted in the construction or application of the original provisions of the statute if such comments or report were published or otherwise generally available prior to the consideration of the statute by the General Assembly").

General Assembly of the Commonwealth of Pennsylvania
JOINT STATE GOVERNMENT COMMISSION
Room 108 Finance Building - 613 North Street
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June 27, 2017

To the Members of the General Assembly of Pennsylvania:

The Joint State Government Commission is pleased to announce the release of the report, ***Opioid Addiction Treatment in Pennsylvania***, written in response to House Resolution 893 of 2016.

HR893 directed the Commission to review the current services and programs available to Pennsylvania residents who are suffering from substance abuse disorders related to opioids. The report explores the effectiveness and expense of medications and alternatives to medications that are applied in addiction treatment modalities.

The report is available on our website, at http:/jsg.legis.state.pa.us.

Respectfully submitted,

Glenn J. Pasewicz
Executive Director

cc: Representative Florindo Fabrizio, Chairman, Joint State Government Commission
Senator John C. Rafferty Jr., Vice-Chair, Joint State Government Commission

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EXECUTIVE SUMMARY

House Resolution 893 of 2016 directed the Joint State Government Commission to conduct a study and publish a report on the benefits, costs, and drawbacks of alternative opioid dependence treatment programs that utilize Federal Food and Drug Administration-approved medications. Medications are used in many detoxification, treatment, and rehabilitation programs throughout Pennsylvania and the U.S. Whether or not medication assisted treatment (MAT) is included in a patient's plan, each plan includes other modalities that are integral to treatment and rehabilitation. Research shows no single approach, such as MAT or counseling, is as effective on its own as when multiple therapies are used in conjunction with one another.

Analogies may be drawn between addiction as a chronic disease and other common chronic diseases such as diabetes and heart disease. Dietary and nutritional counseling, support services, and lifestyle changes can provide helpful, healthful benefits to those afflicted. It is nonetheless accepted for many patients that medications are necessary. Conversely, in the absence of other treatments and supports, medications do not often yield long term positive outcomes.

This report provides background data and information on the scope of drug overdoses, opioids in particular, in Pennsylvania and the U.S. It examines the costs associated with illicit use of opioids, and provides a comprehensive review of the many types of treatments currently in use by detoxification, treatment, and rehabilitation programs. The report includes an overview of the numerous federal, state, and county agencies that regulate substance abuse disorder (SUD) programs, and also presents the roles of private sector insurers and accreditation bodies. The resolution asked for an analysis of the feasibility of reopening closed state hospitals as potential sites for drug treatment and rehabilitation centers. The topic was not considered viable by the Pennsylvania Department of Health because some of the hospitals stand vacant and would be prohibitively expensive to reopen, the Commonwealth has divested itself of some of the properties, and others are in use for other public health purposes. Finally, the report presents information on programs that have earned national acceptance for their successes in Pennsylvania and other states.

INTRODUCTION

The opioid class of drugs, that is, substances that are derived from or are pharmacologically similar to opiates, comprise a powerful family of analgesics that carry with them a significant risk of addiction. The wide availability of opioid analgesics has been both a blessing, in that many Pennsylvanians have been able to manage debilitating pain and consequently return to productive lives, and a curse, in that tragic numbers of lives have been destroyed as a consequence of opioid addiction.

Too many people are familiar with stories about family members, friends, or neighbors who have been trapped by addiction. "I knew I was addicted when the first prescription ran out," one high school athlete told her drug addiction counselor. Anecdotally, opioids are widely available in the construction and roofing industries, "It's such a physically demanding job, they rely on the pills to work through the day," according to another drug addiction counselor. Furthermore, access to alternative pain management treatments may rely as much on a patient's ability to comply with treatment as it does on whether the alternative resources are available at all.

Until recently, most people, whether health professionals or laymen, regarded the opioids as one of the most powerful tools in pain management. They were considered effective, inexpensive, and their wide availability made the opioids the easy solution for pain. The fine line between using opioid analgesics as a means of controlling one's pain and having one's life controlled by opioid addiction has been blurred by the addiction epidemic. Not only is the push to find effective opioid alternatives urgent, but medical science is reevaluating commonly held notions about the drugs' usefulness.

Research over the past few years is exposing rifts in what has been accepted about opioid effectiveness and the reality of pain management. The National Safety Council cited several studies that show NSAIDs (nonsteroidal anti-inflammatory drug), both prescription and over-the-counter, are in many cases more effective than opioids at relieving acute pain from dental, back, and renal colic pain.[4] Further, evidence supporting the long term use of opioids for chronic pain is either limited or lacking.[5]

A societal shift away from opioids as the first line of defense against acute and chronic pain would be seismic. The United States, despite containing less than 5 percent of the world's population, consumes approximately 80 percent of the global opioid supply, including 99 percent

[4] Donald Teater, MD, Medical Advisor, National Safety Council, *Evidence for the Efficacy of Pain Medications*, nsc.org, n.d., accessed May 16, 2017, http://www.nsc.org/RxDrugOverdoseDocuments/Evidence-Efficacy-Pain-Medications.pdf. "[R]enal colic pain.. . happens when a kidney stone gets stuck in the ureter leading from the kidney to the bladder, obstructing the flow of urine. Many consider renal colic to be one of the most severe pains humans experience. The Cochrane Collaboration concluded that NSAIDs and opioids are both effective. The review does mention that "(10 out of 13) studies reported lower pain scores in patients receiving NSAIDs." NSAIDs also had fewer side effects and required fewer rescue medications, or additional pain medication. 5.

[5] Ibid., 6.

of the hydrocodone supply.[6] Though this widespread and growing use of opioids over the past two decades has been able to help some of the estimated 100 million Americans suffering from chronic pain, it has also had tragic side effects.[7] As rates of prescribing opioid analgesics have dramatically risen, so have admissions for opioid addiction treatment and opioid overdose deaths.

The drug and alcohol treatment and rehabilitation system involves federal, state, and county authorities in the form of funding, oversight, dissemination of best practices for providers, and health benefits coverage for individual patients. Pennsylvania's state government entities include the Departments of Drug and Alcohol Programs (DDAP), the Department of Health (DOH), and the Department of Human Services (DHS). Pennsylvania's county governments coordinate their efforts with the state through Single County Authorities (SCAs). More recently, the state initiated a plan to establish Centers for Excellence, which coordinate drug and alcohol treatment and rehabilitation services at the local level in a manner similar to the function of SCAs. Private health systems and service providers provide drug and alcohol treatment and rehabilitation through collaboration with public health authorities and through arrangements with health insurance providers.

The Epidemic by the Numbers

Those with the highest risk of an opioid overdose death are between the ages of 25 and 54. However, adults aged 55 to 64 saw a more than seven-fold increase from 1999 to 2013. Fifty-six percent of overdoses are among men, and men are 59 percent more likely than women to die of an overdose. The gender gap, however, is closing at an astonishing rate. Between 1999 and 2010, overdose deaths from prescription pain medications among women increased more than 400 percent. The incidence of overdose death for men continued to grow as well, by an alarming 265 percent.

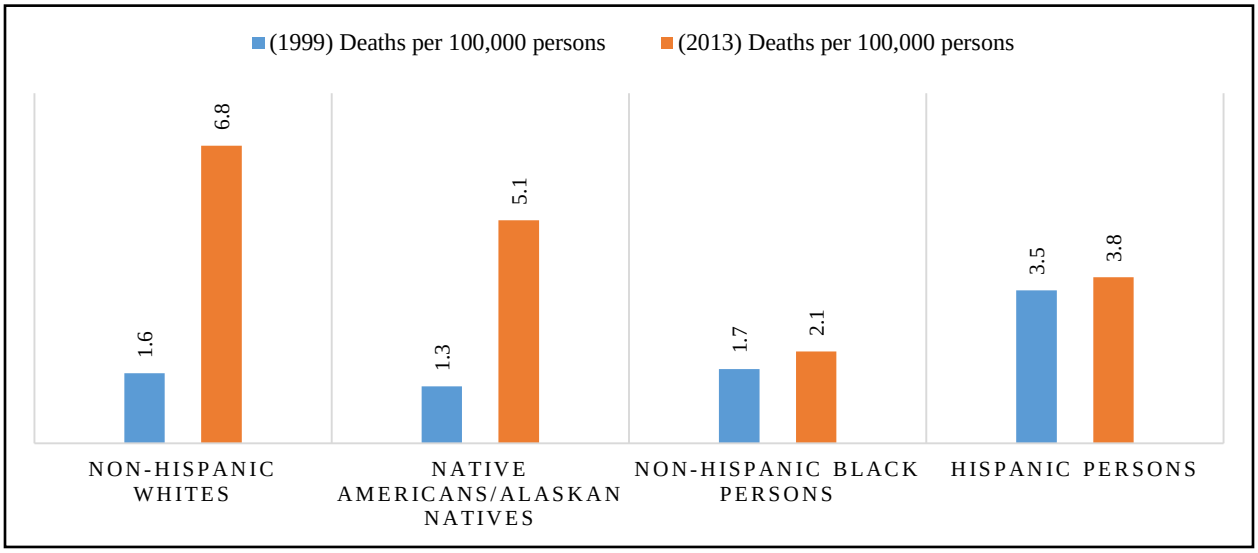
The majority of those overdosing on prescription painkillers are non-Hispanic whites. From 1999 to 2013, this population saw an increase from 1.6 to 6.8 deaths per 100,000 persons. Native Americans (including Alaska Natives) also have higher rates of overdose than people identifying as other races or ethnicities; their rates increased from 1.3 to 5.1. Non-Hispanic Black persons saw a significant increase; from 0.9 to 2.5. The Hispanic population saw minor increases from 1.7 to 2.1 per 100,000. It is estimated that 10 percent of Native Americans, 5 percent of whites, and 3 percent of blacks were using prescription pain medication for nonmedical uses.[8] See Figure 1.

[6] Laxmaiah Manchikanti and Angelie Singh, "Therapeutic Opioids: A Ten-Year Perspective on the Complexities and Complications of the Escalating Use, Abuse, and Nonmedical Use of Opioids," *Pain Physician Journal*, 2008, accessed March 18, 2015, http://www.painphysicianjournal.com/2008/march/2008;11;S63-S88.pdf.

[7] "Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research," *Institute of Medicine of the National Academies* (June 29, 2011), https://www.iom.edu/Reports/2011/Relieving-Pain-in-America-A-Blueprint-for-Transforming-Prevention-Care-Education-Research.aspx.

[8] "Prescription Drug Overdose Data," Centers for Disease Control and Prevention, last updated April 3, 2015, accessed April 6, 2015, http://www.cdc.gov/drugoverdose/data/overdose.html.

Figure 1.
U.S. Overdoses per 100,000 People
by Race
1999 and 2013



Source: https://www.cdc.gov/drugoverdose/data/overdose.html/

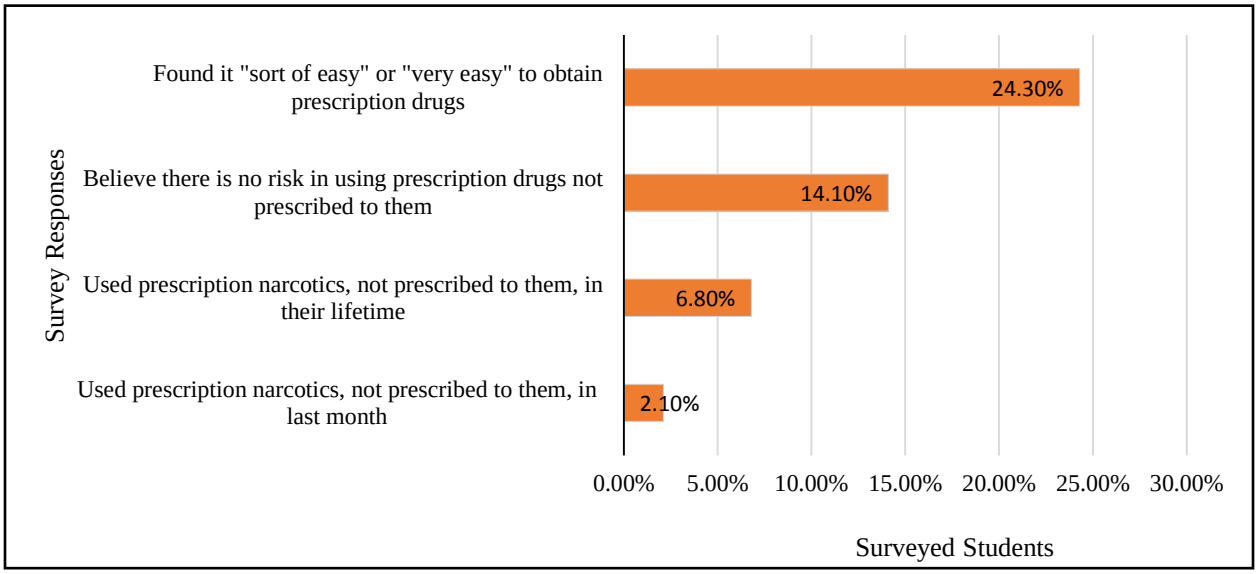
Additionally, people residing in rural counties were twice as likely as those residing in urban areas to suffer an overdose, and some of the nation's most rural states have the highest death by overdose rates. [9]

Pennsylvania Youth

Illicit prescription opioids have a significant impact on Pennsylvania's youth. According to the most recent Pennsylvania Youth Survey, which surveyed students in 6th, 8th, 10th, and 12th grade across the state, 2.1 percent of students used prescription narcotics that were not prescribed to them in the past month. Use increased for each grade level. Further, 6.8 percent of students said that in their lifetime they had used prescription narcotics that were not prescribed to them. These numbers were relatively stable from the previous survey in 2011. Not surprisingly, the percent of youth using grew with age; while 2.1 percent of 6th graders admitted to taking pills not prescribed to them, the numbers grew to 12.1 percent for 12th graders. Another 14.1 percent of students believed there was little to no risk in using prescription drugs not prescribed to them and 24.3 percent said it would be "sort of easy" or "very easy" to obtain prescription drugs.[10] See Figure 2.

[9] "Prescription Pain Killer Overdoses in the U.S.," Centers for Disease Control and Prevention, last updated November 1, 2011, accessed June 24, 2014, http://www.cdc.gov/vitalsigns/PainkillerOverdoses/index.html.
[10] Pennsylvania Youth Survey (PAYS), fall 2013, http://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-%28PAYS%29.aspx#.VWxmYUYjdp8.

Figure 2.
Pennsylvania Youth
Illicit Opioid Use
2011



Source:http://www.pccd.pa.gov/JuvenileJustice/Documents/2013%20PAYS%20State%20Report%20Final%2006112014.pdf

Prison Population

It is estimated that 50 percent of America's adult prison population has a substance abuse or dependence issue and between 12 and 15 percent have a history of heroin addiction. Those committing more serious offenses have rates closer to 25 percent. Despite this, just 15 percent of inmates who used drugs 30 days prior to their incarceration received proper substance abuse treatment. [11]

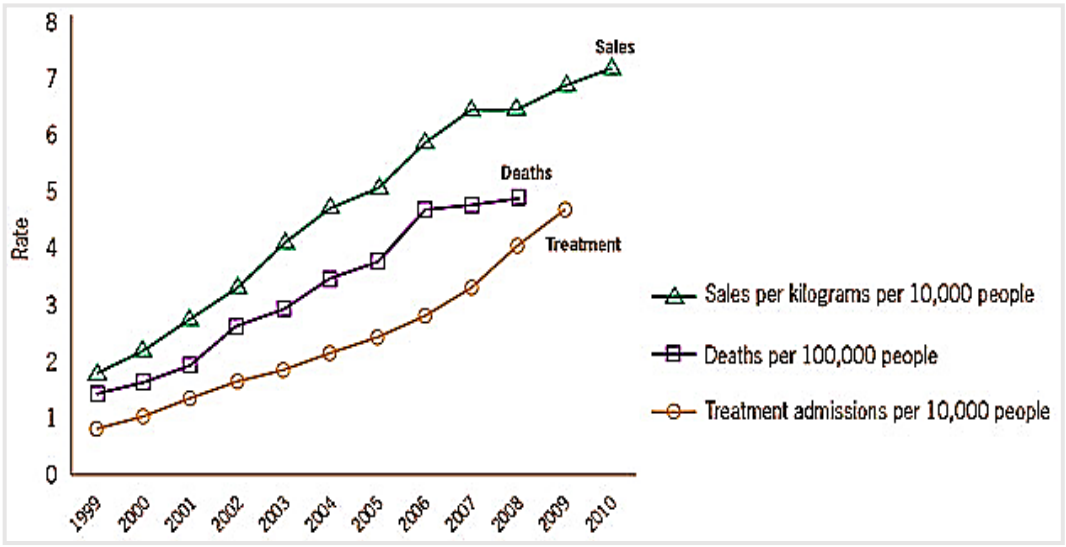
In Pennsylvania, it is estimated that 70 to 80 percent of criminal offenders have substance abuse problems. Often this abuse can be directly linked to their criminal behavior. In 2013, the Pennsylvania Office of Attorney General's Bureau of Narcotics Investigations made 522 arrests related to heroin, accounting for 38 percent of drug arrests**.** In 2014, 748 arrests involving heroin were made, which is almost 50 percent of drug arrests made by the Bureau. [12]

U.S. and Pennsylvania Trends

Figure 3 depicts the rates of prescription painkiller sales, deaths, and substance abuse treatment admissions in the U.S. from 1999 to 2010.

[11] Anna Pecoraro and George E. Woody, "Medication-assisted treatment for opioid dependence: making a difference in prisons," *F1000 Medicine Reports*, January 2011, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3042317.
[12] Alyssa Weinhold e-mail message to Commission staff, April 9, 2015.

Figure 3.
Rates of Prescription Painkiller Sales, Deaths, and Substance Abuse Treatment Admissions
U.S.
1999 to 2010



Sources: National Vital Statistics System, 1999-2008; Automation of Reports and Consolidated Orders System (ARCOS) of the Drug Enforcement Administration (DEA), 1999-2010; Treatment Episode Data Set, 1999-2009 http://www.cdc.gov/vitalsigns/painkilleroverdoses/infographic.html

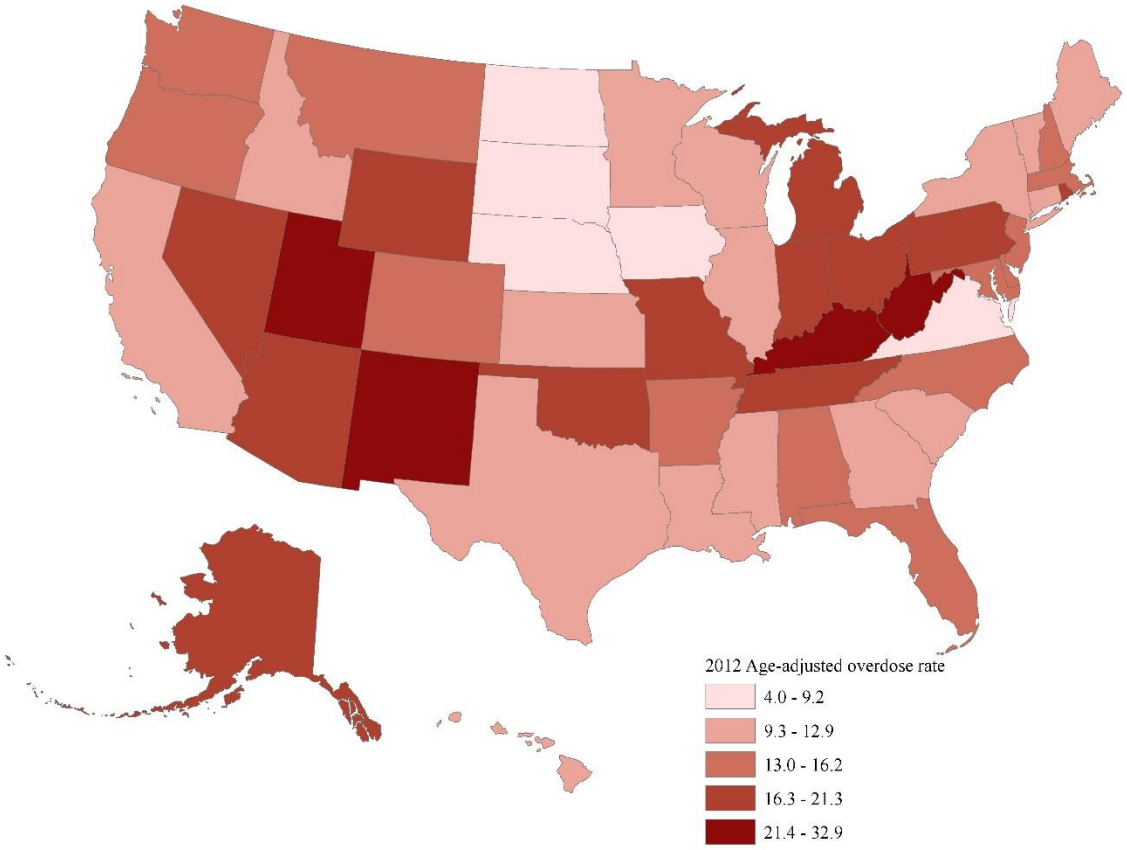
In 2012, health care providers in the U.S. wrote 259 million prescriptions for painkillers; enough to medicate every American adult around-the-clock for one month. At the same time, 44 people died each day from an overdose of prescription painkillers.[13] This amounted to 16,007 deaths, accounting for nearly 40 percent of all drug-poisoning deaths. Furthermore, deaths from opioid analgesics have more than tripled since 1999, from 1.4 deaths per 100,000 to 5.1 deaths in 2012. There was a decline of 5 percent from 2011 to 2012, the first decrease seen in over a decade.[14] The death rate climbed yet higher in 2013; the data show 16,235 deaths involved opioid analgesics in the U.S., an increase of 1 percent from the 2012.[15]

The CDC's WONDER database allows comparisons of the states' death rates due to overdoses from all drugs. Pennsylvania ranks among the 12 states with the highest death rates from

[13] "Opioid Painkiller Prescribing," Centers for Disease Control and Prevention. Last updated July 1, 2014, accessed January 30, 2015. http://www.cdc.gov/vitalsigns/opioid-prescribing/.
[14] Margaret Warner, Holly Hedegaard, and Li-Hui Chen, "Trends in Drug-Poisoning Deaths Involving Opioid Analgesics and Heroin: United States, 1999-2012," Centers for Disease Control and Prevention, December 2014, accessed March 18, 2015. http://www.cdc.gov/nchs/data/hestat/drug_poisoning/drug_poisoning_deaths_1999-2012.pdf.
[15] "Prescription Drug Overdose in the United States: Fact Sheet," Centers for Disease Control and Prevention, last updated March 2, 2015, accessed March 30, 2015.

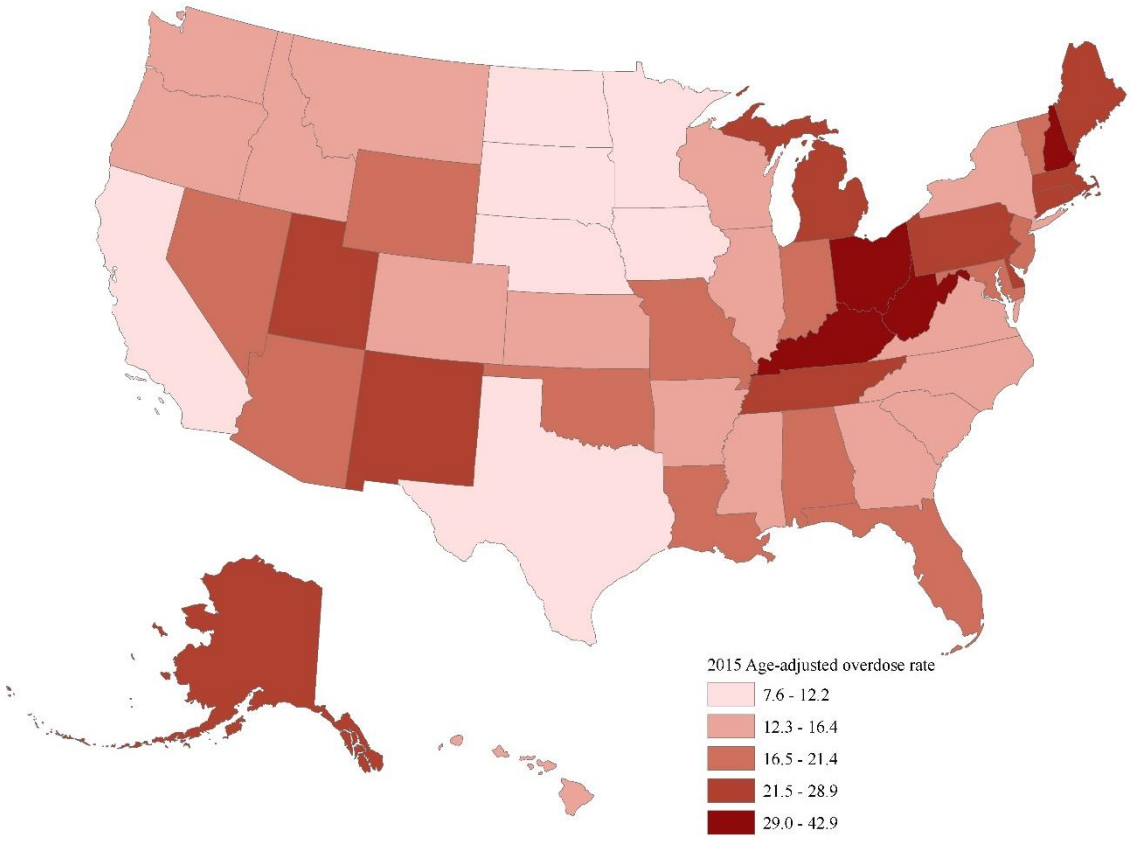
drug overdoses. As of 2008, the death rate in Pennsylvania due to drug overdose was 15.1 per 100,000 persons. Map 1 shows the 2008 overdose drug rates by state.

Map 1.
Age Adjusted Overdose Death Rate
Per 100,000
2008



Source: "Prescription Pain Killer Overdoses in the US" Centers for Disease Control and Prevention. Last updated November 1, 2011. Accessed June 24, 2014. http://www.cdc.gov/vitalsigns/PainkillerOverdoses/index.html.

Map 2.
Age Adjusted Overdose Death Rate
Per 100,000
U.S.
2015



Age adjusted overdose death rate per 100,000 U.S. 2015, "CDC WONDER" website, accessed May 17, 2017, https://wonder.cdc.gov/controller/datarequest/D77;jsessionid=4DA78EC787982AAD889A8CF57E21539C.

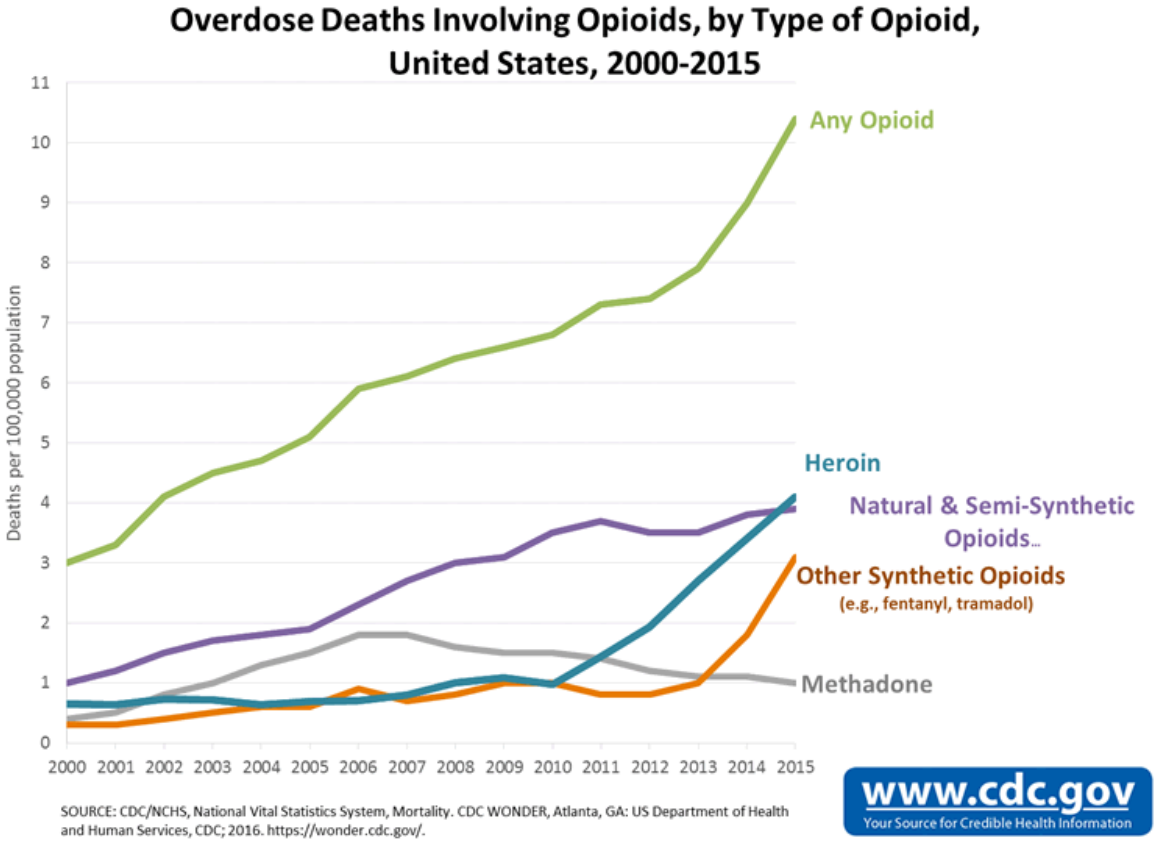
Map 2 shows a depiction of the states' rates in 2015. A glance at the map confirms the common perceptions of the U.S. drug epidemic. The dark red states, having death rates between 23 and 43 per 100,000 people, stretch from Pennsylvania to the southwest through most of Appalachia and west and north through Ohio and Michigan. This concentration composes the nation's largest area of high drug overdose rates, and is comprised of both large urban centers, large rural populations, and six state government jurisdictions.

According to a recent report, 20 to 30 percent of opioids prescribed for chronic pain are being misused.[16] The rate of addiction was found to be roughly 10 percent among chronic pain patients.[17] Moreover, there are approximately 5 million Americans abusing prescription opioid pain relievers;[18] an estimated 2.1 million of whom are suffering from substance use disorders related to these drugs.[19] Among Pennsylvanians, slightly fewer than 8 percent of residents reported that they had taken illicit prescription pain medication in the previous month; the national average was 8.82 percent.[20]

Figure 4 shows the overdose death rates associated with four types of opioids.[21] Methadone-associated deaths hovered between one and two deaths per 100,000 people from 2000 to 2015, a stable rate relative to the other types of opioids. Death rates for the categories Heroin, Natural and Semi-synthetic Opioids, and Other Synthetic Opioids were similar to Methadone's in 2000. Natural and Semi-synthetic Opioids had a death rate of approximately 1 per 100,000. Heroin is shown at about 0.6 per 100,000, and Other Synthetic Opioids is shown at about 0.5 per 100,000.

[16] Opioid misuse is defined as use contrary to the directed or prescribed pattern of use, regardless of the presence or absence of harm or adverse effects.
[17] C.J. Arlotta, "Opioid Misuse In Chronic Pain Patients Is Around 25%, New Study Shows," *Forbes*, (April 1, 2015), http://www.forbes.com/sites/cjarlotta/2015/04/01/opioid-misuse-in-chronic-pain-patients-is-around-25-new-study-shows/.
[18] "Topics in Brief: Prescription Drug Abuse," National Institute on Drug Abuse December 2011, www.drugabuse.gov/publications/topics-in brief/prescription-drug-abuse.
[19] "Results from the 2012 National Survey on Drug Use and Health: Summary of National Findings," Substance Abuse and Mental Health Services Administration, NSDUH Series H-46, HHS Publication No. (SMA) 13-4795, (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2013).
[20] "National Survey on Drug Use and Health," (NSDUH 2009-2010), http://www.samhsa.gov/data/NSDUH/2k10State/NSDUHsae2010/Index.aspx.
[21] CDC/NCHS, National Vital Statistics System, Mortality, CDC WONDER, Atlanta, GA: U.S. Department of Health and Human Services, CDC:2016, https://wonder.cdc.gov.

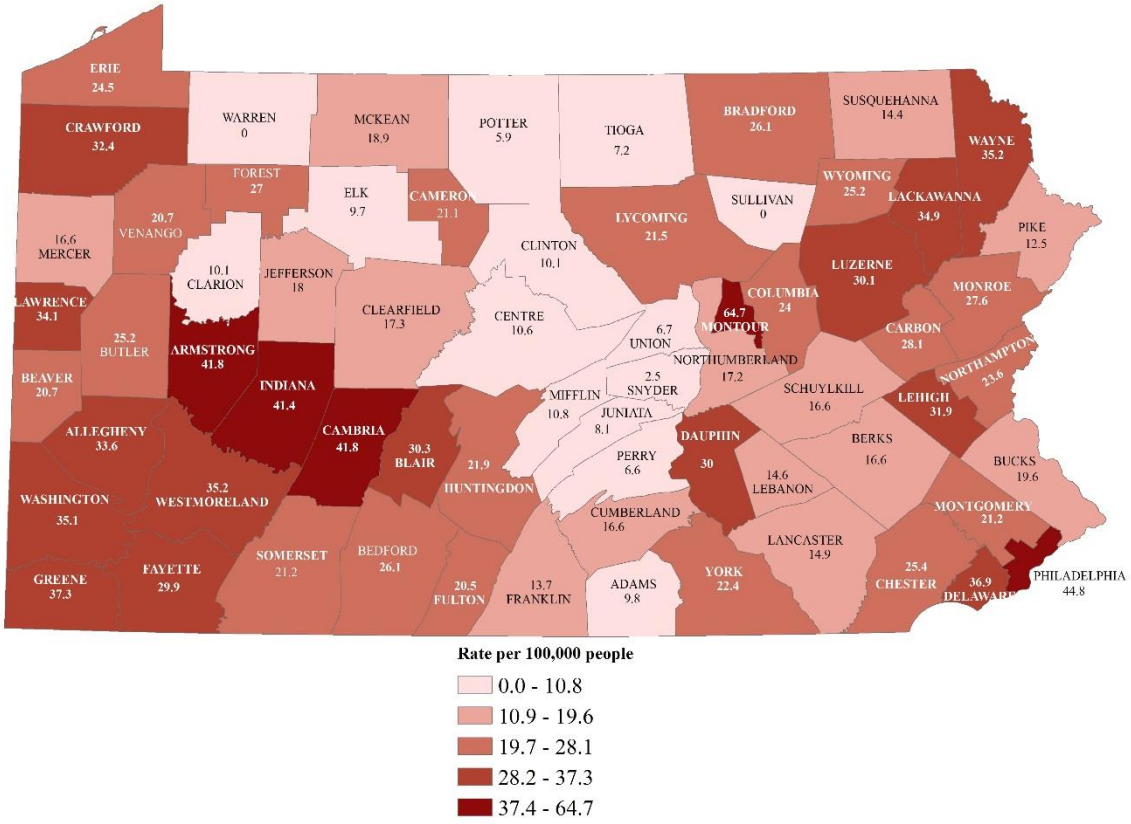
Figure 4.



Taken together, the full extent of the opioids death rate has grown from 3 to 10 people per 100,000 over the 15 year period. In other words, the death rate has more than tripled.

In contrast to the stable death rate associated with Methadone, the other three categories markedly diverge from their starting point with Methadone. The Natural and Semi-Synthetic Opioids category shows a steady increase in its association with overdoses over the 15 years reported, and ended 2015 at quadruple its starting rate by nearly reaching 4 deaths per 100,000. Despite hovering at or below Methadone for most of the 15 years reported, the Heroin category grew quickly beginning in 2010 and ended at a rate just above 4 in 2015. Beginning in 2013, Other Synthetic Opioids' rate shot upward rapidly and finished at a rate of nearly 3 deaths per 100,000 people. Over that two year period, the alarming increase in deaths associated with Other Synthetic Opioids is shown as going from fewer than 1 to slightly more than 3 per 100,000 people.

Map 3.
County Overdose Rates
Per 100,000
2015



Source: Pennsylvania State Coroners Association, *Report on Overdose Death Statistics 2015*, http://www.pacoroners.org.

A visual examination shows the extent of the devastating effects on the death rate: the dark red counties in the western part of the state reported a death rate in excess of 38 to beyond 48 people per 100,000. Map 3 shows the rate of drug-related overdose rates per 100,000 people in Pennsylvania counties for 2015. Montour County, for example, has a rate of 67.4 deaths per 100,000 people, making its death rate the highest of all counties and substantially worse than those next on the list, including Philadelphia at a rate of 44.8, Armstrong and Cambria with 41.8, and Indiana with 41.4 overdoses per 100,000 people. Table 1 lists the counties in alphabetical order.

Table 1.
Pennsylvania Counties'
Overdose Rates per 100,000 People
2015

County	Rate	County	Rate
Adams	9.8	Juniata	8.1
Allegheny	33.6	Lackawanna	34.9
Armstrong	41.8	Lancaster	14.9
Beaver	20.7	Lawrence	34.1
Bedford	26.1	Lebanon	14.6
Berks	16.6	Lehigh	31.9
Blair	30.3	Luzerne	30.1
Bradford	26.1	Lycoming	21.5
Bucks	19.6	McKean	18.9
Butler	25.2	Mercer	16.6
Cambria	41.8	Mifflin	10.8
Cameron	21.1	Monroe	27.6
Carbon	28.1	Montgomery	21.2
Centre	10.6	Montour	64.7
Chester	25.4	Northampton	23.6
Clarion	10.1	Northumberland	17.2
Clearfield	17.3	Perry	6.6
Clinton	10.1	Philadelphia	44.8
Columbia	24.0	Pike	12.5
Crawford	32.4	Potter	5.9
Cumberland	16.6	Schuylkill	16.6
Dauphin	30.0	Snyder	2.5
Delaware	36.9	Somerset	21.2
Elk	9.7	Sullivan	0.0
Erie	24.5	Susquehanna	14.4
Fayette	29.9	Tioga	7.2
Forest	27.0	Union	6.7
Franklin	13.7	Venango	20.7
Fulton	20.5	Warren	0.0
Greene	37.3	Washington	35.1
Huntingdon	21.9	Wayne	35.2
Indiana	41.4	Westmoreland	35.2
Jefferson	18.0	Wyoming	25.2
		York	22.4

Source: Pennsylvania State Coroners Association, *Report on Overdose Death Statistics 2015*, http://www.pacoroners.org.

The CDC's clinical comments present the numbers without emotion:

> In 2015, 3,383 drug-related overdose deaths were reported in Pennsylvania, an increase of 23.4 percent from the total number of overdose deaths (2,742) reported in 2014[.]

and

> The 2015 statewide drug overdose death rate in Pennsylvania was 26 per 100,000 people, an increase from the reported 2014 rate of 21 per 100,000 people.

Table 2 ranks the 15 states with the highest percent changes from 2013 to 2014 and from 2014 to 2015. Tragically, Pennsylvania's ranking as the 15th highest for 2013 to 2014, with a 12.9 percent increase in drug overdoses, worsened for 2014 to 2015 as the rate climbed to a 20.1 percent increase in overdose deaths.

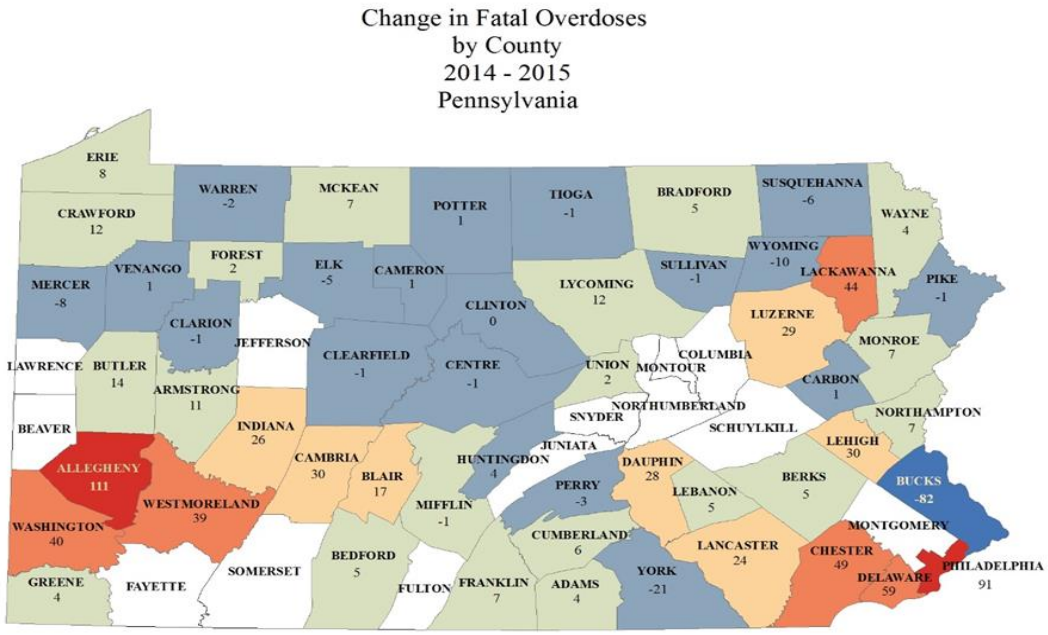
Table 2.
Drug Overdose Death Data
Percent Change
from 2013 to 2014 and from 2014 to 2015

	from 2013 to 2014			from 2014 to 2015		
Rank	**State**	**Significant Increase[1]**	**Change**	**State**	**Significant Increase[1]**	**Change**
1	North Dakota	Yes	125.0%	North Dakota	No	36.5%
2	New Hampshire	Yes	73.5	Massachusetts	Yes	35.3
3	Maine	Yes	27.3	D.C.	No	31.0
4	New Mexico	Yes	20.8	New Hampshire	Yes	30.9
5	Alabama	Yes	19.7	Maine	Yes	26.2
6	Maryland	Yes	19.2	Connecticut	Yes	25.6
7	Massachusetts	Yes	18.8	Florida	Yes	22.7
8	Ohio	Yes	18.3	Ohio	Yes	21.5
9	Alaska	No	16.7	Kentucky	Yes	21.1
10	Virginia	Yes	14.7	Rhode Island	Yes	20.5
11	Arkansas	No	13.5	New York	Yes	20.4
12	Oregon	No	13.3	Maryland	Yes	20.1
13	Michigan	Yes	13.2	**Pennsylvania**	Yes	20.1
14	South Dakota	No	13.0	Vermont	No	20.1
15	**Pennsylvania**	Yes	12.9	Iowa	No	17.0

Source: Injury Prevention & Control: Opioid Overdose "Drug Overdose Data." Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention December 16, 2016. https://www.cdc.gov/drugoverdose/data/statedeaths.html.
1. Significant increase identifies those states whose increase was statistically significant, meaning that the data can be interpreted as reliably indicative of a true increase that is not attributed to random effects in the data.

Maps 4 shows Pennsylvania counties' change in fatal overdoses from 2014 to 2015. The hardest hit counties were Allegheny, which experienced an increase by 111 fatal overdoses, and Philadelphia, which had an increase of 91.

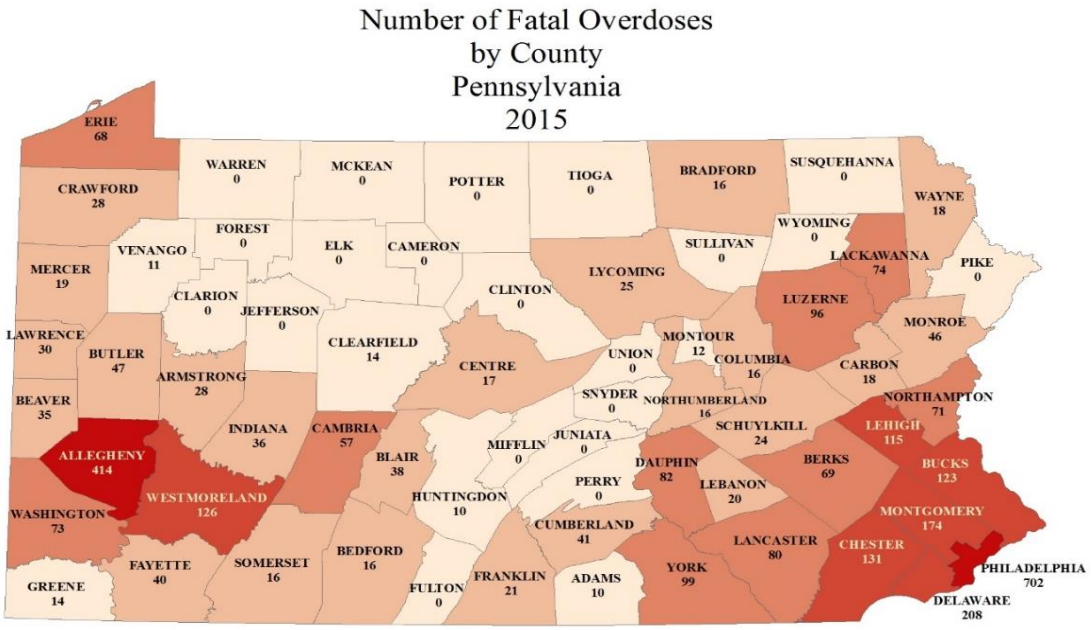
Map 4.



Source: Map by Commission staff. Data from Pennsylvania State Coroners Association, *Report on Overdose Death Statistics 2015*, http://www.pacoroners.org.

Map 5 shows the number of fatal overdoses in each county in 2015. Again, the counties of Philadelphia and Allegheny had the highest number of fatal overdoses, with 712 and 474 respectively.

Map 5.



Source: Map by Commission staff. Data from Pennsylvania State Coroners Association, *Report on Overdose Death Statistics 2015*, http://www.pacoroners.org.

Table 3 shows the frequency that different drugs were reported in overdose deaths. The presence of at least one opiate (heroin, acetyl fentanyl, fentanyl, hydrocodone, methadone, oxycodone, tramadol) was reported in 81 percent of decedents. Although heroin is the leading drug of death, the presence of fentanyl increased by 93 percent over a single year. The only increase remotely close to that of fentanyl's was found with methamphetamine's increase of 95 percent. Yet, despite methamphetamine's devastating effects, it accounted for 3.1 percent of drug-related deaths while fentanyl was blamed for nine times as many.

Table 3.
Ranking of Frequency of Drugs of Interest Present and Percent Change In Drug-Related Overdose Decedents
Pennsylvania
2014-2015

Drug	Frequency	Change 2014 - 2015
Heroin	54.6%	5.4%
Fentanyl	27.0	92.9
Cocaine	23.9	40.6
Alprazolam	20.5	5.7
Oxycodone	18.6	3.9
Clonazepam	9.9	3.1
Diazepam	7.5	9.6
Marijuana	7.1	7.6
Methadone	6.7	11.8
Hydrocodone	5.8	7.4
Tramadol	3.8	17.4
Acetyl Fentanyl	3.6	*
Methamphetamine	3.1	95.0
PCP	1.7	16.5

*No Acetyl Fentanyl Reported in 2014

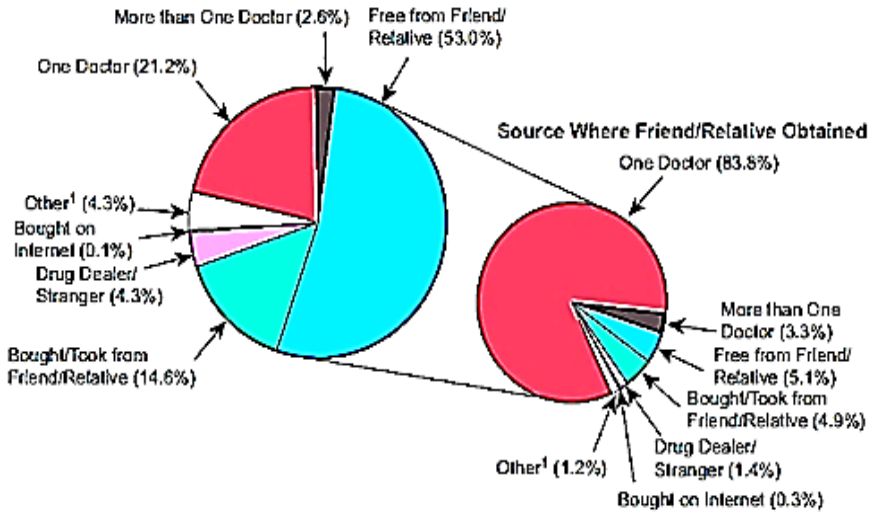
Source: Pennsylvania State Coroners Association, *Report on Overdose Death Statistics 2015*, http://www.pacoroners.org.

Source of Opioids

According to the U.S. Substance Abuse and Mental Health Services Administration's (SAMHSA) National Survey on Drug Use and Health, 53 percent of persons aged 12 or older who used pain relievers nonmedically in the past year obtained them from a friend or relative for free.

Those receiving them through a prescription from a single provider accounted for 21.2 percent, up from 18.1 percent from the previous survey. Figure 5 represents the sources where pain relievers were obtained for their most recent nonmedical use among past year users aged 12 or older from 2012-2013.

Figure 5.
Sources of Pain Relievers
2012 to 2013



Source: "Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings," Substance Abuse and Mental Health Services Administration, NSDUH Series H-48, HHS Publication No. (SMA) 14-4863. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014.

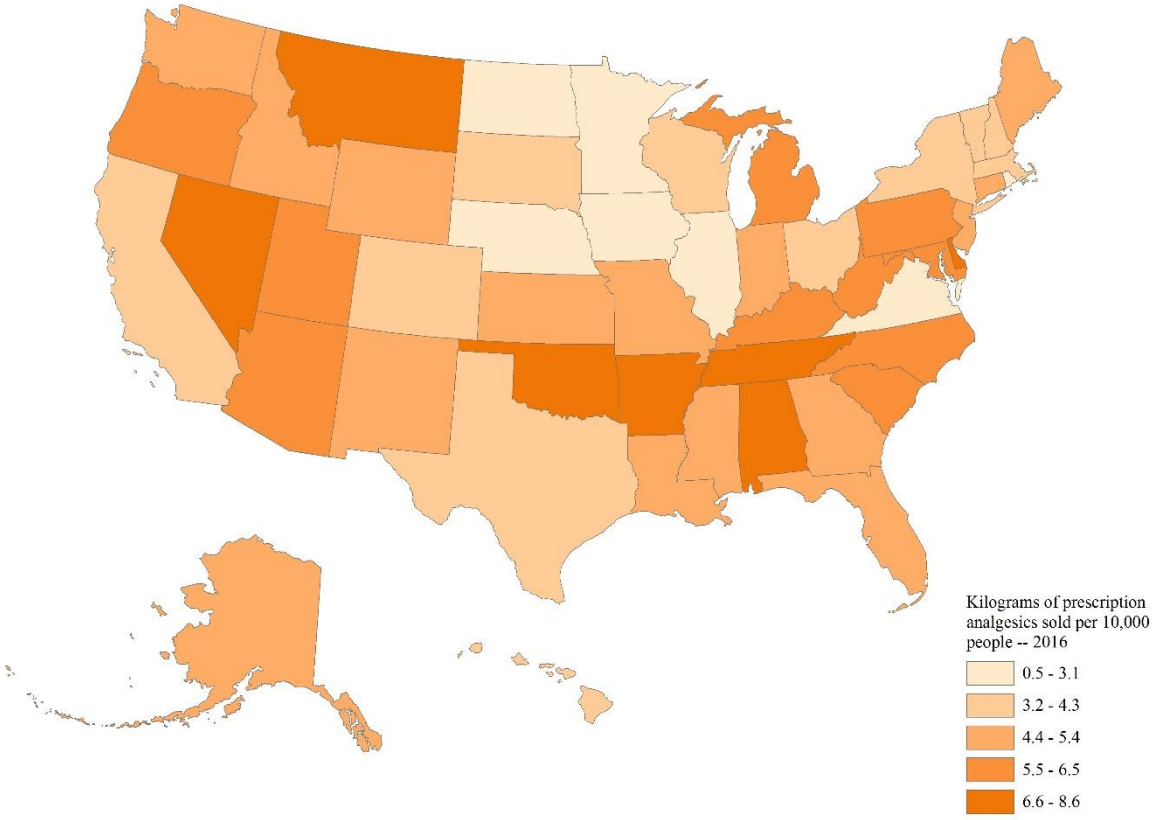
Though most abusers of opioids receive pills for free from family and friends, startlingly, those with the highest risk of overdose often get prescriptions directly from a doctor.[22] Some data suggest that 60 percent of prescription opioid deaths occur in patients without a history of substance abuse who h opioids prescribed by one practitioner.[23]

From 1998 to 2010 the quantity of prescription pain medications sold to pharmacies, hospitals, and doctor's offices quadrupled.[24] Specifically, Pennsylvania ranks 21st in the U.S. with a prescribing rate of 88.2 opioid pain relievers per 100 persons. In comparison, California, ranking 50th, has a prescribing rate of 57.0.[25] Map 6 depicts the amount of prescription painkillers sold by state per 10,000 people as of 2010.

Map 6.
Prescription painkillers Sold
per 10,000 people

[22] "Automation of Reports and Consolidated Orders System (ARCOS) of the Drug Enforcement Administration (DEA), 2010," (November 1, 2011), accessed August 8, 2014, http://www.deadiversion.usdoj.gov/arcos/.
[23] Edwards, E. & Read, E., "Prescription Opioid Overdose: Providing a Safeguard for At-Risk Patients," *Pharmacy Times* (June 26, 2014), http://www.pharmacytimes.com/publications/issue/2014/June2014/Prescription-Opioid-Overdose-Providing-a-Safeguard-for-At-Risk-Patients#.
[24] Ibid.
[25] J. Leonard Paulozzi, Karin A. Mack, and Jason M. Hockenberry, "Vital Signs: Variation Among States in Prescribing of Opioid Pain Relievers and Benzodiazepines — United States, 2012," Centers for Disease Control and Prevention, July 4, 2014, accessed March 17, 2015, http://www.cdc.gov/mmwrhttp://www.cdc.gov/mmwr/preview/mmwrhtml/mm6326a2.htm?s_cid=mm6326a2_w#Tab.

2016



Source: "Prescription Painkiller Overdoses in the U.S.," CDC Vital Signs, (November 2011), http://www.cdc.gov/vitalsigns/painkilleroverdoses/. Accessed August 6, 2014

A separate study found that a small number of patients accounted for a relatively large number of prescriptions obtained via doctor shopping. This small number of purchasers, representing 0.7 percent of all purchasers, were presumed to be doctor shoppers, in that they each obtained, on average, 32 opioid prescriptions from 10 different prescribers. Their purchases accounted for 1.9 percent of all opioid prescriptions. In other words, extreme doctor shoppers, as individuals, account for nearly three times as many prescriptions as do other purchasers. The authors did not conclude, however, that doctor shoppers are necessarily making purchases for illicit purposes. More important, to connect doctor shopping exclusively to illicit use would be to ignore potential problems associated with complex healthcare delivery systems.[26] Simply put, some doctor shoppers may be attempting to manage pain that is not being managed by their regular doctor visits.

[26] Douglas C. McDonald, Kenneth E. Carlson. "Estimating the Prevalence of Opioid Diversion by "Doctor Shoppers" in the United States." *PLoS ONE,* vol. 8, no. 7, July 17, 2013, accessed September 5, 2014, doi: 10.1371/journal.pone.0069241.

The mishandling of prescription opioids has led to a dramatic rise in the number of emergency room visits related to the misuse or abuse of pharmaceuticals, as shown in Table 4. From the years 2004 through 2011, the count of visits grew from 626,470 to 1,428,145, a rate of growth of over 100,000 visits per year, a percent rate of change of 16 percent per year. Anti-anxiety and insomnia medications were cited in 501,207 visits, while opioid analgesics accounted for 420,040.[27]

Table 4.
Drug-Related Emergency Department Visits for Misuse or Abuse of Opioid Analgesics Percent Change from 2004 to 2011

Opioid Analgesics	153%
Oxycodone products	220
Hydrocodone products	96
Methadone	74
Morphine products	144

Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. The DAWN Report: Highlights of the 2011 Drug Abuse Warning Network (DAWN) Findings on Drug-Related Emergency Department Visits. Rockville, MD. February 22, 2013. www.samhsa.gov

[27] "The DAWN Report: Highlights of the 2011 Drug Abuse Warning Network (DAWN) Findings on Drug-Related Emergency Department Visits." (Rockville, MD: SAMHSA, 2011), http://www.samhsa.gov/data/2k13/DAWN127/sr127-DAWN-highlights.htm.

The cost of this abuse and addiction is staggering. Though estimates vary, the costs of illicit use of opioid analgesics has created an enormous drain on the U.S. economy. In 2007 *Pain Medicine* published a study putting societal costs at $55.7 billion annually. Included among these costs were workplace costs, including premature death, reduced compensation, and lost employment that were estimated at $25.6 billion. Criminal justice costs, which included corrections and law enforcement, were close to $5.1 billion. Health care costs consisted primarily of excess medical and prescription costs of about $23.7 billion. [28] The Coalition Against Insurance Fraud estimated in 2007 that public and private insurers' costs related to opioid theft and abuse totaled $72.5 billion annually.[29]

A report published by Matrix Global Advisors, LLC., in April 2015, presented estimates for states' health care costs based on cost figures derived in Birnbaum's research and on findings of White (2011) that the bulk of state spending is in the area of inpatient care. The Matrix report used hospital adjusted expenses per inpatient day that were identified in a 2014 report by the Kaiser Family Foundation.

Matrix reported that Pennsylvania ranked tenth in total state expenditures with $874 million spent on health care costs for opioid abuse. The U.S. average was $490 million, 56 percent of the Pennsylvania expenditure. Pennsylvania ranked 30th among states in terms of per capital spending. See Table 5. Birnbaum's 2011 paper concluded that 95 percent of the expense is attributable to excess medical and drug costs, "Substance abuse treatment, prevention, and research account for the remaining 5 percent of the total health care burden."[30] A detailed table of Birnbaum's findings is in Appendix A.

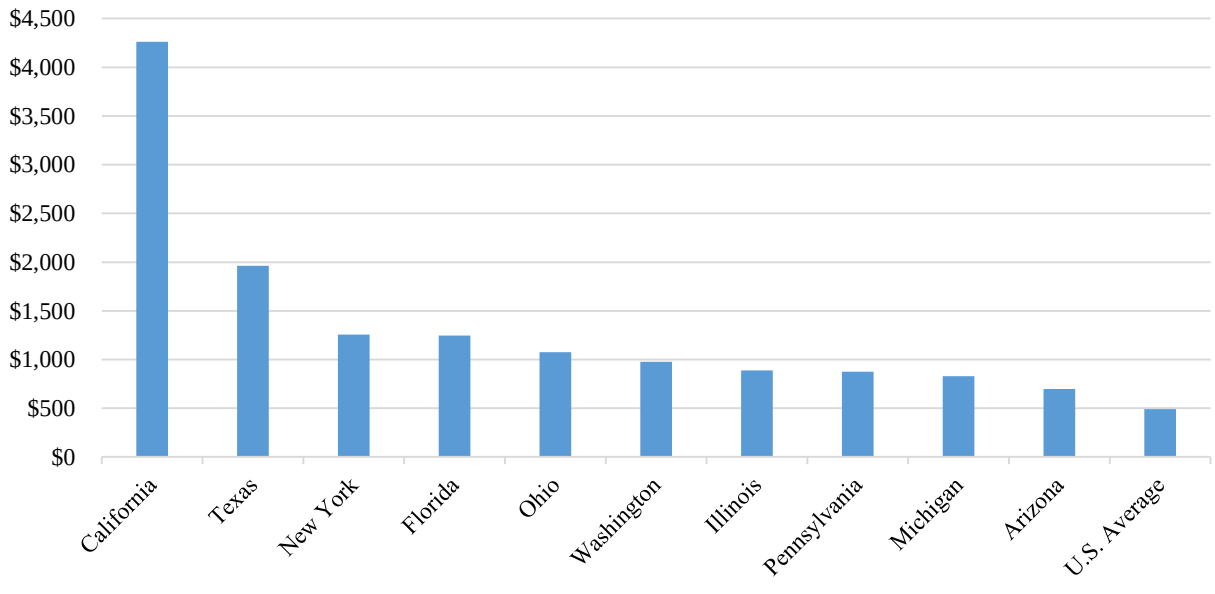
[28] H.G. Birnbaum, et al, "Societal Costs of Prescription Opioid Abuse, Dependence, and Misuse in the United States," *Pain Medicine*, vol. 12, issue 4, (April 2011), http://www.ncbi.nlm.nih.gov/pubmed/21392250.
[29] "Prescription for Peril: How Insurance Fraud Finances Theft and Abuse of Addictive Prescription Drugs," Coalition Against Insurance Fraud, (December 2007), www.insurancefraud.org/downloads/drugDiversion.pdf.
[30] Matrix Global Advisors, LLC. "Health Care Costs from Opioid Abuse: A State-by-State Analysis. (April 2015). www.matrixglobaladvisors.com. Accessed November 4, 2016. 4.

Table 5.
Top 10 States' Health Costs for Opioid Abuse
Total and Per Capita
2015

Rank	State	Total cost ($ millions)	State	Per capita ($ dollars)
1	California	$4,263	Oregon	$155
2	Texas	1,964	Washington	138
3	New York	1,256	Delaware	117
4	Florida	1,247	Colorado	111
5	Ohio	1,076	California	110
6	Washington	977	Arizona	104
7	Illinois	887	Rhode Island	103
8	**Pennsylvania**	874	Indiana	99
9	Michigan	830	Idaho	96
10	Arizona	699	D.C.	95
	U.S. Average	490	U.S. Average	75

Source: Matrix Global Advisors, LLC. "Health Care Costs from Opioid Abuse: A State-by-State Analysis. (April 2015). www.matrixglobaladvisors.com. Accessed November 4, 2016. 4.

Figure 6.
Top Ten States' Health Care Costs
Associated with Opioids 2015
(in $ millions)



Source: Matrix Global Advisors, LLC. "Health Care Costs from Opioid Abuse: A State-by-State Analysis." (April 2015). www.matrixglobaladvisors.com. Accessed November 4, 2016. 4.

Since Birnbaum's oft-cited research of 2007 and 2011, however, the epidemic has continued to grow and consume people's lives and society's resources. In 2011, the CDC reported 43,544 drug overdose deaths.[31] By 2013, the death toll increased by 2,927 to 46,471.[32] By 2015, the death toll increased by another 5,933 to 52,404, with an estimated 33,091 (63.1 percent) deaths attributed to opioids.[33] In a 2013 paper published in the journal *Medical Care*, the researchers sought,

> "To estimate the economic burden of prescription opioid overdose, abuse, and dependence from a societal perspective."[34] The study aggregated 2013 data from various sources to estimate costs associated with health care, criminal justice, and lost productivity due to opioid use disorder. The authors concluded that a large portion of the cost burden is borne by the public, including the loss of taxable earnings. The health care sector was shown to bear approximately one-third of the costs.[35]

Public health researchers have asked the questions: "1) Are total health system costs different for persons treated with buprenorphine plus counseling, compared with those who are treated with counseling only and those receiving little or no addiction treatment? 2) Are patterns of addiction treatment and other medical care services different for persons treated with buprenorphine plus counseling, compared with those who are treated with counseling only or those with little or no addiction treatment?"[36]

To answer these questions, researchers analyzed data from two large non-profit healthcare systems, and divided the patient data into three treatment groups: those who received buprenorphine (a medication used for opioid treatment) and counseling; those who received only counseling; and those who received no treatment. The researchers' review of previous studies revealed that methadone maintenance may have slight advantages over buprenorphine maintenance in terms of effectiveness. An advantage of buprenorphine, identified by the researchers, is that it can be managed in primary care settings and shows some indication that it may reduce mortality to a slightly greater extent.[37] Methadone maintenance cannot be managed in primary care settings; it must be dispensed and administered to patients through specially licensed methadone clinics.

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[31] Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2015 on CDC WONDER Online Database, released December, 2016. Data are from the Multiple Cause of Death Files, 1999-2015, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at http://wonder.cdc.gov/mcd-icd10.html on Feb 24, 2017 9:54:00 AM

[32] Ibid.

[33] Rose A. Rudd, MSPH. Noah Aleshire, JD. Jon E. Zibbell, PhD. R. Matthew Gladden, PhD. "Increases in Drug and Opioid Overdose Deaths — United States, 2000–2014". *Morbidity and Mortality Weekly Report.* January 1, 2016/64(50).1378-82. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6450a3.htm. Accessed February 24, 2016.

[34] Curtis S. Florence, PhD. Chao Zhou, PhD. Feijun Luo, PhD. Likang Xu, MD. "The Economic Burden of Prescription Opioid Overdose, Abuse, and Dependence in the United States, 2013." *Medical Care*. 54, no. 10 (October 2016): 901-06. doi: 10.1097/MLR.0000000000000062.

[35] Ibid.

[36] Frances L .Lynch, et al. "Costs of care for persons with opioid dependence in commercial integrated health systems." *Addiction Science and Clinical Practice* (September 2016). doi: 10.1186/1940-0640-9-16.

[37] Ibid.

Further, the researchers identified improved quality of care for opioid-dependent patients because of the greater access primary care settings, and because co-occurring health consequences can be managed along with buprenorphine therapy. The patients in buprenorphine maintenance tended to experience fewer emergency department visits, increased contact with primary care, and increased diagnoses and treatment for comorbid conditions. The researchers found that health system costs were about the same when comparing between patients receiving both buprenorphine and counseling and those receiving counseling only, and approximately $17,000 per year less than health system costs for those patients receiving no treatment. They concluded:

> "Buprenorphine is a viable alternative to other treatment approaches for opioid dependence in commercial integrated health systems, with total costs of health care similar to abstinence-based counseling. Patients with buprenorphine plus counseling had reduced use of general medical services compared to the alternatives."[38]

Table 6 presents estimated aggregate costs by category for prescription drug dependence, abuse, and overdose in 2013.[39] Out of the total $75.5 billion, the smallest expenditure is in the area of federal, state, local, and private funding of substance abuse treatment, which accounts for only $2.8 billion, or 3.4 percent, of the full cost.

[38] Ibid.

[39] Curtis S. Florence, PhD. Chao Zhou, PhD. Feijun Luo, PhD. Likang Xu, MD. "The Economic Burden of Prescription Opioid Overdose, Abuse, and Dependence in the United States, 2013." Medical Care. 54, no. 10 (October 2016): 901-06. doi: 10.1097/MLR.000000000000062.

Table 6. Aggregate Societal Costs of Prescription Opioid Abuse, Dependence, and Fatal Overdose United States (Millions of 2013 Dollars)		
Nonfatal Costs	**Aggregate Costs**	**Percent of Aggregate Costs**
Health care		
Private insurance	$14,041	17.9%
Medicare	2,593	3.3
Medicaid	5,490	7.0
CHAMPUS/VA[1]	428	0.5
Other	1,003	1.3
Uninsured	2,519	3.2
Total	26,075	33.2
Substance abuse treatment		
Federal	721	0.9
State and local	1,823	2.3
Private	276	0.4
Total	2,820	3.6
Criminal justice		
Police protection	2,812	3.6
Legal and adjudication	1,288	1.6
Correctional facilities	3,218	4.1
Property lost due to crime	335	0.4
Total criminal justice costs	7,654	9.7
Lost productivity		
Reduced productive time/increased disability	16,262	20.7
Production lost for Incarcerated individuals	4,180	5.3
Total	20,441	26.0
Total nonfatal costs	56,990	72.6
Fatal costs		
Lost productivity	21,429	27.3
Health care	84	0.1
Total fatal costs	21,513	27.4
Total of nonfatal and fatal	78,503	100.0

Source: Florence, Curtis S., PhD. Chao Zhou, PhD. Feijun Luo, PhD. Likang Xu, MD. "The Economic Burden of Prescription Opioid Overdose, Abuse, and Dependence in the United States, 2013." Medical Care 54, no. 10 (October2016): 901-06. doi: 10.1097/MLR.0000000000000625

1. CHAMPUS responsibilities are now under the Defense Health Agency.

Figure 7.

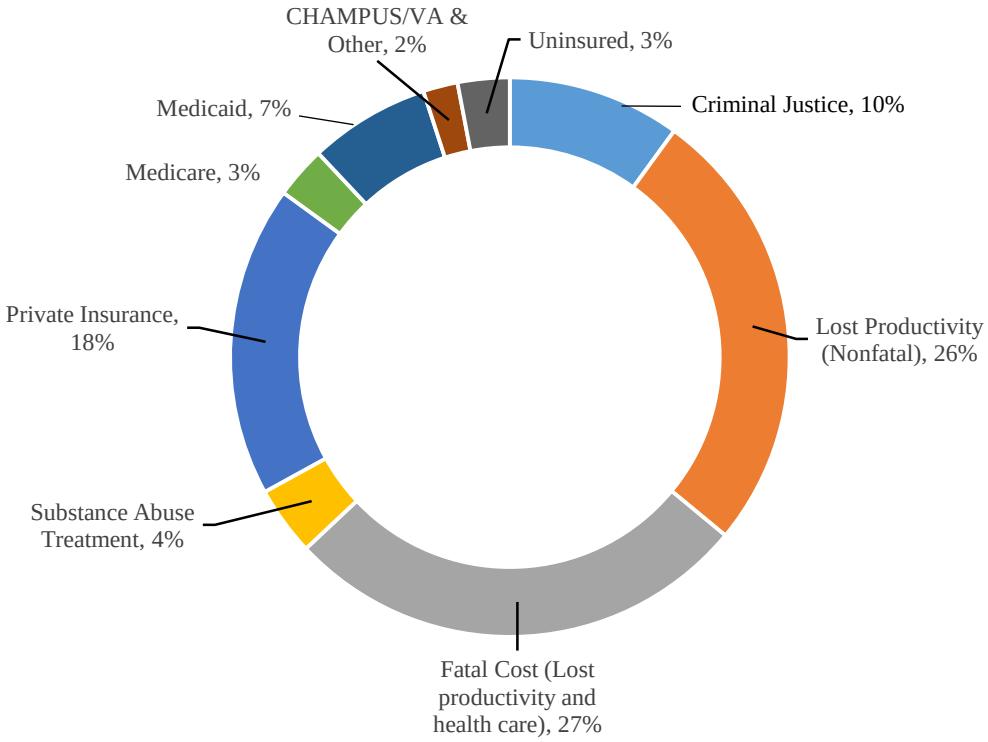

Figure 7 shows the breakdown of expenditures in a way that is visually more accessible than columns of numbers. It is easy to see how the costs borne by society due to fatalities and lost production outweigh the other categories. Presumably, increases in the other categories, particularly treatment, health insurances, and appropriate criminal justice programs, could squeeze the fatal costs and lost productivity costs.

SAMHSA reported a number of significant findings in its 2016 report, *Behavioral Health Spending & Use Accounts, 1986 - 2014*, related to spending trends for SUD treatment.[40] From 1986 to 2009, the increase in SUD treatment spending was two-thirds that of overall health spending. After 2009, however, the growth in SUD spending was greater than overall health spending, outpacing it by 44 percent. However, over the entire period, the overall share of SUD treatment financed by Medicaid, Medicare, and private insurance remained steady at 45 percent. Within that block of funding, however, there were several changes occurring.

Private insurance's share of SUD coverage decreased from 32 percent to 13 percent from 1986 to 2014, while Medicaid increased its share from 9 percent to 21 percent. State and local funding was variable. From 1986 to 1998, state and local support increased from 27 percent to 35 percent. It decreased after 1998 and settled to 29 percent by 2014.

[40] "Behavioral Health Spending & Use Accounts, 1986 - 2014," U.S. HHS Publication No. SMA-16-4975, Rockville, MD: Substance Abuse and Mental Health Services Administration, 2016, accessed April 12, 2017, http://www.store.samhsa.gov/product/Substance-Abuse-and-Mental-Health-Services-Administration-Behavioral-Health-Spending-and-Use-Accounts-1986-2014/SMA16-4975.

The expense of medications used for SUD treatment grew at a nearly incomprehensible rate. In 1986, $3 million was spent on prescriptions for medication assisted treatment. By 2014, the cost was $1.818 billion. Despite the shocking increase and a price tag measured in billions of dollars, prescription drugs account for a mere 5 percent of total SUD spending.[41]

Despite swings in expenditures (some uneven), the cost-to-benefit ratio for SUD treatment, (as measured in future benefits for current costs), has been consistent. Researchers have shown that the future benefits for each dollar spent today on SUD treatment are:

- Outpatient ranged from $1.33 to $6.50
- Residential treatment ranged from $1.68 to $5.19
- Drug court treatment programs ranged from $1.74 to $6.32.

In other words, one dollar spent on outpatient programs could result in a return of between $1.33 and $6.50. The savings are mostly realized in terms of reduced future crime (criminal justice expenditures and victimization.)[42] A later study of programs in California showed that expenditures for methadone maintenance treatment (MMT) did not exhibit statistically significant future savings: although medical savings were substantially higher for SUD patients in MMT, there were less savings attributed to reduced crime. The result negated any statistically significant overall savings.[43]

Nonetheless, numerous studies have shown considerable cost-effectiveness for all types of MAT, including MMT, which was shown to have a benefit of $4.50 for each $1 spent. A 2010 report showed the average annual overall Medicaid costs for individuals with SUD as:

- MMT was $7,163;
- other psychosocial services was $14,157; and
- no addiction treatment services was $18,695.[44]

Tables 7 and 8 show the expenditures by Pennsylvania's Single County Authorities (SCAs) for fiscal year 2013-2014.[45] On average, DDAP funds made up 56 percent of SCAs' expenditures. Individually, the SCAs received anywhere from a high of 86 percent of their funding through DDAP, in the case of the Bradford/Sullivan SCA, to a low of 35 percent, as in the case of the Chester SCA. Most of the SCAs' funding from DDAP clusters within 10 percent of the average funding. Philadelphia had the highest total expenditure at $43.3 million; Allegheny County was second at $43.3 million. The average SCA total fund expenditure was $17.3 million. The SCA with the lowest expenditure was Potter, at approximately $276,000. The median expenditure was slightly higher than $2 million.

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[41] "Behavioral Health Spending & Use Accounts, 1986 - 2014," U.S. HHS Publication No. SMA-16-4975, Rockville, MD: Substance Abuse and Mental Health Services Administration, 2016, accessed April 12, 2017, http://www.store.samhsa.gov/product/Substance-Abuse-and-Mental-Health-Services-Administration-Behavioral-Health-Spending-and-Use-Accounts-1986-2014/SMA16-4975.

[42] David Loveland, PhD, *Addiction Treatment Dosage: Determining an Effective Length of Treatment*, Community Care Behavioral Health Organization, August 23, 2016. 14.

[43] Ibid.

[44] Ibid.

[45] Single County Authorities are largely responsible for SUD programs at the county level. They are discussed in detail in the chapter Standards of Care.

Table 7.
Single County Authority Expenditures
by Fund Source
State Fiscal Year 2013- 2014

Single County Authority	Total DDAP Funds	Total County Funds	Total Other Funds	Total Funds
Allegheny	$11,360,257	$142,604	$5,836,087	$17,338,948
Armstrong/Indiana/Clarion	1,396,197	-	2,165,268	3,561,465
Beaver	1,220,946	80,000	65,695	2,066,641
Bedford	394,587	-	320,589	715,176
Berks	3,076,758	1,845,841	3,475,659	8,398,258
Blair	1,146,799	-	307,572	1,454,371
Bradford/Sullivan	497,925	22,847	59,585	580,357
Bucks	3,475,387	380,942	1,626,603	5,482,932
Butler	1,116,896	25,316	977,437	2,119,649
Cambria	1,030,090	24,790	483,137	1,538,017
Cameron/Elk/McKean	830,488	81,393	1,046,182	1,958,063
Carbon/ Monroe/Pike	1,026,595	55,147	1,490,808	2,572,550
Centre	766,871	30,085	602,083	1,399,039
Chester	2,414,610	597,062	3,920,866	6,932,538
Clearfield/Jefferson	1,019,684	-	807,436	1,827,120
Columbia/Montour/Snyder/Union	821,530	14,785	730,672	1,566,987
Crawford	731,367	16,620	1,045,438	1,793,425
Cumberland/Perry	1,644,491	212,300	1,037,883	2,894,674
Dauphin	2,402,752	207,870	1,279,158	3,889,780
Delaware	$3,526,398	$122,471	$2,786,126	$6,434,995
Erie	3,535,022	281,864	2,016,787	5,833,673
Fayette	1,053,255	-	1,588,813	2,642,068
Forest/Warren	302,454	7,228	230,582	540,264
Franklin/Fulton	601,927	51,661	567,870	1,221,458
Greene	290,477	10,281	143,787	444,545
Huntingdon/Mifflin/Juniata	652,722	-	346,386	999,108
Lackawanna/Susquehanna	1,687,775	82,500	1,018,196	2,788,471
Lancaster	2,472,225	63,579	2,278,211	4,814,015
Lawrence	779,145	-	690,009	1,469,154
Lebanon	641,120	195,347	426,868	1,263,335
Lehigh	2,214,651	94,184	1,648,007	3,956,842
Luzerne/Wyoming	2,180,588	184,096	1,423,089	3,787,773
Lycoming/Clinton	953,358	79,545	1,355,l49	2,388,052
Mercer	990,336	45,000	832,21 5	1,867,551
Montgomery	3,849,412	172,463	2,324,41 9	6,346,294
Northampton	1,664,716	63,278	1,652,234	3,380,228
Northumberland	527,196	21,472	353,011	901,679
Philadelphia	25,830,722	1,558,218	15,956,618	43,345,558
Potter	171,105	18,717	86,735	276,557
Schuylkill	1,110,539	58,800	755,169	1,924,508
Somerset	538,869	17,415	166,389	722,673
Wayne	302,242	226,453	216,380	745,075
Tioga	330,337	41,748	157,953	530,038
Venango	455,278	16,665	516,642	988,585
Washington	1,398,301	-	1,308,571	2,706,872
Westmoreland	2,525,945	38,302	836,547	3,400,794
York/Adams	1,775,245	100,000	932,882	2,808,127
TOTAL	98,735,590	7,288,889	70,593,803	176,618,282

Source: *Pennsylvania Drug and Alcohol Annual Plan and Report: Drug and Alcohol Abuse Prevention and Treatment 2015-2016*, DDAP, accessed March 27, 2017, http://www.ddap.pa.gov/Reports/State%20Plan%20and%20Annual%20Reports/2015-2016%20DDAP%20State%20Plan%20and%202013-2014%20Report.pdf. 126.

Table 8 shows the amounts spent by each SCA in each of four activities: Administration, Prevention, Intervention, and Treatment. On average, they spent nearly two-thirds of their expenditures on treatment services, which, for all SCAs, totaled $115 million. Of the remainder, 15 percent on Prevention ($26 million), 14 percent was spent on Administration ($25 million), and 6 percent on Intervention ($10 million).

Table 8.
Single County Authority Expenditures
by Major Activity
State Fiscal Year 2013-2014
(all sources)

Single County Authority	Total administration	Total prevention	Total intervention	Total treatment	Total amount
Allegheny	$1,836,969	$2,626,164	$2,621,094	$10,254,721	$17,338,948
Armstrong/Indiana/Clarion	480,709	736,946	208,600	2,135,210	3,561,465
Beaver	421,471	319,290	5,058	1,320,822	2,066,641
Bedford	118,809	358,171	29,615	208,581	715,176
Berks	824,733	1,200,392	292,473	6,080,660	8,398,258
Blair	928	75,304	584,272	793,867	1,454,371
Bradford/Sullivan	100,978	145,496	55,940	277,943	580,357
Bucks	1,052,795	771,508	780,718	2,877,911	5,482,932
Butler	225,680	328,901	163,398	1,401,670	2,119,649
Cambria	201,884	200,941	48,330	1,086,862	1,538,017
Cameron/Elk/McKean	193,389	237,806	2,116	1,524,752	1,958,063
Carbon/Monroe/Pike	337,855	338,780	120,042	1,775,873	2,572,550
Centre	180,131	300,091	41 ,993	876,824	1,399,039
Chester	1,045,460	536, 199	10,948	5,339,931	6,932,538
Clearfield/Jefferson	119,024	558,472	112,409	1,037,215	1,827,120
Columbia/Montour/Snyder/Union	212,369	155,401	139,452	1,059,765	1,566,987
Crawford	115,372	257,618	70,481	1,349,954	1,793,425
Cumberland/Perry	299,057	794,501	41,968	1,759,l 48	2,894,674
Dauphin	711,837	804,746	148,152	2,225,045	3,889,780
Delaware	719,129	697,262	-	5,018,604	6,434,995
Erie	317,377	1,310,905	548,876	3,656,515	5,833,673
Fayette	224,819	351,043	244,265	1,821,941	2,642,068
Forest/Warren	132,530	68,618	1,926	337,190	540,264
Franklin/Fulton	211,380	137,361	22,070	850,647	1,221,458
Greene	83,217	104,288	-	257,040	444,545
Huntingdon/Mifflin/Juniata	220,504	147,384	34,989	596,231	999,108
Lackawanna/Susquehanna	153,848	516,821	193,407	1,924,395	2,788,471
Lancaster	500,102	1,553,825	49,304	2,710,784	4,814,015
Lawrence	231,310	269,380	6,045	962,419	1,469,154
Lebanon	212,046	180,243	100,808	770,238	1,263,335
Lehigh	388,929	715,099	271,842	2,580,972	3,956,842
Luzerne/Wyoming	271,465	593,744	95,308	2,827,256	3,787,773

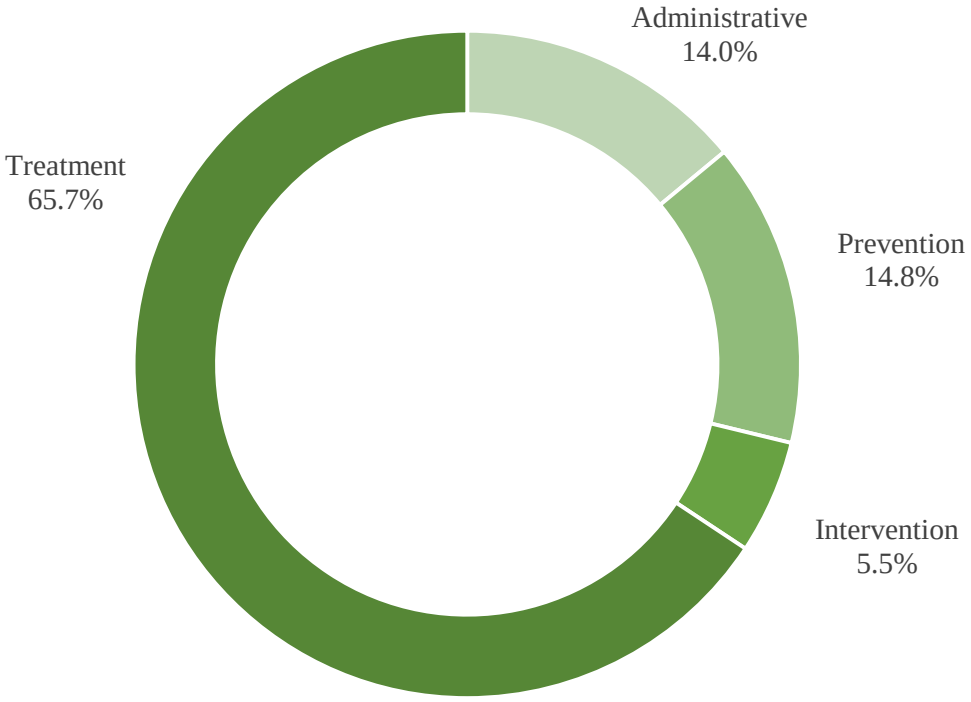
Table 8.
Single County Authority Expenditures
by Major Activity
State Fiscal Year 2013-2014
(all sources)

Single County Authority	Total administration	Total prevention	Total intervention	Total treatment	Total amount
Lycoming/Clinton	320,371	269, 1SS	11,376	1,787,150	2,388,052
Mercer	262,905	437,412	15,459	1,151,775	1,867,551
Montgomery	848,420	444,192	260,343	4,793,339	6,346,294
Northampton	449,494	436,642	138,254	2,355,838	3,380,228
Northumberland	169,072	83,890	90,977	557,740	901,679
Philadelphia	8,371,542	4,203,069	2,008,448	28,762,499	43,345,558
Potter	70,563	60,671	-	145,323	276,557
Schuylkill	245,440	434,318	43,649	1,201,101	1,924,508
Somerset	93,148	140,022	27,307	462,196	722,673
Wayne	$144,719	$113,043	$70,518	$416,795	$745,075
Tioga	124,124	67,249	-	338,665	530,038
Venango	184,740	147,256	7,453	649,136	988,585
Washington	387,397	478,121	6,771	1,834,583	2,706,872
Westmoreland	536,31 7	950,495	-	1,913,982	3,400,794
York/Adams	343,887	432,783	14,877	2,016,580	2,808,127
TOTAL	24,698,245	26,091,018	9,741,331	115,907,688	176,618,282

Source: Pennsylvania Drug and Alcohol Annual Plan and Report: Drug and Alcohol Abuse Prevention and Treatment 2015-2016, DDAP, accessed March 27, 2017, http://www.ddap.pa.gov/Reports/State%20Plan%20and%20Annual%20Reports/2015-2016%20DDAP%20State%20Plan%20and%202013-2014%20Report.pdf. 127.

Figure 8 displays the proportions of total funding spent in each activity area.

Figure 8.
SCA Expenditures by Type of Activity
2013-2014



ADDICTION

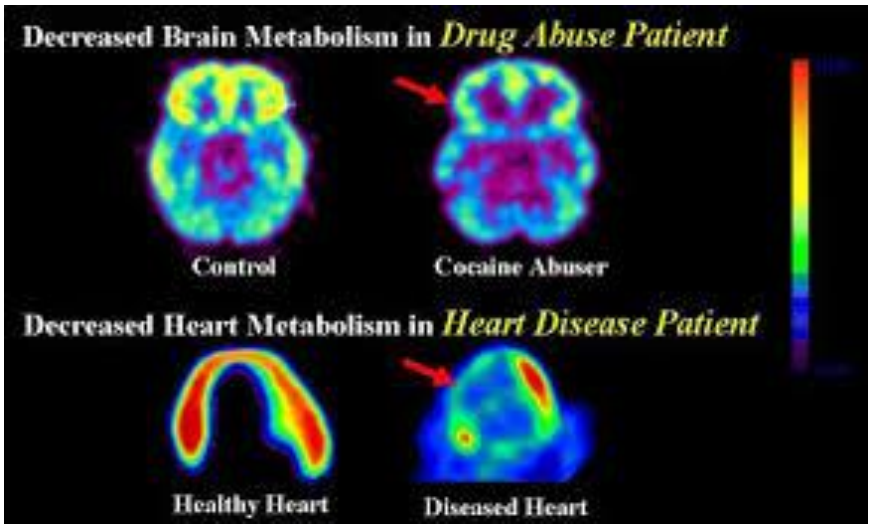
The American Society of Addiction Medicine describes addiction as "a primary, chronic disease of brain reward, motivation, memory, and related circuitry."[46] This definition, developed through decades of experience from clinicians and counselors, medical researchers, and the application of contemporary medical technology, is far removed from old definitions that primarily addressed addiction as a flawed character or a failure of moral fortitude in affected individuals.

A person suffering from addiction may show no outward signs of the disease. In many respects, an incipient addiction may remain hidden even from close loved ones and friends. Surely, however, healthful self-care behaviors are eventually supplanted by addictive behaviors. An addicted individual's normal motivations are replaced by the insatiable motivation for the addicting substances. Anti-social behaviors, high-risk behaviors, impaired cognition, and criminal behaviors are become to the addicted individual acceptable behaviors that can lead to the perverted reward of being high. Fortunately, this is no longer seen as the outgrowth of a flawed character or the justified wages of sin.

Most people recognize that an addiction has negative effects on a person's behavior, learning, and memory. It is a gross over-simplification to characterize these deficits as rooted in a person's willful behavior or lack of self-discipline. What many people may not recognize is that substance abuse demonstrably physically alters the brain's regions that control that individual's behavior, motivation, learning, and memory. Medical science provides evidence that undercuts the foundation levying such moral judgements. As addiction grows and takes hold deeper and deeper into a person's physical and spiritual being, it manifests itself in identifiable, empirically evidenced ways. The so-called "brain reward structures," are affected. "such that the memory of previous exposures to rewards (such as food, sex, alcohol and other drugs) leads to a biological and behavioral response to external cues, in turn triggering craving and/or engagement in addictive behaviors."[47] Image 1 depicts scans that reveal metabolic processes of the brains and hearts of healthy people and those with illnesses. It is evident from the scan that the brain of a cocaine user has a substantially larger area of low metabolic function when compared to that of a healthy, non-addicted person. Similarly, a healthy heart displays a very high metabolic function compared to one afflicted with heart disease.

[46] ASAM, "Definition of Addiction: Public Policy Statement," April 19, 2011, accessed March 8, 2017, http://www.asam.org/quality-practice/definition-of-addiction.
[47] Ibid., 2.

Image 1.



Source: Nora Volkow, MD. "Drugs, Brains, and Behavior: The Science of Addiction," NIDA, NIH Pub. No. 145605. April 2007. Revised July 2014. https://www.drugabuse.gov/publications/drugs-brains-behavior-science-addiction/preface.

Importantly, Image 2 shows scans comparing a healthy person's brain with two individuals' brains that have been damaged by cocaine abuse reveal a promising truth: it is possible for the brain to heal over time. Note how higher levels of brain metabolism begin to return as length of abstinence increases.

Image 2.

Source: Nora Volkow, MD. "Drugs, Brains, and Behavior: The Science of Addiction," NIDA, NIH Pub. No. 145605. April 2007. Revised July 2014. https://www.drugabuse.gov/publications/drugs-brains-behavior-science-addiction/preface.

The National Institute on Drug Abuse published, "Treatment Approaches for Drug Addiction," in July 2016. The authors concluded that drug addiction has three characteristics:[48]

1. Chronic disease characterized by compulsive or uncontrollable drug seeking and use despite harmful consequences and changes in the brain.
2. These changes in the brain can lead to harmful behaviors.
3. Drug addiction is a relapsing disease.

ASAM goes on to give a slightly more technical description of what happens in the brain of a person with a SUD:

> The frontal cortex of the brain and underlying white matter connections between the frontal cortex and circuits of reward, motivation and memory are fundamental in the manifestations of altered impulse control, altered judgment, and the dysfunctional pursuit of rewards (which is often experienced by the affected person as a desire to "be normal") seen in addiction--despite cumulative adverse consequences experienced from engagement in substance use and other addictive behaviors.[49]

Indeed, it is the primal drive for normalcy that often marks a full blown addiction. The patient no longer seeks the substance for the perverted pleasures that it brings, but rather to stave off debilitating withdrawal symptoms. The drug becomes a vital component of everyday living, taking primacy over food and sleep. It becomes sustenance, morphing from a reason for living to a requirement for life. The National Institute on Drug Abuse stated it succinctly:

> Our brains are wired to ensure that we will repeat life-sustaining activities by associating those activities with pleasure or reward. Whenever this circuit is activated, the brain notes that something important is happening that needs to be remembered, and teaches us to do it again and again without thinking about it. Because drugs of abuse stimulate the same circuit, we learn to abuse drugs in the same way.[50]

Tragically, one's sobriety may not rest entirely in one's own hands.

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[48] National Institute on Drug Abuse. "Treatment Approaches for Drug Addiction." National Institute on Drug Abuse (July 2016), 1, accessed October 31, 2016.
https://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction.

[49] ASAM, "Definition of Addiction: Public Policy Statement," April 19, 2011, accessed March 8, 2017, http://www.asam.org/quality-practice/definition-of-addiction. 2.

[50] "Drugs, Brains, and Behavior: The Science of Addiction," NIDA, NIH Pub. No. 145605, April 2007, revised July2014, accessed March 9, 2017,
https://www.drugabuse.gov/publications/drugs-brains-behavior-science-addiction/preface.

According to ASAM, genetic, environmental, and cultural factors may lend their support

> Genetic factors account for about half of the likelihood that an individual will develop addiction. Environmental factors interact with the person's biology and affect the extent to which genetic factors exert their influence. Resiliencies the individual acquires (through parenting or later life experiences) can affect the extent to which genetic predispositions lead to the behavioral and other manifestations of addiction. Culture also plays a role in how addiction becomes actualized in persons with biological vulnerabilities to the development of addiction.[51]

Health risk factors such as obesity, stress level, and inactivity are products of familial, cultural, and personal factors are significant contributors to morbidity and mortality; even among those with demonstrated genetic risk, a significant part of the total risk for developing hypertension can be traced to individual behaviors.[52] The choice to take the drug may have been ill-informed or influenced by exogenous manipulation, peer pressures, or other contextual pressures; however, the effects of peer pressure, in particular, are not always as strong as often assumed.[53] Further, a person faced with physical pain from injuries or medical problems may see no alternative for relief but for that promised by prescription opioid analgesics.

To make matters worse, the disease is chronic. As with people with SUD, those who relapse with other chronic health disease like Type I diabetes, hypertension, and asthma, are beset with problems of low socioeconomic status, comorbid psychiatric conditions, and lack of family and social supports—among the most important predictors of adherence to health regimens.[54] Relapse rates for drug addiction are similar to those for other chronic diseases, such as Type I diabetes, hypertension, and asthma.[55] See Figure 9.

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[51] ASAM, "Definition of Addiction: Public Policy Statement," April 19, 2011, accessed March 8, 2017, http://www.asam.org/quality-practice/definition-of-addiction. 3.

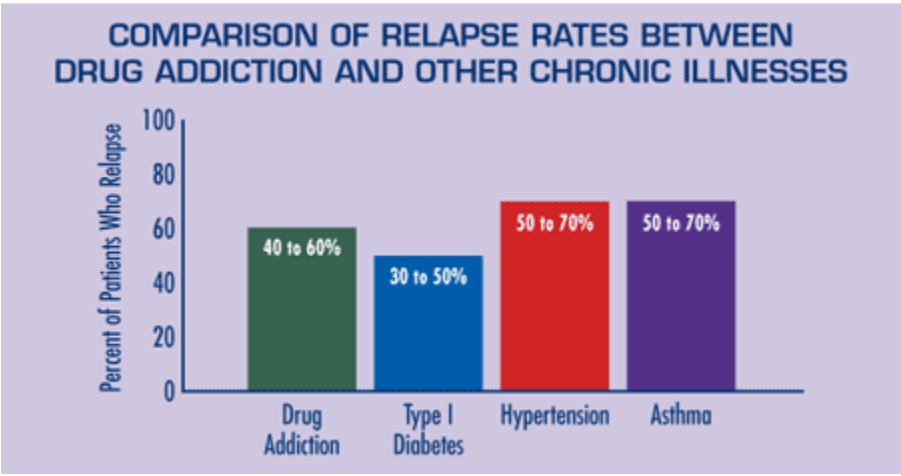
[52] A. Thomas McLellan, PhD, David C. Lewis, MD, Charles P. O'Brien, MD, PhD, Herbert D. Kleber, MD, "Drug Dependence, a Chronic Medical Illness Implications for Treatment, Insurance, and Outcomes Evaluation," *Journal of the American Medical Association* Vol 284, No. 13, October 4, 2000, accessed March 8, 2017, https://www.ncbi.nlm.nih.gov/pubmed/11015800. 1690.

[53] Daniel Eisenberg, "Peer Effects for Adolescent Substance Use: Do They Really Exist?" UC-Berkeley School of Public Health, March 2004, accessed, March 9, 2017, http://www-ersonal.umich.edu/~daneis/papers/peereffects.pdf.

[54] A. Thomas McLellan, PhD, David C. Lewis, MD, Charles P. O'Brien, MD, PhD, Herbert D. Kleber, MD, "Drug Dependence, a Chronic Medical Illness Implications for Treatment, Insurance, and Outcomes Evaluation," Journal of the American Medical Association Vol 284, No. 13, October 4, 2000, accessed March 8, 2017, https://www.ncbi.nlm.nih.gov/pubmed/11015800. 1693.

[55] In a 2010 paper published in the Irish Medical Journal, 91 percent of patients suffered a relapse, with 59 percent returning to daily opioid use within a week of discharge from a residential detoxification center.[55] B.P. Smyth, E. Keenan, K. Ducray, "Lapse and Relapse Following Inpatient Treatment of Opiate Dependence," *Irish Medical Journal* 103(6), June 2010 : 176-9, accessed March 8, 2017, https://www.ncbi.nlm.nih.gov/pubmed/20669601.

Figure 9.



Source: "Drugs, Brains, and Behavior: The Science of Addiction," NIDA, NIH Pub. No. 145605, April 2007, revised July 2014, accessed March 9, 2017, https://www.drugabuse.gov/publications/drugs-brains-behavior-science-addiction/preface.

Further, people suffering from these three chronic diseases have been shown to require additional medical intervention when they fail to comply with health programs. Approximately 50 percent to 70 percent of adults with hypertension or asthma require additional medical care each year.[56] To put this in perspective rather bluntly, in the words of an Advisory Committee member, "We don't kick a diabetic out of treatment and say the treatment failed when he has a relapse, but people do take that attitude with drug addicts."

However, the pernicious grasp that suffocates both body and soul grows stronger and stronger until the inexorable end. With extraordinary efforts lent by any number of people, from the patient himself to counselors, physicians, family, and friends, there is hope that a person will survive the disease. Most do, in fact, overcome their addictions and resume normal lives, albeit continuously vigilant lest the chronic disease take hold once again.

[56] A. Thomas McLellan, PhD, David C. Lewis, MD, Charles P. O'Brien, MD, PhD, Herbert D. Kleber, MD, "Drug Dependence, a Chronic Medical Illness Implications for Treatment, Insurance, and Outcomes Evaluation," Journal of the American Medical Association Vol 284, No. 13, October 4, 2000, accessed March 8, 2017, https://www.ncbi.nlm.nih.gov/pubmed/11015800. 1693.

Diabetes can be diagnosed by collecting and analyzing tangible markers, like A1c and blood glucose levels. Hypertension can be diagnosed from evaluation of a series of blood pressure readings. Asthma can be diagnosed through evaluation of a patient's lung capacity under different breathing conditions. Correspondingly, basic measurements and evaluations do not exist for diagnosing SUD. The disease of addiction is instead diagnosed by a composite of physical and behavioral conditions collected through observation and assessments. It is true that drugs can be detected quite cheaply and easily through urine and blood tests. These tests, however, offer a point-in-time snapshot of the person's system. The tests cannot determine whether a person is suffering from a SUD, whether addiction is present, or measure the severity of an addiction. In the absence of tests that definitively demonstrate drug use disorders, health professionals rely on a toolbox of techniques to conduct the necessary analyses.

The DSM-5 describes the diagnosis of substance use disorder as, "based on evidence of impaired control, social impairment, risky use, and pharmacological criteria." A SUD is indicated if at least two of 11 criteria are met over a one year period:[57]

1. A person takes larger amounts of the drug over a longer period of time than intended.
2. A person's attempts to reduce use or abstain have not been successful.
3. A person spends a good deal of time getting the drug, using the drug, or recovering from the effects of the drug.
4. A person has intense urges for the drug that block out any other thoughts.
5. A person is not meeting obligations and responsibilities because of substance use.
6. A person continues to use the drug, even though it is causing life problems.
7. A person reduces or avoids important social, occupational, or recreational activities because of his substance use.
8. A person uses the substance in situations that may be unsafe, such as when driving or operating machinery.
9. A person continues to use the substance even though it causes physical or psychological harm.
10. A person develops tolerance, which means that the drug has less and less effect and more of the drug is needed to get the same effect.
11. A person has physical or psychological withdrawal symptoms when he stops taking the drug, or he takes the drug (or a similar drug) to avoid withdrawal symptoms.

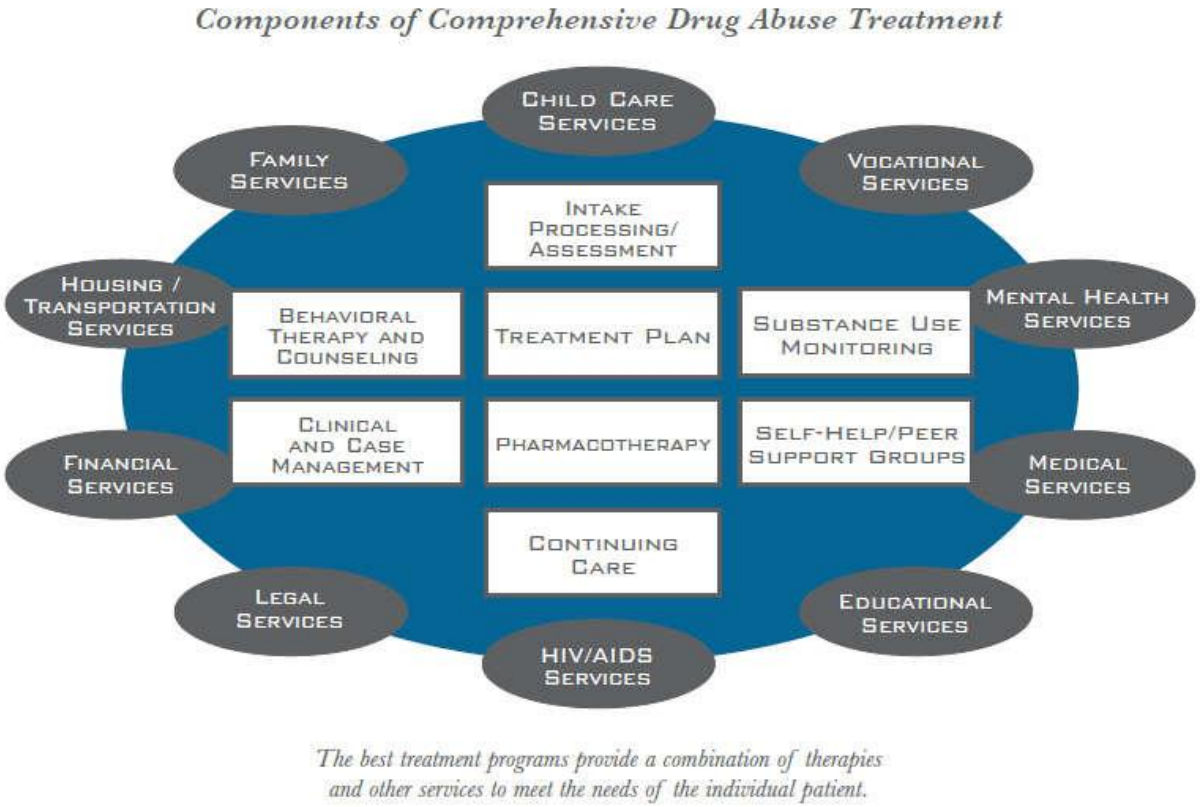
[57]Mayo Clinic Staff, "Diseases and Conditions, Drug Addiction," Mayo Clinic, accessed February 14, 2017, http://www.mayoclinic.org/diseases-conditions/drug-addiction/basics/tests-diagnosis/con-20020970.

Each clinician's observations, interactions, and interpretations are pivotal contributors to diagnosis. The clinician synthesizes all available information to make a determination as to whether a person suffers from a SUD and what appropriate actions should start treatment and rehabilitation.

The National Institute on Drug Abuse (NIDA) provides a graphic (Figure 10, below) that encapsulates the components of comprehensive drug abuse treatment. Judging by the image, drug abuse treatment is complex, multi-faceted, and perhaps overwhelming. Treatment includes care and services that range beyond what could reasonably be considered as sufficient care for a person suffering from SUD. Three significant considerations must be made at this point. First, many of these types of care and services are commonly necessary for successful treatment of chronic diseases in general, whether they be heart related or SUD related. Second, both clinicians' experiences and scientific research prove that holistic treatment, the so-called therapeutic model, that includes pharmacotherapy, counseling, and all the ancillary services shown are indeed necessary for successful SUD treatment outcomes. The risk that a patient in treatment will succumb to relapse and possibly death increases substantially when needed services are absent from the treatment plan or when the services are not engaged for a sufficient period. Of course, not all patients require all services—which is why the creation of an individualized treatment plan is among the very first steps toward recovery and wellness. The treatment and rehabilitation system, however, must have the capacity to provide whatever services that are needed. Otherwise:

- from the standpoint of human lives, the treatment is likely to be a losing proposition; and
- from the standpoint of fiscal responsibility, the public and private funds invested in treatment and rehabilitation services will be ineffective at each turn that a patient enters the treatment system.

Figure 10.



Source: "Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition)," *NIDA* website, December 2012, accessed April 4, 2017, https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition/frequently-asked-questions/what-drug-addiction-treatment.

1. Addiction is a complex but treatable disease that affects brain function and behavior. Drugs of abuse alter the brain's structure and function, resulting in changes that persist long after drug use has ceased. This may explain why drug abusers are at risk for relapse even after long periods of abstinence and despite the potentially devastating consequences.

2. No single treatment is appropriate for everyone. Treatment varies depending on the type of drug and the characteristics of the patients. Matching treatment settings, interventions, and services to an individual's particular problems and needs is critical to his or her ultimate success in returning to productive functioning in the family, workplace, and society.

3. Effective treatment attends to multiple needs of the individual, not just his or her drug abuse. To be effective, treatment must address the individual's drug abuse and any associated medical, psychological, social, vocational, and legal problems. It is also important that treatment be appropriate to the individual's age, gender, ethnicity, and culture.

4. Treatment programs should test patients for the presence of HIV/AIDS, hepatitis B and C, tuberculosis, and other infectious diseases as well as provide targeted risk-reduction counseling, linking patients to treatment if necessary. Typically, drug abuse treatment addresses some of the drug-related behaviors that put people at risk of infectious diseases. Targeted counseling focused on reducing infectious disease risk can help patients further reduce or avoid substance-related and other high-risk behaviors. Counseling can also help those who are already infected to manage their illness. Moreover, engaging in substance abuse treatment can facilitate adherence to other medical treatments. Substance abuse treatment facilities should provide onsite, rapid HIV testing rather than referrals to offsite testing—research shows that doing so increases the likelihood that patients will be tested and receive their test results. Treatment providers should also inform patients that highly active antiretroviral therapy (HAART) has proven effective in combating HIV, including among drug-abusing populations, and help link them to HIV treatment if they test positive.

5. Many drug-addicted individuals also have other mental disorders. Because drug abuse and addiction—both of which are mental disorders—often co-occur with other mental illnesses, patients presenting with one condition should be assessed for the other(s). And when these problems co-occur, treatment should address both (or all), including the use of medications as appropriate.

6. An individual's treatment and services plan must be assessed continually and modified as necessary to ensure that it meets his or her changing needs. A patient may require varying combinations of services and treatment components during the course of treatment and recovery. In addition to counseling or psychotherapy, a patient may require medication, medical services, family therapy, parenting instruction, vocational rehabilitation, and/or social and legal services. For many patients, a continuing care approach provides the best results, with the treatment intensity varying according to a person's changing needs.

7. Drug use during treatment must be monitored continuously, as lapses during treatment do occur. Knowing their drug use is being monitored can be a powerful incentive for patients and can help them withstand urges to use drugs. Monitoring also provides an early indication of a return to drug use, signaling a possible need to adjust an individual's treatment plan to better meet his or her needs.

8. Behavioral therapies—including individual, family, or group counseling—are the most commonly used forms of drug abuse treatment. Behavioral therapies vary in their focus and may involve addressing a patient's motivation to change, providing incentives for abstinence, building skills to resist drug use, replacing drug-using activities with constructive and rewarding activities, improving problem-solving skills, and facilitating better interpersonal relationships. Also, participation in group therapy and other peer support programs during and following treatment can help maintain abstinence.

9. Treatment needs to be readily available. Because drug-addicted individuals may be uncertain about entering treatment, taking advantage of available services the moment

people are ready for treatment is critical. Potential patients can be lost if treatment is not immediately available or readily accessible. As with other chronic diseases, the earlier treatment is offered in the disease process, the greater the likelihood of positive outcomes.

10. Remaining in treatment for an adequate period of time is critical. The appropriate duration for an individual depends on the type and degree of the patient's problems and needs. Research indicates that most addicted individuals need at least 3 months in treatment to significantly reduce or stop their drug use and that the best outcomes occur with longer durations of treatment. Recovery from drug addiction is a long-term process and frequently requires multiple episodes of treatment. As with other chronic illnesses, relapses to drug abuse can occur and should signal a need for treatment to be reinstated or adjusted. Because individuals often leave treatment prematurely, programs should include strategies to engage and keep patients in treatment.

11. Medications are an important element of treatment for many patients, especially when combined with counseling and other behavioral therapies. For example, methadone, buprenorphine, and naltrexone (including a new long-acting formulation) are effective in helping individuals addicted to heroin or other opioids stabilize their lives and reduce their illicit drug use. Acamprosate, disulfiram, and naltrexone are medications approved for treating alcohol dependence. For persons addicted to nicotine, a nicotine replacement product (available as patches, gum, lozenges, or nasal spray) or an oral medication (such as bupropion or varenicline) can be an effective component of treatment when part of a comprehensive behavioral treatment program.

12. Medically assisted detoxification is only the first stage of addiction treatment and by itself does little to change long-term drug abuse. Although medically assisted detoxification can safely manage the acute physical symptoms of withdrawal and can, for some, pave the way for effective long-term addiction treatment, detoxification alone is rarely sufficient to help addicted individuals achieve long-term abstinence. Thus, patients should be encouraged to continue drug treatment following detoxification. Motivational enhancement and incentive strategies, begun at initial patient intake, can improve treatment engagement.

13. Treatment does not need to be voluntary to be effective. Sanctions or enticements from family, employment settings, and/or the criminal justice system can significantly increase treatment entry, retention rates, and the ultimate success of drug treatment interventions.

Three prevailing characteristics of drug addiction are that:

1. it is a chronic disease characterized by compulsive or uncontrollable drug seeking and use despite harmful consequences and changes in the brain;
2. these changes in the brain can lead to harmful behaviors; and

3. drug addiction is a relapsing disease, there can be little surprise that, "addiction affects parts of the brain involved in reward and motivation, learning and memory, and control over behavior."[58]

Since the 1970s, scientific research has led researchers, clinicians, and policy makers to the following conclusions about effective treatment of SUD.

- Addiction is a complex but treatable disease that affects brain function and behavior.
- No single treatment is right for everyone.
- People need to have quick access to treatment.
- Effective treatment addresses all of the patient's needs, not just his or her drug use.
- Staying in treatment long enough is critical.
- Counseling and other behavioral therapies are the most commonly used forms of treatment.
- Medications are often an important part of treatment, especially when combined with behavioral therapies.
- Treatment plans must be reviewed often and modified to fit the patient's changing needs.
- Treatment should address other possible mental disorders.
- Medically assisted detoxification is only the first stage of treatment.
- Treatment doesn't need to be voluntary to be effective.
- Drug use during treatment must be monitored continuously.
- Treatment programs should test patients for HIV/AIDS, hepatitis B and C, tuberculosis, and other infectious diseases as well as teach them about steps they can take to reduce their risk of these illnesses.[59]

Of the several steps that are widely recognized among clinical providers as being parts of successful treatment plans, which include:

1. detoxification (the process by which the body rids itself of a drug)
2. behavioral counseling
3. medication (for opioid, tobacco, or alcohol addiction)
4. evaluation and treatment for co-occurring mental health issues such depression and anxiety
5. long-term follow-up to prevent relapse it is important to note that medication is an integral part of SUD treatment, whether for opioids, tobacco, or alcohol.[60] Despite SAMHSA's finding that nearly 80 percent of detoxifications included the use of medications, this often critical first step is not, in and of itself, treatment.[61]Nonetheless, outcomes measurements exist, and are compiled from

[58] "Treatment Approaches for Drug Addiction," *National Institute on Drug Abuse*, July 2016, accessed October 31, 2016, https://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction. 1.
[59] Ibid., 2.
[60] Ibid.
[61] *2014 National Survey on Drug Use and Health: Detailed Tables, Center for Behavioral Health Statistics and Quality (CBSHQ),* website, 2015, accessed March 30, 2017,

different means. Levels of healthcare utilization provide something of a proxy measure—clinicians and patients tend to utilize those modalities that tend to predict favorable outcomes. There are empirical studies that present conclusions about different treatments.

Despite the existence of empirical findings based on clinically measured outcomes and experience and observations of counselors and clinicians working with patients, there nonetheless exist some treatment programs that amount to little more than "baby sitting," in the words of one Advisory Committee member. Several Advisory Committee members were personally aware of treatment programs that did little more than provide television watching, or essentially meaningless activities for patients, while providing very little therapeutic interaction with counselors.

People who get treatment: SAMHSA National Survey on Drug Use and Health: 22.5 million people (8.5 percent of the U.S. population) aged 12 or older needed treatment for an illicit drug or alcohol use problem in 2014. Only 4.2 million (18.5 percent of those who needed treatment) received any substance use treatment in the same year. Of these, about 2.6 million people received treatment at specialty treatment programs.[62]

Types of Treatment Programs

There are many types of approaches and programs that generally fall into several treatment modalities. Detoxification if often considered the first stage of treatment. Detoxification is a medically monitored process that clears the body of the dangerous substances. Detoxification does not include treatment for psychological, social, or behavioral problems. Detoxification can be carried out in either inpatient or outpatient programs, and may include administration of medications under physician supervision. "Medically managed withdrawal" is detoxification that includes treatment with medications. In outpatient behavioral treatment, motivational incentives/contingency management use positive reinforcement to encourage abstinence from drugs.

Other treatment modalities include:

Therapeutic Communities (TCs) are residential treatment facilities that provide 24 hour per day care that lasts from six to 12 months. The overall objective of TC is the resocialization of the patient. Components of treatment include other residents, staff, and the social context. The patient's social and psychological deficits are considered the context that frames the addiction, and treatment includes developing personal accountability, responsibility, and social productivity. Patients are guided through confronting their damaging beliefs, self-concepts, and destructive patterns to replace them with socially productive, constructive, and harmonious relationships with themselves and others.

https://www.samhsa.gov/data/sites/default/files/...DetTabs2014/NSDUH-DetTabs2014.pdf.

[62] "Treatment Approaches for Drug Addiction," National Institute on Drug Abuse, July 2016, accessed October 31, 2016, https://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction. 6.

Short-term residential treatment is relatively brief but intensive treatment that consists of three to six week treatment based on modified 12-step approaches originally developed to treat alcohol addiction. Inpatient treatment is hospital based; upon discharge patients receive continued care through outpatient programs. The patient is largely responsible for maintaining his engagement with recovery.

Outpatient treatment programs include a wide range of types of treatment that vary in intensity and services. This is often a suitable alternative to TC or short term residential treatment for people with job and family obligations. Some models include intensive day treatment, group counseling, or other treatments that are tailored to individuals' needs. The caveat is that some programs amount to little more than drug education.

Individualized drug counseling focuses on short-term individualized behavioral goals that are intended to not only reduce or eliminate illicit drug use but to also address impaired functioning in terms of job, family, and other obligations. The objectives are to provide a framework of coping strategies to abstain and maintain abstinence.

Group counseling capitalizes on social reinforcement characteristic of group settings of peer discussions. Positive outcomes are achieved when group counseling is used in conjunction with individualized counseling, cognitive behavioral therapy, or contingency management.

Pharmacotherapy may include administration of different medications to assist with detoxification and maintenance.

Evidence Based Approaches include a number of different variants, including:

Behavioral Therapies, which are approaches help engage people in drug abuse treatment, provide incentives for them to remain abstinent, modify their attitudes and behaviors related to drug abuse, and increase their life skills to handle stressful circumstances and environmental cues that may trigger intense craving for drugs and prompt another cycle of compulsive abuse.

Cognitive Behavioral Therapy is based on the theory that addictive behaviors are learned, and that learning and applying different sets of skills can help the addicted individual stop abusing drugs.

Contingency Management Interventions (CM)/Motivational Incentives have been shown effective by research. In these, patients are given tangible rewards to reinforce positive behaviors. *Voucher based reinforcement (VBR)* rewards patients with vouchers with monetary value, which can be exchanged for goods or services consistent with drug free living. Value of vouchers increase as the patient's time of abstinence increases.

Community Reinforcement Approach (CRA) Plus Vouchers is an intensive 24 week outpatient treatment program that uses tangible incentives along with recreational, familial, social, and vocational reinforcement to make drug-free living more desirable. A computer based CRA Plus Vouchers, Therapeutic Education System (TES) has been shown to be as effective as CRA Plus Vouchers therapy administered by a therapist.

Matrix Model is used as therapy for people with addictions to stimulants such as cocaine and methamphetamines. The therapist, acting as both coach and partner, encourages the patient to learn coping strategies to reinforce positive behavioral changes.

12-Step Facilitation Therapy is "an active engagement strategy designed to increase the likelihood of a substance abuser becoming affiliated with and actively involved in 12-step self-help groups."

Family Behavioral Therapy (FBT) works to eliminate substance abuse problems as well as co-occurring problems that exist in the patient's family, such as child maltreatment, family conflict, unemployment, and depression.

Therapies for adolescents are intended to meet the unique needs and circumstances that characterize adolescent addictions. Research has shown that, to be most effective, treatment therapies for adults must be modified when applied to teenagers.

Multisystemic Therapy (MST) addresses serious antisocial behaviors exhibited by children and teens who abuse alcohol and illicit drugs. Child, peer, and family behaviors are addressed in "natural environments" such as home, school, and neighborhood settings.

Multidimensional Family Therapy (MDFT) is very similar to MST.

Brief Strategic Family Therapy (BSFT) targets family interactions under the assumptions that family behaviors are interdependent, and seeks to identify and remediate specific behaviors that are causing the errant behaviors, such as drug abuse.

Adolescent Community Reinforcement Approach (A-CRA) is a comprehensive substance abuse therapy that focuses on family, social, and educational/vocational interactions to reinforce positive behaviors. The therapist chooses from among 17 A-CRA procedures to address such areas as problem solving, coping, and communications skills.

Medically Assisted Treatment (MAT)

In discussions with Commission staff, experts were emphatic in stating that of the evidence-based and evidence-informed treatments currently in use, there is no single modality that is better than another. Just as not every heart patient requires the same treatment, so do people with SUD require individualized treatment plans to help them recover and survive. There may be considerable debate over whether MAT is appropriate or not; some people insist that MAT is little more than a substitution of licit use for illicit use; others, perhaps the majority of clinicians, regard MAT as another medical tool to be used with the same consideration as any other medical intervention. "Detoxification is not in itself "treatment"….medications were used in almost 80 percent of detoxifications."[63] Further, research shows that:

[63] "Treatment Approaches for Drug Addiction," National Institute on Drug Abuse, July 2016, accessed April 3, 2017, https://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction.

> taking these medications as prescribed allows patients to hold jobs, avoid street crime and violence, and reduce their exposure to HIV by stopping or decreasing injection drug use and drug-related high-risk sexual behavior. Patients stabilized on these medications can also engage more readily in counseling and other behavioral interventions essential to recovery.[64]

MAT typically refers to a process in which a patient, who has been assessed and thoroughly examined, is prescribed medications that reduce cravings for the addicting drug or may block uptake of the addicting drug. Three medications, methadone, buprenorphine, and naltrexone are approved by the FDA for MAT for the treatment of opioid use disorder (OUD), and are categorized as agonists, partial agonists, and antagonists. In MAT, the mediations are used in combination with counseling and behavioral therapies.

> Medications can reduce the cravings and other symptoms associated with withdrawal from a substance by occupying receptors in the brain associated with using that drug (agonists or partial agonists), block the rewarding sensation that comes with using a substance (antagonists), or induce negative feelings when a substance is taken. MAT is has been primarily used for the treatment of opioid use disorder but is also used for alcohol use disorder and the treatment of some other substance use disorders.[65]

MAT is used in different settings and by different means. Methadone and buprenorphine ease withdrawal symptoms and reduce cravings for the opioids. Naltrexone blocks the effects of opioids at the receptors in the brain; it is used after detoxification. The most widely known MAT is the traditional methadone clinic, where clients appear daily to receive their doses as prescribed by the clinic's medical staff. Methadone clinics often use the prospect of allowing patients to have take-home doses as a reward for adhering to their individualized treatment programs. Take-home doses allow the patient to take the daily dose without having to travel to the clinic. Further, achieving permission for take-homes is recognized in the rehabilitation community as a laudable accomplishment on the part of the client.

Buprenorphine is another medication used as part of MAT. Whereas methadone can only be dispensed through a methadone clinic, buprenorphine can be prescribed and dispensed by a family doctor in his or her private practice. Prescribers are required by the DEA to hold a special license, whereas a special license are not required for prescribing methadone.

Methadone is an agonist—it occupies receptors in the brain and suppresses cravings for illicit opioids. Research shows there are a number of benefits derived from methadone use in MAT. Methadone is most effective when patients participate in individual or group counseling and receive other medical, psychiatric, and social services where necessary.[66] Studies have shown

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[64] "Treatment Approaches for Drug Addiction," *National Institute on Drug Abuse*, July 2016, accessed April 3, 2017, https://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction.
[65] "Treatments for Substance Use Disorders," *SAMHSA*, website August 9, 2016, accessed March 30, 2017, https://www.samhsa.gov/treatment/substance-use-disorders.
[66] "Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition)," *NIDA*,

that the death rate of untreated heroin addicts may be seven-and-a-half times greater than that of heroin addicts who are treated with methadone.[67] Patients in methadone MAT exhibit:

- increased treatment retention
- decreased illicit opioid use
- eight-fold to ten-fold decrease in drug related deaths
- increase in employment rates
- decrease in criminal activities[68]

Buprenorphine is a partial agonist—it replaces illicit opioids and suppresses cravings but also works as an antagonist by blocking other opioids. Buprenorphine's results are similar to those from methadone:

- increased treatment retention
- decreased illicit opioid use
- decrease in self-reported cravings[69]

Naltrexone is an antagonist—it blocks the effects of opioids at the receptors in the brain; it is used after detoxification.[70] Naltrexone is somewhat different from methadone and buprenorphine, as it:

- prevents euphoric effects of opioids
- is non-addictive
- is available in an extended release formulation[71]

A person will not perceive any particular drug effect while taking Naltrexone. Methadone, unlike naltrexone, can result in intoxication or even unintentional overdose if the dosage is not closely monitored by prescribers. Methadone, however, provides benefits of being affordable, is covered through government health assistance programs, and has demonstrated safety for pregnant women. Buprenorphine is easier to taper than methadone, has a lower risk of overdose than methadone, and, when formulated with naloxone, discourages opioid use because the client will experience severe withdrawal symptoms should he or she attempt to use opioids. The disadvantage of buprenorphine and buprenorphine/naloxone is that they are costly. Naltrexone's disadvantage is that of non-compliance.[72]

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[67] Adrienne C. Lindsey, Medication-Assisted Treatment 101: Medication Overview and a Review of the Evidence, MAT Symposium, Center for Applied Behavioral Health Policy, Arizona State University, August 2014, accessed March 31, 2017, https://cabhp.asu.edu/sites/default/files/mat-101.pdf.
[68] Ibid.
[69] Ibid.
[70] "Treatment Approaches for Drug Addiction," *National Institute on Drug Abuse*, website, July 2016, accessed October 31, 2016, https://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction. 3.
[71] Adrienne C. Lindsey, Medication-Assisted Treatment 101: Medication Overview and a Review of the Evidence, MAT Symposium, Center for Applied Behavioral Health Policy, Arizona State University, August 2014, accessed March 31, 2017, https://cabhp.asu.edu/sites/default/files/mat-101.pdf.
[72] Ibid.

Twelve-Step Programs

Twelve-step programs are widely known for their use in treating alcohol abuse. Indeed, Alcoholics Anonymous has been nearly synonymous with 12 step recovery since its inception in the 1930s. Over the decades, 12-Step programs have become widely available and provide no-cost options for SUD rehabilitation and healthful lifestyle maintenance. NIDA defines 12-step therapy as, "an active engagement strategy designed to increase the likelihood of a substance abuser becoming affiliated with and actively involved in 12-step self-help groups, thereby promoting abstinence."[73]

Three principles form a core value system among the 12 steps.

1. Acceptance, which includes the realization that drug addiction is a chronic, progressive disease over which one has no control, that life has become unmanageable because of drugs, that willpower alone is insufficient to overcome the problem, and that abstinence is the only alternative.
2. Surrender, which involves giving oneself over to a higher power, accepting the fellowship and support structure of other recovering addicted individuals, and following the recovery activities laid out by the 12-step program.
3. Active involvement in 12-step meetings and related activities.

NIDA concludes that, "While the efficacy of 12-step programs (and 12-step facilitation) in treating alcohol dependence has been established, the research on its usefulness for other forms of substance abuse is more preliminary, but the treatment appears promising for helping drug abusers sustain recovery."[74] Not long after NIDA published its conclusion, researchers observed some promising evidence for accepting the efficacy of 12-step programs for SUD rehabilitation. In a research paper published in 2013, *12-Step Interventions and Mutual Support Programs for Substance Use Disorders: An Overview*, the authors studied the active involvement of people representing several demographics who were suffering SUD and the effectiveness of 12-step programs. Their conclusion was that there is a positive correlation between active involvement in 12-step programs and good outcomes for patients. Further, the authors were able to infer that successful outcomes were not attributable to variables (motivation, severity of SUD, comorbid psychopathology, prognosis) other than the intervention of 12-Step. Thus, they concluded that the evidence does support, albeit does not prove, that there is a "causal pathway between 12-Step attendance and abstinence."[75]

Counselors' experiences reinforce the empirical research supporting the efficacy of 12-step programs. Nearly all those with experience in the field would concur with what one researcher concluded: "Because [12-step programs] are free, available 24/7, and provide social support for

[73] "Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition)," *NIDA* website, 2012, accessed April 3, 2017, https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition.
[74] Ibid.
[75] Dennis M. Donovan, et al, *12-Step Interventions and Mutual Support Programs for Substance Use Disorders: An Overview*, Social Work Public Health. 2013; 28(0): 313–332, accessed April 3, 2017, doi: 10.1080/19371918.2013.774663.

abstinence that is otherwise unavailable, they may play a role in some people's recovery that is not easily filled by anything else."[76]

Effectiveness

It is important, perhaps, in light of the generally appropriate approach to treatment and rehabilitation of using evidence-based practices to inform treatment modalities, to consider also practice-based evidence as providing valuable guidance to clinicians and policy makers. In "Practice-Based Evidence," Anne Swisher wrote,

> In the concept of Practice-Based Evidence, the real, messy, complicated world is not controlled. Instead, real world practice is documented and measured, just as it occurs, "warts" and all. It is the process of measurement and tracking that matters, not controlling how practice is delivered. This allows us to answer a different, but no less important, question than "does X cause Y?" This question is "how does adding X [. . .] intervention alter the complex personalized system of patient Y before me?"[77]

Reconciling the two approaches in developing novel treatment modalities leads to debate among clinicians despite broad agreement with one another that both evidence-based practice (the evidence having been empirically derived, documented, and peer reviewed via randomized controlled trials) and practice-based evidence (the evidence having been experienced, learned, and shared via "the real, messy complicated world" of counseling clients as they arrive at the clinic) have a role in developing and delivering the best possible treatments to patients.

Treatment is tailored to each client's needs. For many people, beginning treatment is intensive, with clients attending multiple outpatient sessions each week. As clients complete each step of their treatment plans, they can transition to less intensive care. Clients transitioned to regular outpatient treatment meet with counselors less often and for fewer hours per week as they sustain their recovery.

Behavioral Therapies In *Behavioral Therapies for Drug Abuse,* researchers Kathleen Carroll and Lisa Onken identified a trend that developed in the early 1990s indicating that "when behavioral therapies, therapist training, study populations, and objective outcome measures were carefully specified," and held to the strict rigors of empirical research, the outcomes might not reach their full potentials.[78] Indeed, the empirical model, preeminent as it is for ensuring validity and repeatability, is the generally accepted standard for conducting scientific research in many disciplines, including public policy and health domains. The rigorous use of the model supports policy makers' evidence-based and evidence-informed decisions. Yet strict adherence to empirical research, which Carroll and Onken refer to as the "technology model," can, and did, create bottlenecks in the development of new treatments and outcomes. In their findings, "…no

[76] Maia Szalavitz, "What I've Finally Concluded About 12-Step Programs After 25 Years Writing About Drugs and Addiction," Pacific Standard website, September 24, 2014, accessed April 3, 2017, https://psmag.com/what-i-ve-finally-concluded-about-12-step-programs-after-25-years-writing-about-drugs-and-addiction-d0ec78253cb.
[77] Anne K. Swisher, PT, PhD, CCS, Editor-in-Chief, "Practice-Based Evidence," *Cardiopulmonary Physical Therapy Journal* 21.2, June 21, 2010, accessed April 4, 2017, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2879420/.
[78] Kathleen M, Carroll, Ph.D., Lisa S. Onken, Ph.D., "Behavioral Therapies for Drug Abuse," *American Journal of Psychiatry* 162 (August 2005): 1452-1460. doi:10.1176/appi.ajp.162.8.1452.

articulated research strategy was available to determine how those [novel] treatments might best be transferred to and administered effectively in clinical settings."[79]

From the National Institute on Drug Abuse:

Outpatient behavioral treatment includes a wide variety of programs for patients who visit a behavioral health counselor on a regular schedule. Most of the programs involve individual or group drug counseling, or both. These programs typically offer forms of behavioral therapy, such as:

- *cognitive-behavioral therapy*, which helps patients recognize, avoid, and cope with the situations in which they are most likely to use drugs;
- *multidimensional family therapy*, which was developed to help adolescents with drug abuse problems, as well as their families, addresses a range of influences on their drug abuse patterns and is designed to improve overall family functioning;
- *motivational interviewing*, which makes the most of people's readiness to change their behavior and enter treatment; and
- *motivational incentives* (contingency management), which uses positive reinforcement to encourage abstinence from drugs.[80]

Contingency management is the technique of providing rewards to clients who meet particular goals in their treatment plans. Rewards may include take-home doses for methadone patients. Other types of contingency management are divided into Voucher-Based Reinforcement (VBR) and Prize Incentives.

In VBR, for example, a patient may receive a voucher for every drug-free urine sample provided. The voucher has monetary value that can be exchanged for food items, movie passes, or other goods or services that are consistent with a drug-free lifestyle.[81] Voucher based incentives demonstrate outcomes that are positively associated with successful SUD outcomes for patients, such as

1. improved retention in treatment programs;
2. reduced illicit use among opioid addicts in MMT;
3. reduced marijuana use; and
4. improved compliance with naltrexone maintenance.[82]

In a an example system of Prize Incentives, participants supplying drug-negative urine or breath tests draw from a bowl for the chance to win a prize worth between $1 and $100.

[79] Kathleen M, Carroll, Ph.D., Lisa S. Onken, Ph.D., "Behavioral Therapies for Drug Abuse," American Journal of Psychiatry 162 (August 2005): 1452-1460. doi:10.1176/appi.ajp.162.8.1452. 2.
[80] "Treatment Approaches for Drug Addiction," National Institute on Drug Abuse, website, July 2016, accessed October 31, 2016, https://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction. 4.
[81] "Contingency Management Interventions/Motivational Incentives (Alcohol, Stimulants, Opioids, Marijuana, Nicotine)," *Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition)*, NIDA website, December 2012, accessed March 31, 2017, https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition/evidence-based-approaches-to-drug-addiction-treatment/behavioral-0.
[82] Kathleen M, Carroll, Ph.D., Lisa S. Onken, Ph.D., "Behavioral Therapies for Drug Abuse," American Journal of Psychiatry 162 (August 2005): 1452-1460. doi:10.1176/appi.ajp.162.8.1452. 3.

Participants may also receive draws for attending counseling sessions and completing weekly goal-related activities. The number of draws starts at one and increases with consecutive negative drug tests and/or counseling sessions attended but resets to one with any drug-positive sample or unexcused absence.[83]

Greater reductions were found in those patients who had tasks outlined in individualized treatment programs other than drug-negative urine specimens. VBR contingency management reduces opioid use in the context of methadone maintenance. "Access to the therapeutic workplace, which provided job training and a salary, was linked to abstinence and was contingent on the participants' producing drug-free urine specimens."[84]

The contingency management technique is generally successful and is considered highly effective. Practical limitations exist, however. Local treatment and rehabilitation clinics are often strapped for resources and are unable to afford to sustain contingency management programs. Carroll and Onken identified four salient problems associated with CM.

1. Cost of vouchers and the need for frequent urine monitoring.
2. Effects weaken after contingencies are terminated.
3. Lower cost and non-monetary vouchers are promising but "without cost-effectiveness data," which means policy makers and insurers are less likely to support.
4. A contingency management does not work for a "substantial proportion" of abusers.[85]

Despite these drawbacks, Carroll and Onken concluded that, "Efficacious behavioral treatments exist, and conditions for which efficacious medications exist can be treated with combinations of behavioral and pharmacological treatments that have even greater potency than either type of treatment alone."[86]

Their conclusion is consistent with the majority of researchers and clinicians. The most effective approaches are those that utilize various modalities, including appropriate behavioral treatments combined with MAT, depending on each individual client's needs.

Inpatient or residential treatment can also be very effective, especially for those with more severe problems (including co-occurring disorders). Licensed residential treatment facilities offer 24-hour structured and intensive care, including safe housing and medical attention. Residential treatment facilities may use a variety of therapeutic approaches, and they are generally aimed at helping the patient progress to a drug-free, crime-free lifestyle after treatment. Examples of residential treatment settings include:

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[83] "Contingency Management Interventions/Motivational Incentives (Alcohol, Stimulants, Opioids, Marijuana, Nicotine)," Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition), NIDA website, December 2012, accessed March 31, 2017, https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition/evidence-based-approaches-to-drug-addiction-treatment/behavioral-0.
[84] Kathleen M, Carroll, Ph.D., Lisa S. Onken, Ph.D., "Behavioral Therapies for Drug Abuse," American Journal of Psychiatry 162 (August 2005): 1452-1460. doi:10.1176/appi.ajp.162.8.1452. 4.
[85] Ibid., 4.
[86] Ibid.

- Therapeutic communities are highly structured programs in which patients usually remain at a residence for six to 12 months. The entire community, including treatment staff and those in recovery, play a role in each client's recovery by influencing his or her attitudes, understanding, and behaviors associated with drug use.
- Shorter-term residential treatment typically focuses on detoxification and provides initial intensive counseling with the goal of transitioning the patient to a community-based setting.
- Recovery housing provides supervised short-term housing for patients, often following more intensive types of inpatient or residential treatment. Recovery housing can help people transition to independent life. For example, recovery housing can help them learn how to manage finances, seek employment, and connect them to support services in their communities.[87]

Treatment effectiveness and cost-effectiveness

Measurement of outcomes is, first and foremost, a vital function of clinical programs in their determination of what models work best for which patients. Another important reason for assiduous measurement of outcomes is so payors can effectively direct funding, whether public, private, or self-funded, to the best treatment modalities. Despite the importance of accurate outcome measures, the answer to the underlying question of how one defines failure, relapse, and success is nearly as individualized as the presentation of each patient's SUD.

In *Effectiveness and Cost-effectiveness of Four Treatment Modalities for Substance Disorders: A Propensity Score Analysis*, the four modalities studied were inpatient programs, which are modeled on hospital care and include intensive medication and counseling for relatively short durations; residential programs, which are less reliant on medical and nonmedical professional staff and instead utilize peer counselors and a communal living experience; outpatient detoxification and MAT programs, which feature somewhat fewer contact hours with medical and nonmedical professional staff; and outpatient drug-free programs, which emphasize counseling rather than MAT.[88] Among the authors' principal findings were "only minor differences between various modalities with regard to effectiveness. Outpatient drug-free programs were the most cost-effective."[89]

Dr. David Loveland, PhD, authored, *Addiction Treatment Dosage: Determining an Effective Length of Treatment*, for Community Care Behavioral Health Organization, which is one of the Behavioral Health Managed Care Organizations contracted by OMHSAS to provide health benefits coverage to Pennsylvania's Medical Assistance beneficiaries.[90] Dr. Loveland reviewed longitudinal studies of opioid dependence treatments to evaluate their effectiveness. One meta-

[87] "Treatment Approaches for Drug Addiction," National Institute on Drug Abuse, website, July 2016, accessed October 31, 2016, https://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction. 5.
[88] R. Mojtabai, J. Graff Zivin, "Effectiveness and Cost-effectiveness of Four Treatment Modalities for Substance Disorders: A Propensity Score Analysis. Health Services Research," *Health Services Research*, February, 2003: 38 (1 Pt 1):233-259, accessed April 12, 2017, doi:10.1111/1475-6773.00114.
[89] Ibid.
[90] David Loveland, PhD, *Addiction Treatment Dosage: Determining an Effective Length of Treatment*, Community Care Behavioral Health Organization, August 23, 2016.

analysis of 28 studies, which covered 60 years' worth of data, revealed that the average rate of abstinence for opioid dependent individuals was 30 percent, while abstinence rates for alcohol, marijuana, and nicotine addictions ranged from 50 percent up to 90 percent. The indication is that opioid dependence does not resolve over time; it remains a chronic, lifelong condition. Whereas most individuals may age out of other addictions, heroin dependence persists until death. Further, mortality rates are highest for opioid addiction when compared to other types of SUD.

Length of treatment is strongly correlated with successful outcomes. Loveland reported that:

> [I]ndividuals who were retained in TCs and other long-term residential programs beyond 90 days showed significant reductions in opioid use over extended periods of time, with substantial reductions achieved at 12 months for those who remained in the TCs

Further, he observed that opioid dependent individuals in abstinence-based programs demonstrated the lowest completion rate among all levels of care for all types of SUD.

In Pennsylvania, virtually all programs work with medications. There is considerable variability in two broad contexts.

1. Whether the medications are provided by the program itself or through referral agreement with another agency. It is important to remember the context that most individuals are not dependent on opioids, so it is common to coordinate with specialty narcotics treatment programs (NTP). For example, it is common for a drug-free program to send an individual to a nearby NTP provider to manage the specialty regulations of medication management of the controlled substance.

2. What medications are used (narcotic, non-narcotic, etc.). Often, programs offer only one or the other of these medications, and there is a variety of medications offered for alcohol use disorder, nicotine use disorder, and mental health conditions in the broad category of substance use disorder treatment programs. Program providers cannot address issues that exist beyond the scope of their licensed programs.

As of June 2016, there were 738 total drug and alcohol treatment facilities in Pennsylvania. This number changes daily as program licenses are approved or other programs close. The state has experienced a rapid expansion of NTPs recently, with 13 opened since July 2012. The total number of specialty NTP's to 76, with a capacity for serving 26,088 individuals. Most of these patients are being treated with methadone. Pennsylvania has 107 programs offering methadone and 28 programs offering Vivitrol (naltrexone). It is not known how many additional programs provide which medications through referral agreements, as described points 1 and 2 above.

Buprenorphine requires certification from the federal Drug Enforcement Agency; there are over 1,900 individuals in Pennsylvania who have received certification to treat with buprenorphine products. It is not known how many are actively prescribing, or the number of individuals in their caseloads. As discussed, the map of buprenorphine providers therefore does not mean that an individual provider is active, although the maps below can be considered when you think of planning purposes.

Federal certification is not required for prescribers of Vivitrol, which makes it difficult to track the number of prescribers. Put another way, to determine the number of doctors prescribing Vivitrol would be similar to determining the number of physicians prescribing Prozac.

STANDARDS OF CARE

All opioids treatment and rehabilitation providers in Pennsylvania must comply with very detailed and specific standards of care that are promulgated by a number of entities at different levels of authority. In short, these entities include the federal government, state government, private insurers, and accreditation agencies. While some of these are not specific to standards of care, they do represent an overview of the rules and regulations that are applied to treatment and rehabilitation facilities, and include:

- zoning;
- other local regulations;
- DDAP licensing applications;
- Medicaid/insurance network applications;
- facility licensing;
- private insurance credentialing;
- SCA contracting;
- license renewals; and
- contract monitoring

In a general sense, a number of entities inspect, regulate, certify, and license treatment and rehabilitation facilities. As a general example, Table 9 shows that an addiction and behavioral health hospital that provides in-patient residential and outpatient care is overseen by a number of organizations at all three levels of government as well as national accrediting bodies and each of the insurers that provide health coverage private plans or those contracted with federal and state as MCOs, for example those that are contractors for Health Choices:

Table 9. Typical Oversight of Addiction and Behavioral Health Hospital		
Federal	Department of Health and Human Services, Centers for Medicare and Medicaid Services	-
State	Department of Health	Division of Acute and Ambulatory Care
	Department of Drug and Alcohol Programs	Drug and Alcohol Program Licensing
	Department of Human Services	Office of Mental Health and Substance Abuse Services
County	Single County Authorities	-
The Joint Commission	-	-
Private Health Insurers	Each health insurer that provides coverage at the hospital	-

Department of Health (DOH)

The DOH website defines the differences between licensure and certification in Pennsylvania:

> Licensure permits the facility to operate in Pennsylvania. Certification permits the facility to claim and receive payment for services rendered from the Medicare and Medicaid programs. The Department of Health, as state licensing agency and State Survey Agency for the U.S. Centers for Medicare and Medicaid Services (CMS), conducts both routine and special inspections of health care facilities to determine ongoing compliance with regulatory requirements which is a condition of licensure and certification. If, during an inspection, the Department determines a facility does not meet regulatory requirements for licensure and certification, the Department notifies the facility in a Statement of Deficiencies. Health care facilities are required to submit a Plan of Correction in response to the Statement of Deficiencies. The Plan of Correction is mandatory, regardless of whether the facility agrees with Department findings or not, and is the means by which the Department monitors and ensures correction of deficiencies. As long as the facility submits a Plan of Correction, the facility may continue to operate and receive Medicare and Medicaid payment, while deficiencies are being corrected. A Plan of Correction, for purposes of licensure and certification, is not an admission of wrongdoing on the part of the facility.[91]

[91] "D&A Facility Locator Page," *Pennsylvania Department of Health*, accessed April 12, 2017, http://sais.health.pa.gov/commonpoc/Content/PublicWeb/DAFind.aspx.

Overview and Definitions

The Division of Drug and Alcohol Program Licensure's main mission is to ensure that the citizens of the Commonwealth are afforded the appropriate treatment for their drug and/or alcohol abuse or addiction within a safe environment. As such, the Division is the regulatory agency responsible for the licensure of drug and alcohol facilities operating in the Commonwealth. All persons, partnerships, corporations, or other legal entities intending to provide drug and alcohol treatment services are required to be licensed for the specific drug and alcohol activity or activities being provided. A drug and alcohol setting may be either free-standing or under the administration of a health care facility. Drug and alcohol treatment and rehabilitation settings for which licensure is required include:

Freestanding treatment facility - the setting in which drug and alcohol treatment services take place that is not located in a health care facility. The majority of drug and alcohol facilities take place in a freestanding treatment facility.

Inpatient hospital - the provision of detoxification or treatment and rehabilitation services, or both, 24 hours a day, in a hospital. The hospital shall be licensed by the Department (of Health) as an acute care or general hospital.

Inpatient non-hospital - a non-hospital, residential facility, providing one or both of the following services: treatment and rehabilitation or detoxification. The client resides at the facility.

Inpatient non-hospital transitional living - the provision of supportive services in a semiprotected home-like environment to assist a client in his gradual reentry into the community. No formal treatment (counseling/psychotherapy) takes place at the facility. This is a live-in/work-out situation.

Intake, evaluation and referral - the provision of intake and referral by a facility designated by the Single County Authority to perform those services centrally for two or more facilities within that Single County Authority. A Single County Authority (SCA) is the county level of government or its designee responsible to plan, fund and administer drug and alcohol activities in a specific county or joinder of counties.

Outpatient - the provision of counseling or psychotherapeutic services on a regular and predetermined schedule. The client resides outside the facility.

Partial hospitalization - the provision of psychiatric, psychological, social and other therapies on a planned and regularly scheduled basis. Partial hospitalization is designed for those clients who would benefit from more intensive services than are offered in outpatient treatment projects, but who do not require 24 hour inpatient care.

Psychiatric hospital - the provision of detoxification or treatment and rehabilitation services, or both, 24 hours a day, in a psychiatric hospital. The psychiatric hospital shall be approved as such by the Department of Public Welfare.

The following is excerpted from the Department of Health's website:

> Licensing Specialists for the Division of Drug and Alcohol Program Licensure inspect drug and alcohol treatment facilities in the Commonwealth to determine compliance with state licensure regulations. Minimally, an annual inspection is conducted for licensure renewal. Inspections may also be conducted for other reasons including plan of correction follow up, investigation of a complaint or unusual incident, follow up on an intent to show cause order, and monitoring for the facility's compliance with state and Federal narcotic treatment regulations.
>
> Should the Department determine that there are violations of a regulation, a Statement of Deficiencies (2567 report) is issued to the facility. The Statement of Deficiencies includes the regulation violated and the Department's findings relative to the violation as well as an explanation of what is needed for compliance. The drug and alcohol facility is required to prepare a written plan of correction detailing how the violation will be corrected, when the violation will be corrected, and who is responsible for ensuring the violation is corrected.
>
> Information about a specific site inspection becomes available to the public approximately 45 days following the completion of the licensure inspection. The DDAP website is updated daily.
>
> Based on the findings during an on-site renewal inspection, each facility is granted a new or renewal licensure. Full licensure is issued for up to a one year period when it has been determined that licensure requirements have been met. Provisional licensure is issued for up to a six-month period when the requirements have been substantially, but not completely, met. Provisional licensure may be renewed no more than three times (four consecutive) or exceed a two-year period.[92]

The responsibilities and authority of DDAP to regulate and ensure appropriate treatment of people with SUD are listed in Chapters 704, 705709, 710, 711, and 715 of Title 28 "Health and Safety," are shown in Table 10.

[92] Pennsylvania Department of Health Drug and Alcohol Facility Drug and Alcohol Facilities Inspection Results, http://sais.health.pa.gov/commonpoc/Content/PublicWeb/DADefinitionsInspect.aspx?exit_date=03/15/2016.

Table 10. Regulation of Substance Abuse Disorder Treatment	
Chapter	**Heading**
704	Staffing Requirements for Drug and Alcohol Treatment Activities
705	Physical Plant Standards
709	Standards for Licensure of Freestanding Treatment Facilities
710	Drug and Alcohol Services
711	Standards for Certification of Treatment Activities Which are a Part of a Health Care Facility
715	Standards for Approval of Narcotic Treatment Program

Aside from the regulations applied to the facilities, their management, and the administration of SUD programs, the regulations related to direct care are most pertinent to HR893.

Section 704.7 addresses the required qualifications for the position of counselor, which include:[93]

(a) Drug and alcohol treatment projects shall be staffed by counselors proportionate to the staff/client and counselor/client ratios listed in §704.12 (relating to full-time equivalent (FTE) maximum client/staff and client/counselor ratios).

(b) Each counselor shall meet at least one of the following groups of qualifications:

1. Current licensure in this Commonwealth as a physician.

2. A master's degree or above from an accredited college with a major in chemical dependency, psychology, social work, counseling, nursing (with a clinical specialty in the human services) or other related field which includes a practicum in a health or human service agency, preferably in a drug and alcohol setting. If the practicum did not take place in a drug and alcohol setting, the individual's written training plan shall specifically address a plan to achieve counseling competency in chemical dependency issues.

3. A bachelor's degree from an accredited college with a major in chemical dependency, psychology, social work, counseling, nursing (with a clinical specialty in the human services) or other related field and one year of clinical experience (a minimum of 1,820 hours) in a health or human service agency, preferably in a drug and alcohol setting. If a person's experience did not take place in a drug and alcohol setting, the individual's written training plan shall specifically address a plan to achieve counseling competency in chemical dependency issues.

[93] 28 Pa. Code § 704.7.

4. An associate degree from an accredited college with a major in chemical dependency, psychology, social work, counseling, nursing (with a clinical specialty in the human services) or other related field and two years of clinical experience (a minimum of 3,640 hours) in a health or human service agency, preferably in a drug and alcohol setting. If a person's experience was not in a drug and alcohol setting, the individual's written training plan shall specifically address a plan to achieve counseling competency in chemical dependency issues.

5. Current licensure in this Commonwealth as a registered nurse and a degree from an accredited school of nursing and one year of counseling experience (a minimum of 1,820 hours) in a health or human service agency, preferably in a drug and alcohol setting. If a person's experience was not in a drug and alcohol setting, the individual's written training plan shall specifically address a plan to achieve counseling competency in chemical dependency issues.

6. Full certification as an addictions counselor by a statewide certification body which is a member of a national certification body or certification by another state government's substance abuse counseling certification board.

The Department of Drug and Alcohol Programs' (DDAP) annual report for 2015-2016 highlights six goals of the department.[94]

Goal 1 - Develop State Plan for substance use disorders and problem gambling.

Goal 1 has five components that address data and information collection and analyses. Cost benefit analyses and evidence based planning are significant aspects in the development of the state plan, and fulfill the requirements of Act 50. This goal includes both gathering input from SCAs to identify promising approaches to SUD and establishing guidelines to assist SCAs in developing their own plans, which further illustrates the synergistic relationship between DDAP and SCAs.

Goal 2 - Gather and analyze trending data in order to maximize the effectiveness of efforts in prevention, intervention, treatment and recovery.

Goal 2 focuses on data gathering processes that have capacity to provide routine updates for optimal monitoring, analyses, and evaluation. As with Goal 1, the collaboration between DDAP and SCAs is sustained and strengthened by effective and efficient sharing of information. This goal focuses on the maintaining the most effective mechanisms for DDAP to serve as an information clearinghouse and expert advisor not only to SCAs but to prevention providers, state agencies, and the public as well. This is of significant importance with regard to oversight of

[94] *Pennsylvania Drug and Alcohol Annual Plan and Report: Drug and Alcohol Abuse Prevention and Treatment 2015-2016*, DDAP, accessed March 27, 2017, http://www.ddap.pa.gov/Reports/State%20Plan%20and%20Annual%20Reports/2015-2016%20DDAP%20State%20Plan%20and%202013-2014%20Report.pdf. 14.

treatment modalities and the sharing of best practices and evidence-based and evidence-informed treatments.

Goal 3 - Identify and promote best practices and policies to ensure full access to high quality and cost effective prevention, intervention, treatment and recovery support services.

Goal 3 is focused on across the board access to information for everyone connected to SUD. To meet this goal, DDAP develops and provides prevention resources and outreach materials to the public. The Department develops resources and materials that are focused on different populations, such as pregnant women and women with children; older adults; and veterans. DDAP collaborates with the respective state agencies: PDE, DHS, PDA, and DMVA, to best provide for these demographic groups. DDAP also maintains close relationships with the medical community along the same lines.

HR893 is concerned with the quality and effectiveness of SUD services, particularly with regard to the delivery of MAT and alternatives. DDAP's annual report explicitly details its goals to develop clinical standards and evidence-based curricula, and its commitment to the implementation of standards in local drug and alcohol planning, in treatment facilities, and in grants and contracts to providers. Further, Goal 3 includes development and dissemination of improved interventions and drug detection methods.

Goal 4 - Increase effectiveness of Pennsylvania's drug, alcohol and gambling prevention and treatment efforts by promoting and establishing federal, state and local collaboration.

Goal 4 is met when DDAP works productively with other agencies. Of course, the close partnership with SCAs continues under this goal. Also included in Goal 4 is DDAP's work with those agencies concerning specific demographic populations, such as Pennsylvania Commission on Crime and Delinquency (PCCD), Department of Corrections, (DOC), and DHS. This goal also covers DDAP's cooperation with a number of Pennsylvania's provider associations. Significantly, the Department maintains open lines of communication with people who are in recovery from SUD and works closely with organizations that support and advocate for the individuals who are the principal clients, raison d'être for the existence of the entire drug and alcohol system.

Goal 5 - Develop, and expand, a highly competent, dedicated and efficient workforce and infrastructure to ensure the Department accomplishes its mission and achieves its goals.

Goal 5 includes DDAP's efforts to assess current training and development of its staff, partners, and collaborating organizations. The Department provides training courses and materials for stakeholders in the criminal justice system, as well.

Goal 6 - Ensure a system of continuous quality improvement (CQI).

Finally, Goal 6 covers the Department's efforts to ensure that the entire system of substance abuse prevention and treatment is continually monitored, evaluated, and modified to improve the effectiveness, efficiency, and quality of the services that are provided to individuals who suffer from SUD. This includes routine examination of existing regulations, from which DDAP initiates regulatory modifications when necessary. As with each of the previous five goals, Goal 6 similarly

features close collaboration with the SCAs, other state agencies, providers, and community partners to incentivize compliance, maintenance of high quality standards, and utilization of best practices. Of significant importance to HR893, the Department ensures many aspects of meeting Goal 6 through its licensing of providers.

Single County Authorities

Single County Authorities (SCAs) are the Commonwealth's local administrators of publicly funded drug and alcohol programs. Pennsylvania established the Single County Authorities (SCAs) in 1979 through regulations promulgated under the authority of Act 63 of 1972, Pennsylvania Drug and Alcohol Abuse Control Act.[95] Act 63 requires that DDAP develop annual plans for drug and alcohol abuse prevention and treatment, and SCAs are charged with carrying out the annual plans at the local level.[96] There are currently 47 SCAs that are located throughout the Commonwealth.[97] Several thinly populated counties formed joinders to combine staff, funding, and resources.

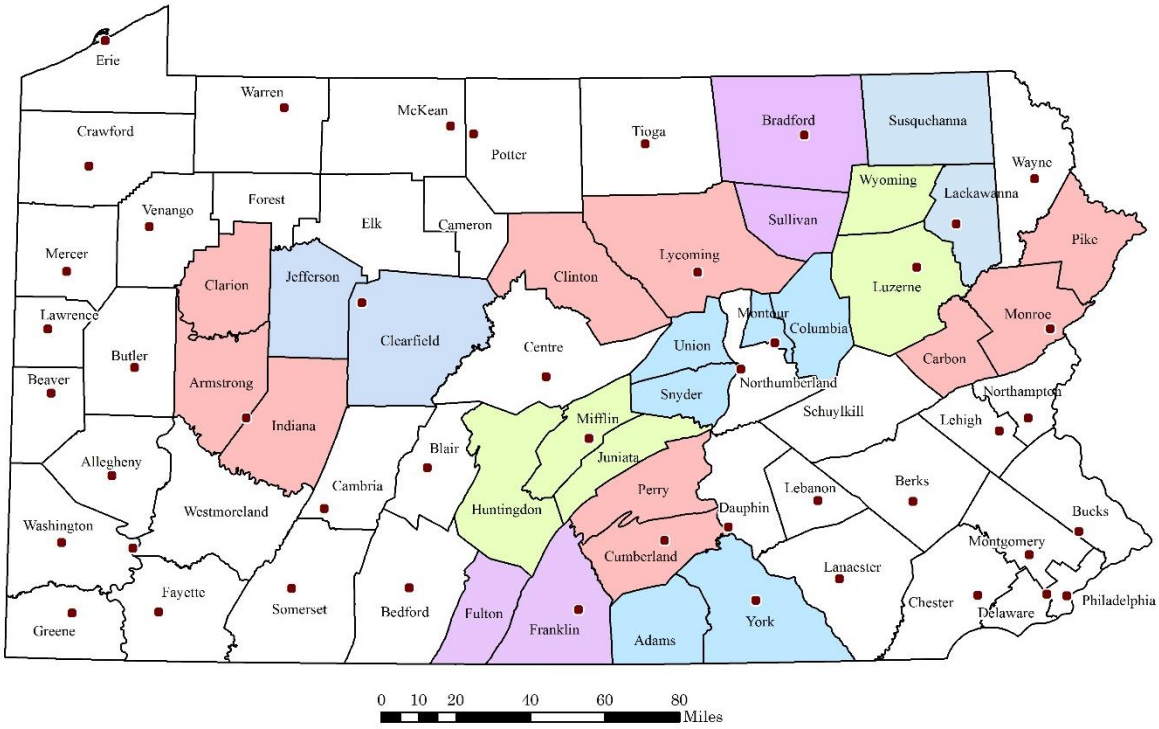
1. Allegheny County Department of Human Services/Office of Behavioral Health/Bureau of Drug and Alcohol Services
2. Armstrong-Indiana-Clarion Drug and Alcohol Commission, Inc.
3. Beaver County Behavioral Health Drug and Alcohol Program
4. (Bedford) Personal Solutions, Inc.
5. Berks County Council on Chemical Abuse
6. Blair County Drug and Alcohol Program, Inc.
7. Bradford/Sullivan Drug and Alcohol Programs
8. Bucks County Drug & Alcohol Commission, Inc.
9. Butler County MH/MR Drug and Alcohol
10. Cambria County MH/MR Drug and Alcohol Program
11. Cameron Elk McKean Counties Alcohol and Drug Abuse Services Inc.
12. Carbon Monroe Pike Drug and Alcohol Commission
13. Centre County Office MH/MR Drug and Alcohol
14. Chester County Department of D&A Services
15. Clearfield Jefferson Drug and Alcohol Commission
16. Columbia Montour Snyder Union Drug and Alcohol Program
17. Crawford County D&A Executive Commission, Inc.
18. Cumberland Perry Drug and Alcohol Commission
19. Dauphin County Department of Drug and Alcohol Services
20. Delaware County Office of Behavioral Health
21. Erie County Office of Drug and Alcohol Abuse
22. Fayette County Drug and Alcohol Commission Inc.
23. Forest -Warren Human Services D&A Program
24. Franklin Fulton County Drug and Alcohol Program
25. Greene County Human Services Program

[95] Act of April 14, 1972 (P.L.221, No.63). These regulations were adopted June 15, 1979 and were published in 9 Pa.B. 1862, Dec. 31, 1979.
[96] "Membership Directory," PACDAA website, revised February 9, 2017, accessed march 23, 2017, http://www.pacdaa.org/Pages/About-Us.aspx
[97] Ibid.

26. Juniata Valley Tri-County Drug and Alcohol Abuse Commission
27. Lackawanna/Susquehanna Office of Drug and Alcohol Programs
28. Lancaster County Drug and Alcohol Commission
29. Lawrence County Drug and Alcohol Commission Inc.
30. Lebanon County Commission on Drug and Alcohol Abuse
31. Lehigh County Drug & Alcohol Services
32. Luzerne Wyoming Counties Drug and Alcohol Program
33. Lycoming Clinton West Branch Drug and Alcohol Abuse Commission
34. Mercer County Behavioral Health Commission Inc.
35. Montgomery County Department of Behavioral Health and Developmental Disabilities
36. Northampton County D&A Division
37. Northumberland County BH/IDS
38. Philadelphia Office of Addiction Services
39. Potter County Drug and Alcohol
40. Schuylkill County Drug and Alcohol
41. Somerset County Drug and Alcohol Commission
42. Tioga County Department of Human Services
43. Venango County Substance Abuse Program
44. Washington D&A Commission, Inc.
45. Wayne County Drug and Alcohol Commission
46. Westmoreland Drug and Alcohol Commission, Inc.
47. York Adams Drug and Alcohol Commission[98]

[98] "Get Help Now | County Services," DDAP website, accessed March 23, 2017, https://apps.ddap.pa.gov/gethelpnow/CountyServices.aspx

Map 7.
Pennsylvania
Single County Authorities
2017



The SCAs' powers and duties are found in Section 254.4 "Powers and duties of the SCA," of Title 4 of the Pennsylvania Code:

1. To review and evaluate drug and alcohol services, projects and special problems in relation to the incidence and prevalence of drug and alcohol abuse.

2. To prepare the annual Comprehensive Drug and Alcohol Treatment and Prevention Plan.

3. To review and amend, on an annual basis, the Comprehensive Drug and Alcohol Treatment and Prevention Plan.

4. To recommend approval of projects and any other matters related to drug and alcohol services in the county.

5. To assist the Council in the evaluation of drug and alcohol treatment, intervention and prevention projects through the implementation of the UDCS in all projects in the county.

6. To conduct unique evaluation of SCA funded projects in accordance with guidelines approved by the Council.

7. To prescribe, amend, and repeal bylaws governing the manner in which business is conducted and the manner in which the powers granted to it are exercised.

8. To submit the Annual Plan to the county commissioners for approval.

9. To monitor compliance/performance of service providers relative to uniform policies, regulations, contractual obligations, and goals/objectives.[99]

SCAs, to meet these responsibilities, contract with the Department of Drug and Alcohol Programs (DDAP) to receive state and federal funding to "plan, coordinate, programmatically and fiscally manage and implement the delivery of drug and alcohol prevention, intervention, and treatment services at the local level."[100] To qualify for DDAP funding, the SCAs are required to use SAMSHA's Strategic Planning Framework (SPF).[101] SAMHSA identifies five distinctive features of the SPF as being critical to the planning process. The process must be:

1. Data driven: the SPF uses data to help providers identify existing and emerging SUD problems in their communities, to help identify the best ways to address the problems, and to evaluate the effectiveness of the interventions.
2. Dynamic: the SPF is iterative. It allows providers to evaluate the validity and effectiveness of their plans, inputs, outputs, and interventions so as to make as-needed modifications to improve outcomes in their communities.
3. Focused on population-level change: The entire community population must be considered when prevention and treatment interventions are implemented. Multiple strategies must be employed at their respective population points to address risk and protective factors that exist across the entire community.
4. Intended to guide prevention efforts for people of all ages: Traditional prevention strategies focused on adolescents. Experience shows that often overlooked age groups, e.g. 18-25 and aged 65 and older, are also in need of prevention education.
5. Reliant on team approach: Each SPF step requires participation from diverse community partners.[102]

Beyond the requirement to develop SPF plans that adhere to SAMHSA's guidelines, DDAP encourages SCAs to deliver at least 25 percent of their services as a combination of evidence-based and evidence-informed prevention programs and strategies. The Department provides detailed definitions of evidence-based and evidence-informed prevention, which are shown in Appendix B. In short, such prevention programs and strategies are defined:

[99] Title 4 Administration, Chapter 254. Single County Authorities, § 254.4, "Powers and duties of the SCA."
[100] "Welcome to the PACDAA," Pennsylvania Association of County Drug and Alcohol Administrators website, accessed march 23, 2017, http://www.pacdaa.org/Pages/PACDAAHome.aspx.
[101] "Applying Strategic Prevention Framework," SAMHSA website, accessed March 28, 2017, https://www.samhsa.gov/capt/applying-strategic-prevention-framework.
[102] Ibid.

- Evidence-based—Shown through research and evaluation to be effective in the prevention and/or delay of substance use/abuse. These programs also must be listed among those included in various federal registries.
- Evidence-informed—Based on a theory of change that is documented in a clear logic or conceptual model, or is based on an established theory that has been tested and supported in multiple studies.[103]

SCAs are also funded through DHS OMHSAS to provide services for individuals who are eligible for Medical Assistance (MA) in non-hospital residential care and a continuum of care for those no longer eligible for MA as a consequence of welfare policy reforms.

SCAs are required to develop needs assessments, implement contracts for the continuum of care, and maintain reporting requirements. DDAP and the SCAs share an emphasis on a recovery oriented systems of care, trauma informed care, motivational enhancement, and evidence based practices.

In turn, the SCAs contract with drug and alcohol service providers to deliver treatment and rehabilitation services. The SCAs themselves

The Pennsylvania Association of County Drug and Alcohol Administrators (PACDAA) serves as the coordinating body for the SCAs.

The PACDAA defines SCAs' mission as:

- ensuring that client needs determine cost and appropriateness of care;
- ensuring that taxpayer dollars are used effectively and efficiently;
- promoting community-based support for a client's continued recovery so they may become productive citizens;
- providing treatment, along with the use of environmental and social service supports, as the best way to enhance the client's continued recovery; and
- supporting comprehensive community-based prevention programs that empower and mobilize citizens to assume active roles in reducing substance abuse in their own communities.[104]

SCAs provide public information on the services they provide for people who seek help with SUD. Generally, when a person first contacts the SCA, the office schedules an assessment with a contracted provider organization or conducts the assessment through its own staff. Next, the office makes a recommendation for appropriate level of care utilizing the Pennsylvania Client

[103] Pennsylvania Drug and Alcohol Annual Plan and Report: Drug and Alcohol Abuse Prevention and Treatment 2015-2016, DDAP, accessed March 27, 2017, http://www.ddap.pa.gov/Reports/State%20Plan%20and%20Annual%20Reports/2015-2016%20DDAP%20State%20Plan%20and%202013-2014%20Report.pdf. 35.

[104] "Membership Directory," PACDAA website, revised February 9, 2017, accessed march 23, 2017, http://www.pacdaa.org/Pages/About-Us.aspx.

Placement Criteria or the ASAM Client Placement Criteria. Following those beginning stages, the SCA refers the client to a treatment provider based on the level of care recommendation.

In their roles as the local administrative and oversight agencies, SCAs handle case management and coordination of services. The SCA office authorizes funding for each client's treatment and rehabilitation, after which the client begins his or her treatment. The SCA monitors each client's progress and coordinates with the client and treatment provider at each level of care, such as through halfway house treatment or MAT. When client's progress from one level of care to the next, the SCA again authorizes funding for each consequential level. Further, the SCA monitors client progress as client follows through with continuing care until discharge from treatment.[105]

SCA clients who have insurance through an HMO, Medical Assistance, or veterans benefits are referred to their insurance providers to determine what is covered and how to properly access SUD benefits. In some cases, pre-authorization from an HMO is required. Some SUD providers will assist clients in working with insurance providers. Most military veterans are eligible for SUD treatment services. Clients who have the ability to pay for SUD treatment, may choose any facility they can afford.

Clients who are not covered under a health insurance plan may be referred to SUD providers contracted by the SCA for a short phone assessment. If it is determined that the client is appropriate for in-patient detoxification, the SUD provider will begin a bed search to locate treatment accommodations. The provider will also help the client determine if he or she is eligible for county funding, or help make other payment arrangements. Those clients who need in-patient rehabilitation rather than detoxification are directed to make an appointment with an outpatient clinic for an evaluation and a financial liability review."[106] Appendix C presents a flow chart from the York County SCA that explains how a person would access SUD services.

SCAs often work with local schools' Student Assistance Programs, meeting with SAP teams to provide consultation and technical assistance. The staff also conducts assessments of children and adolescents who are at risk of drug abuse, and coordinates referrals to treatment and other services.

SCAs plan and coordinate speaking events, educational activities, and disseminate informational materials aimed at reducing the impact and incidence of SUD in its service area.

Recognizing that SUD is not a discrete part of a client's life, as part of their responsibility the SCAs assist clients in coping with specific crises or situations that impact each client's progress to healthful lifestyles. The SCAs will assess, assist, and refer clients to necessary and appropriate intervention services.[107]

[105] "Pennsylvania Drug And Alcohol Treatment Services And Funding Information,"
[106] "2017 Service Guide: Getting Help," Lancaster County Drug & Alcohol Commission, accessed March 24, 2017, http://web.co.lancaster.pa.us/DocumentCenter/View/7444.
[107] "York/Adams Drug & Alcohol Commission," York County, Pennsylvania website, accessed March 28, 2107, https://yorkcountypa.gov/health-human-services/drug-alcohol-services.html.

Medication-Assisted Treatment:

As required by the Department of Drug and Alcohol Programs, the SCA provides medication-assisted treatment on an individual needed basis.

The quality of the programs is of utmost importance; the administrative burden, however, must be recognized when driving programs toward continuous quality improvement. A balance must be struck between quality outcomes and administrative burden. One of the most crucial jobs of the therapist is to provide the programs to the client that will lead to the best possible outcomes, which does not necessarily mean that the therapist holds to a particular curriculum manual. The therapist must work within his or her competency and choose from the best programs that will work for each particular client.

Any particular treatment program or curriculum will be ineffective, despite the research and evidence that might support it, if it is not applied at the appropriate level of care for the appropriate duration of treatment. Moreover, there is a demonstrated relationship between the number of days in treatment and the quality of observed outcomes. The SCAs are organized to have the infrastructure and responsibility to monitor the quality of outcomes because they serve as distribution points for state and federal funding.

DDAP and the SCAs are fulfilling their responsibilities as points of accountability for quality and funding. The overall focus of the fight against addiction and the efforts to provide effective rehabilitation and treatment, with its starting points in DDAP and the SCAs, must maintain an organizational discipline to marshal resources in an organized, top-down approach so as not to dilute the resources through inefficient and ineffective by engaging in initiatives that, despite their understandable intentions, will consequently duplicate oversight measures and redirect resources. The best intentions have to be organized along the lines of what is working and what is known and proven to work with top-down direction. Certainly, this is not a call to allow an inertial state to take root; new treatments and programming should and must be investigated, reviewed, and applied as they are developed at all levels of care. The application of funding, certification and licensing, and oversight of measurements of quality, nevertheless, must remain organized, coherent, unified, and directed from the top. Policy makers have to step back from visualizing the micro, i.e., the boots on the ground level—and use their expertise to ensure that at the macro level the system is delivering adequate resources through appropriate treatment streams to achieve optimal outcomes for patients. In short, the members of the advisory committee advise the need to be vigilant not to lose sight of the forest for the trees.

A person suffering from a SUD or addiction needs to get professional help before the drug use wrecks his or her life, relationship, family, friends, and employment. And, unfortunately, the downward spiral increases in velocity and inertia, accelerating faster toward an ultimate, irreversible end that becomes harder and harder to avoid as time goes on. There are several avenues by which the person can enter the treatment system. It may be of his or her own volition by walking into a health or drug treatment clinic, by seeing a family practitioner, by being coerced by family or friends, or an employer, or compelled by the criminal justice system through arrest, incarceration, and court sentencing.

SAMHSA lists four phases of treatment for people with SUD:

1. Engagement
2. Stabilization
3. Primary treatment
4. Continuing care[108]

Using a multi-modal approach to these four phases that tailors to each client's needs, the APA stated in 2007:

> Additionally, the purpose of treatment should help the patient reduce use of the substance or achieve complete abstinence, reduce the frequency and severity of substance use episodes, and improve psychological and social functioning.[109]

Regardless of which of these leads to the person's encounter with the system, treatment and rehabilitation generally begin with the first step, referred to as intake.

The National Institute on Drug Abuse lists five steps of successful treatment: [110]

1. detoxification
2. behavioral counseling
3. medication
4. evaluation and treatment for co-occurring mental health issues such as depression and anxiety
5. long-term follow-up to prevent relapse

In Pennsylvania, a person's first step toward treatment and rehabilitation, commonly referred to as "intake," begins when he or she enters a treatment facility. The person is assessed by a trained counselor who meets qualifications specified in regulations contained in Chapter 704, Title 28 "Health and Safety". The counselor may use one of two assessment tools, client placement criteria, utilized in Pennsylvania.

In 1991, the American Society of Addiction Medicine (ASAM), established its patient placement criteria (PPC), which have since expanded to include placement, continued stay, and transfer/discharge criteria for adolescent and adult patients suffering from SUD. ASAM continues to revise the criteria.

Precursors to DDAP began developing placement criteria tailored to the unique characteristics of Pennsylvania in the late 1980s and through the establishment of the ASAM criteria. By 1999, Pennsylvania had released a revised Pennsylvania Client Placement Criteria (PCPC), which were based on ASAM criteria and had been developed with the permission of ASAM.

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[108] "Evidence-Based Practices in Drug and Alcohol Treatment and Recovery," Magellan Health, Inc., June 2016.
[109] Ibid.
[110] "Treatment Approaches for Drug Addiction," *Drug Facts*, National Institute on Drug Abuse, revised July 2016, accessed March 20, 2017, https://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction.

The primary difference between the PCPC and PPM is that PPC are applied as a means of workforce protection, and the PCPC are applied to those patients who have deteriorated beyond the point that life maintenance is feasible without professional intervention. PPC may be applicable to many SUD patients, provided they are helped in time; PCPC are designed and used for the worst of the worst SUD cases. Further, PCPC are designed as a built-out continuation of services available through Pennsylvania providers. The PCPC link together the steps between levels of the treatment and rehabilitation systems.

In short, the PPC and PCPC are both used in Pennsylvania, albeit for different populations. The two systems are not competing with one another. They are both tools in a provider's tool box, each with its particular use, depending on each particular patient's needs. A good clinician knows when to go off script.

Both PPC and PCPC are required by statute for use in Medicaid coverage. Title 55 Chapter 1223 (Public Welfare Code (62 P. S. § 443.3(1)).

Advisory Committee members' criticisms of PPC include its substantial cost, and that it's complicated, convoluted, and seem to be biased toward insurance companies' interest insofar as having claims denied. People want to see the national standards used so that they can compare apples to apples, but there aren't apples to apples comparisons to be made. The problems aren't with the criteria being used, but that the criteria are not being used correctly and aren't always followed.

There was discussion on how the system can measure the effectiveness of PPC and PCPC. Both PCPC and ASAM have their own research and measure the outcomes based on their own particular criteria. In the end, the effectiveness of the criteria is mostly based on the skill set of the interviewer rather than on the criteria being used.

At the next step in the treatment and rehabilitation process, beyond the criteria, the interviewer's skill set, and having already accounted for the patient's needs, is the step where the criteria interface with treatment system itself.

Patients' needs are met with services, insofar as those services are available. Balancing resource allocations is, regrettably, a necessary exercise. It had been noted during the discussion that providers will, sometimes, be in a position of having to match patients' needs with available resources, rather than matching resources to patients' needs—an inversion that increases the likelihood that the system will fail its clients. Thus, the "problem" is no longer one of criteria, but one of treatment availability.

Effective treatments exist. Researchers continue to refine the empirical evidence that corroborates clinicians' experiences. Multi-modal approaches to treating SUD, those that combine pharmacotherapies with behavioral therapies, are effective. To reframe the situation from a similar perspective, for someone suffering from diabetes, "diet and exercise don't end with insulin." Despite experts' agreement across the field of SUD treatment about the validity and effectiveness of the multi-modal treatment paradigm, reaching effective treatments is frequently, if not usually, blocked by obstacles of insufficient resources, insufficient funding, hesitancy on the part of some

clinicians and patients to move in different directions, and even some talk of discrimination toward MAT patients on the part of providers.

SAMHSA's 2014 *National Survey on Drug Use and Health* revealed that approximately 7.9 million adults had co-occurring disorders.[111] Also, the National Survey of Substance Abuse Treatment Services (N-SSATS) found that about 45 percent of people seeking SUD treatment have been diagnosed as having a co-occurring mental and substance use disorder. In 2016, rates of co-occurring disorders were highest among adults ages 26 to 49, wherein 42.7 percent suffered from both SUD and some form of mental illness. In 2014, the highest rate of COD, 35.3 percent, was found among those ages 18 to 25. One frightening statistic reveals that 55 percent of people with co-occurring disorders receive no treatment at all.

To address these patients' needs, SAMHSA:

> supports an integrated treatment approach to treating co-occurring mental and substance use disorders. Integrated treatment requires collaboration across disciplines. Integrated treatment planning addresses both mental health and substance abuse, each in the context of the other disorder. Treatment planning should be client-centered, addressing clients' goals and using treatment strategies that are acceptable to them.[112]

SAMHSA maintains that integrated treatment, i.e., treatment modalities that simultaneously address co-occurring disorders, like mental and SUDs, is associated with lower costs and better outcomes, such as:

- reduced substance use;
- improved psychiatric symptoms and functioning;
- decreased hospitalization;
- increased housing stability;
- fewer arrests; and
- improved quality of life.[113]

[111] Sarra L. Hedden, et al, *Behavioral Health Trends in the United States: Results from the 2014 National Survey on Drug Use and Health*, Center for Behavioral Health Statistics and Quality, SAMHSA, 2015, accessed April 11, 2017, https://www.samhsa.gov/data/sites/default/files/NSDUH-FRR1-2014/NSDUH-FRR1-2014.pdf.
[112] "Behavioral Health Treatments and Services: Treatment for Co-occurring Mental and Substance Use Disorders," *SAMHSA*, October 19, 2015, accessed April 11, 2017, https://www.samhsa.gov/treatment#co-occurring.
[113] Ibid.

PENNSYLVANIA AND OTHER STATES' TREATMENT FACILITIES

There are 634 licensed entities providing services in Pennsylvania. Of these, 271 are for-profit operations and 363 are non-profit operations.[114] It is important to note that these are license titles. Outpatient maintenance programs, for example, in addition to administering, are also providing counseling. Conversely, most of the "drug free" providers are coordinating with others to provide medications by referral, even if they are not provided on site. Because the providers sometimes blend together, there is a caution of not overstating the counts in either direction.[115]

The federal Drug Addiction Treatment Act of 2000, (DATA 2000), part of the Children's Health Act of 2000, created a waiver program for physicians who meet certain qualifications to treat opioid dependency with FDA-approved narcotic medications on Schedule III, IV, and V.[116] Under the program, physicians may obtain waivers from the separate registration requirements of the Narcotic Addiction Treatment Act in order to prescribe buprenorphine, for example, outside of a licensed opioid treatment program.[117]

Data acquired from SAMHSA show the number of buprenorphine waivers granted to Pennsylvania prescribers each year since 2002. The number of new DATA-certified physicians in Pennsylvania for years 2002 to date through 2017 sums to 2,179 with waivers for 30 patients and 841 with waivers for 100. Presumably those with waivers for 100 are double counted from the list of those with existing waivers for 30 since a grantee must first be awarded a waiver for 30 before applying for 100. Current federal federal law allows for physicians to obtain waivers for up to 275 patients. As of May, 2017 there were approximately 2,100 physicians in Pennsylvania certified following categories:

- 1,300 certified with capacity of 30 patients
- 600 certified with capacity of 100 patients
- 200 certified with capacity of 275 patients.[118]

[114] Email dated April 21, 2017 from Dr. Ken Martz, Special Assistant to the Secretary, DDAP.
[115] Email dated April 21, 2017 to Commission staff from Dr. Ken Martz, PsyD, MBA, Special Assistant to the Secretary, DDAP.
[116] October 17, 2000, Congress passed the Drug Addiction Treatment Act (DATA)
[117] Narcotic Addict Treatment Act of 1974 (P.L. 93–281), amended the Controlled Substances Act, recognized the use of an opioid drug to treat opioid addiction as critical and, for the first time in Federal law, defined "maintenance treatment." *Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs*, Center for Substance Abuse Treatment, Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 2005 (Treatment Improvement Protocol (TIP) Series, No. 43.) Chapter 2. History of Medication-Assisted Treatment for Opioid Addiction, 2005, accessed May 4, 2017, https://www.ncbi.nlm.nih.gov/books/NBK64157/.
[118] Email to Commission staff dated May 16, 2017 from Dr. Kenneth J. Martz, PsyD, MBA, Special Assistant to the Secretary, Pennsylvania Department of Drug and Alcohol Programs.

The federal Comprehensive Addiction and Recovery Act of 2016 (CARA)[119] allows Nurse Practitioners NPs) and Physician Assistants (PAs) to prescribe buprenorphine for opioid use disorder provided that the NPs and PAs meet several conditions:

1. the provider is licensed under state law to prescribe schedule III, IV, or V medications for the treatment of pain;

2. the provider has completed 24 hours of initial training or has such other training or experience as the Secretary of the U.S. Department of Health and Human Services determines; and

3. the provider is supervised by, or works in collaboration with, a qualifying physician, if the provider is required by state law to prescribe medications for the treatment of opioid use disorder OUD) in collaboration with or under the supervision of a qualifying physician.

CARA defines a qualifying physician as one who is permitted to prescribe buprenorphine for treatment of OUD.[120]

Buprenorphine Prescribing Limits for Non-Physician Medical Practitioners in Pennsylvania

The federal Comprehensive Addiction and Recovery Act ("CARA") broadened the scope of who may be permitted to administer medication-assisted treatment for recovery from addiction by adding "qualifying other practitioner" to the class of "qualifying practitioners" permitted to prescribe such medications. A "qualifying other practitioner" is further defined as a nurse practitioner or physician assistant who:

> - Is licensed under State law to prescribe schedule III, IV, or V medications for the treatment of pain; and
> - Is supervised by, or works in collaboration with, a qualifying physician, if the nurse practitioner or physician assistant is required by State law to prescribe medications for the treatment of opioid use disorder in collaboration with or under the supervision of a physician. [emphasis added].

In Pennsylvania, physician's assistants "shall not independently prescribe or dispense drugs." In other words, physician's assistants are permitted to prescribe or dispense prescription medication so long as they are operating under the control and supervision of a physician. The physician under whom the physician assistant works determines the scope of the physician assistant's prescribing authority. Because physician's assistants are not prohibited by state law

[119] Comprehensive Addiction and Recovery Act (P.L. 114-198).
[120] The Network for Public Health Law, "Buprenorphine Prescribing Limitations for Nurse Practitioners and Physician Assistants," *The Network for Public Health Law* website, March 29, 2017, accessed March 30, 2017, https://www.networkforphl.org/resources_collection/2017/03/29/877/buprenorphine_prescribing_limitations_for_nurse_practitioners_and_physician_assistants/?utm_source=Network+Report+3-30-17&utm_campaign=Network+Report+3-30-17&utm_medium=email&utm_content=294.

from prescribing schedule III, IV, or V medications, it would appear that physician's assistants meet the first requirement of CARA mentioned above.

The second requirement is that the physician's assistant work under the supervision of a qualifying physician, if that is what the state law requires. This provision's use of the conjunction "if" recognizes that some states are less restrictive than others in the degree of autonomy they grant to non-physician medical practitioners. However, because physician's assistants in Pennsylvania must be supervised by a physician, this requirement of CARA would apply and a physician's assistant would only be in compliance with this portion of CARA if he or she was practicing (and prescribing) within the supervision and oversight of a physician.

Nurse practitioners, statutorily known in Pennsylvania as "certified registered nurse practitioners," are also permitted to prescribe and dispense "medical therapeutic or corrective measures," which includes drugs. The state board of nursing has further promulgated regulations delimiting when a certified registered nurse practitioner may prescribe medication. Importantly, the regulation requires that the certified registered nurse practitioner act "in collaboration with a physician" when prescribing medications. Just as with physician's assistants, the scope of the certified nurse practitioner's prescribing authority is in the hands of the supervising physician.

This section of CARA under discussion here gives latitude to the states. As long as the state gives nurse practitioners and physician's assistants prescribing authority, CARA permits them to prescribe buprenorphine. If the state also requires that the non-physician practitioner do so under the supervision of a physician, CARA requires that the non-physician practitioner be in compliance with that requirement in order to also be in compliance with CARA.

Here in the Commonwealth, there is nothing in either the statutes or the regulations governing physician's assistants or certified registered nurse practitioners that prohibit a physician from permitting those non-physician medical professionals under his or her supervision from prescribing schedule III, IV, or V medications. In both cases, the physician determines the scope of the non-physician practitioner's prescribing authority. Therefore, a certified registered nurse practitioner or a physician's assistant, properly operating under the supervision of a qualified physician, can prescribe buprenorphine in Pennsylvania under CARA.

Table 11 shows the number of licenses held by treatment and rehabilitation providers in Pennsylvania. Some of the 634 providers are licensed to provide more than one type of service.

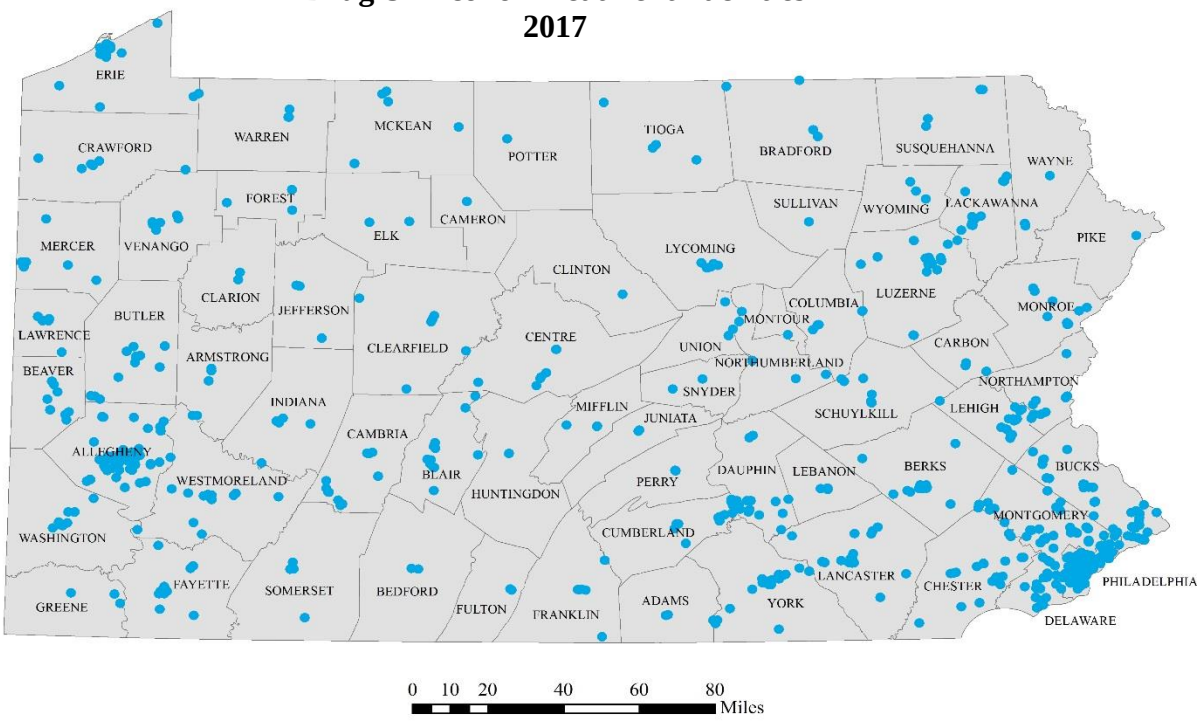
Table 11. Pennsylvania Department of Drug and Alcohol Programs Number of Licenses Held By Type of Service 2017		
Inpatient	Hospital Detoxification	13
	Hospital Drug-Free	9
	Hospital Other Chemotherapy	0
	Non-Hospital Detoxification	52
	Non-Hospital Drug-Free	184
	Non-Hospital Drug-Free Transitional Living Facility	5
	Non-Hospital Other Chemotherapy	30
Intake, Evaluation, and Referral		56
Outpatient	Detoxification	18
	Drug Free	562
	Maintenance	73
	Other Chemotherapy	157
Partial Hospitalization	Drug Free	142
	Other Chemotherapy	11
Psychiatric Hospital	Hospital Detoxification	6
	Residential Drug-Free	3

Source: DDAP, April 21, 2017.

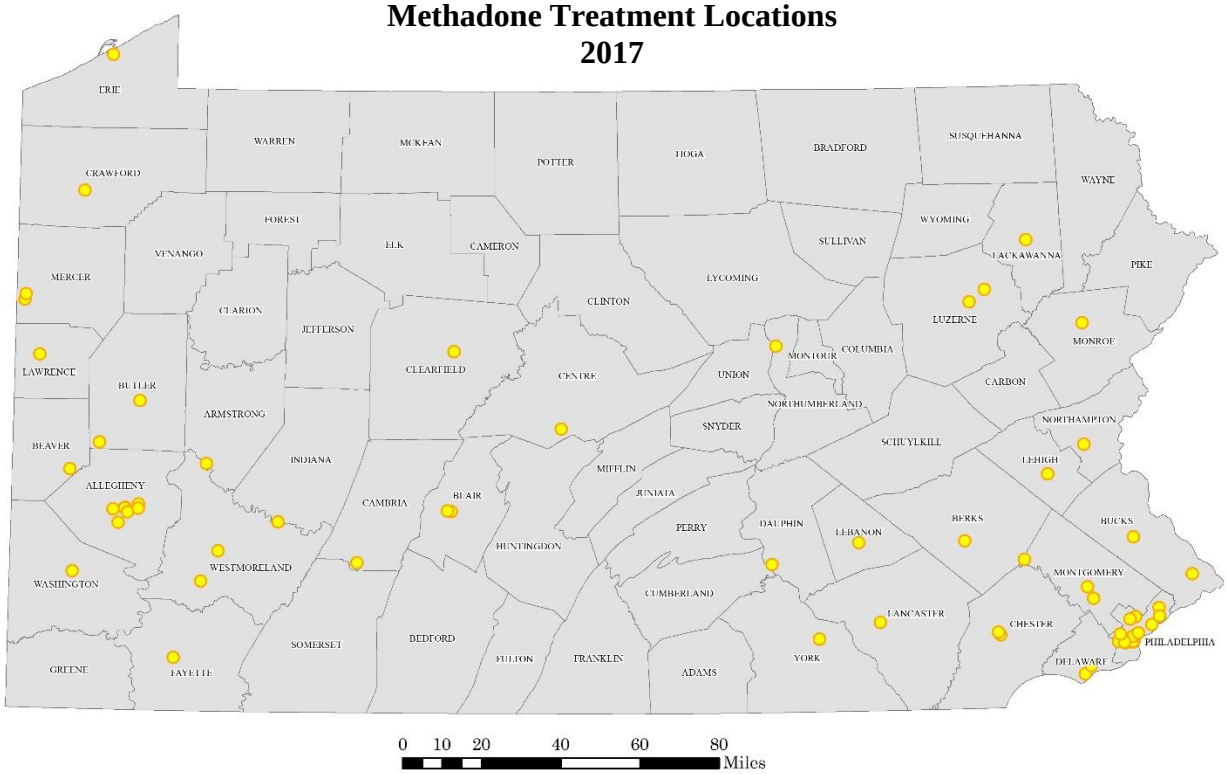
Maps 8, 9, and 10 display locations of different types of treatment providers in the Commonwealth and were created by Commission staff. Maps 8 and 9 were created from information available on the DDAP website.[121] Map 10 was created using a SAMHSA online database that records the locations of licensed buprenorphine prescribers in all 50 states. Inclusion in the database is voluntary; not all prescribers are listed.

[121] Data found at the DDAP website at: http://sais.health.pa.gov/commonpoc/Content/PublicWeb/DAFind.aspx

Map 8.
Pennsylvania
Drug & Alcohol Treatment Facilities
2017



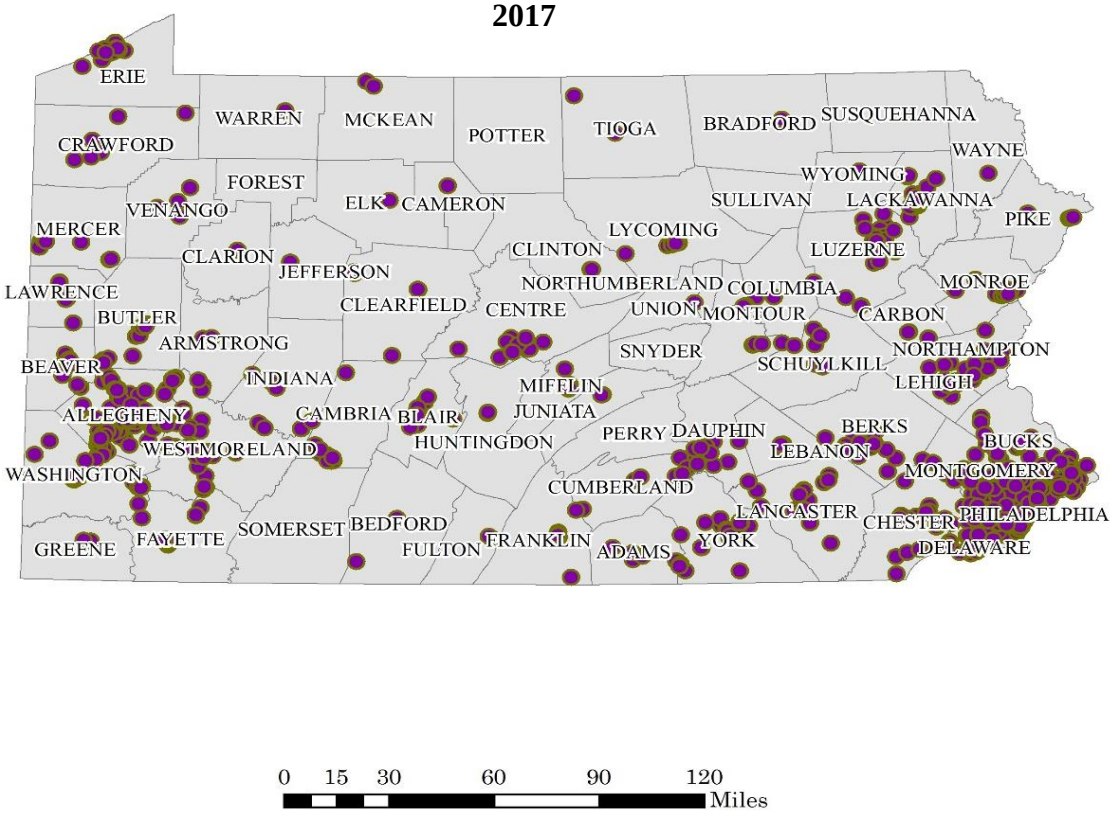
Map 9.
Pennsylvania
Methadone Treatment Locations
2017



Map 10.

Pennsylvania

Licensed Buprenorphine Prescribers
2017



Buprenorphine Treatment Practitioner Locator, SAMHSA https://www.samhsa.gov/medication-assisted-treatment/physician-program-data/treatment-physician-Locator?field_bup_physician_us_state_value=PA

DDAP is the recipient of a number of federal grants that provide funding for certain programs. Table 12 shows the grants awarded by federal agencies.

Table 12. CDC Grants Awarded PA Department of Drug and Alcohol Programs				
Grantor	**Name of Grant**	**Dates**	**Amount**	**Description**
CDC	Prescription Drug Overdose Prevention (PDOP)	September 2015 to August 2019	$940,000 annually	prevention and intervention strategies related to PDMP and education
	PDOP Supplemental	September 2016 to August 2019	$1million annually	EHR Integration
	Opioid non-fatal and fatal surveillance	September 2016 to August 2019	$490,000 annually	to increase the timeliness of nonfatal opioid overdose reporting, fatal opioid overdose and risk factor reporting, and disseminate surveillance findings to key stakeholders
Department of Justice / Bureau of Justice Assistance	Harold Rogers – PDMP Grant	ends September 2017	$409,000	PDMP system enhancement
SAMHSA	Substance Abuse Prevention and Treatment Block Grant (SABG)	October through September	$59 million annually	Comprehensive prevention, intervention, treatment, and recovery services for uninsured individuals with substance use disorder
	State Targeted Response to the Opioid Crisis	May 2017 – April 2019	$26.5 million annually	for comprehensive opioid prevention, intervention, treatment and recovery services
	Strategic Prevention Framework Partnerships for Success	October 2013 – September 2018	$1.815 million annually	to provide services to reduce underage drinking and prescription drug misuse

Other States

The CDC, recognizing that the following strategies are within states' authority, recommends that states take steps to:[122]

- Consider ways to increase use of prescription drug monitoring programs, which are state-run databases that track prescriptions for controlled substances and can help improve opioid pain reliever prescribing, inform clinical practice, and protect patients at risk.
- Consider policy options relating to pain clinics to reduce prescribing practices that are risky to patients.
- Evaluate state data and programs and consider ways to assess Medicaid, workers' compensation programs, and state-run health plans to detect and address inappropriate prescribing of opioid pain relievers, such as through use of prior authorization, drug utilization review, and patient review and restriction programs.
- Increase access to substance abuse treatment services, including Medication-Assisted Treatment (MAT), for opioid addiction.
- Identify opportunities to expand first responder access to naloxone, a drug used to reverse overdose.
- Promote and support the use of the CDC Guideline for Prescribing Opioids for Chronic Pain.
- Help local jurisdictions to put these effective practices to work in communities where drug addiction is common.

Florida

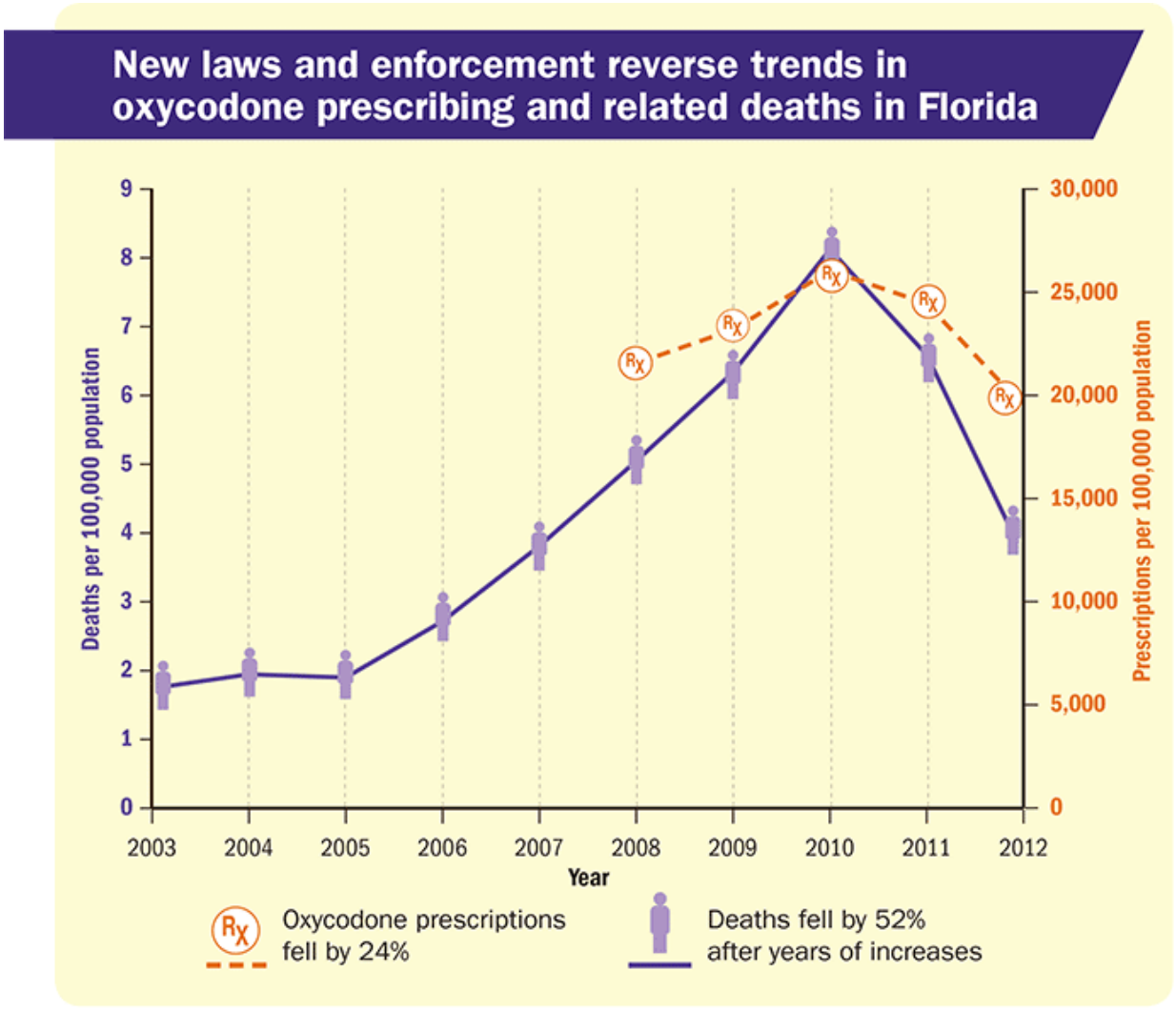
2010 Action: Regulated pain clinics and stopped health care providers from dispensing prescription opioid pain relievers from their offices, in combination with establishing a PDMP.

2012 Result: Saw more than 50 percent decrease in oxycodone overdose deaths.

These changes might represent the first documented substantial decline in drug overdose mortality in any state during the previous ten years.

[122] "Opioid Overdoses: Promising State Strategies," CDC website, June 30, 2016, accessed April 25, 2017 https://www.cdc.gov/drugoverdose/policy/index.html.

Figure 11.
Results in Florida from Opioid Programs



SOURCE: Decline in Drug Overdose Deaths After State Policy Changes – Florida, 2010-2012. Morbidity and Mortality Weekly Report, July 1, 2014

New York

2012 Action: Required prescribers to check the state's PDMP before prescribing opioids.
2013 Result: Saw a 75 percent drop in patients seeing multiple prescribers for the same drugs.

Tennessee

2012 Action: Required prescribers to check the state's PDMP before prescribing painkillers.
2013 Result: Saw a 36 percent decline in patients seeing multiple prescribers for the same drugs.

Oregon

As a Core Violence and Injury Prevention Program funded grantee, the Oregon Health Authority (OHA) reports the rate of poisoning due to prescription opioid overdose in Oregon declined 38 percent between 2006 and 2013 (from 6.6 to 4.5 per 100,000 residents). Oregon's rate of death associated with methadone poisoning decreased 58 percent in the same time period.

Key initiatives to address the problem include the:

- establishment of a PDMP to track prescriptions of controlled substances;
- implementation of prior authorization for Methadone doses > 100mg/day under Medicaid;
- education and access of lay persons to provide naloxone to persons suspected of overdose; and
- physician and allied health care trainings about safe and effective pain care.

Oregon's OHA continues to promote adoption of their PDMP, and works with health systems, insurers and other partners to increase access to medication assisted treatment and non-pharmaceutical pain care for chronic non-cancer pain.

Enhanced Surveillance Funding for enhanced surveillance will assist states and key stakeholders in improving prevention and response efforts by providing more timely data on fatal and nonfatal opioid overdoses and in-depth information on risk factors. $12.8 million is being awarded to 12 states to better track opioid-involved overdoses over a three-year project period that began in the fall of 2016.[123]

Through a competitive application process, CDC selected the following states to receive program funds: Kentucky, Maine, Massachusetts, Missouri, New Hampshire, New Mexico, Ohio, Oklahoma, Pennsylvania, Rhode Island, West Virginia, and Wisconsin. States will use the funding to:

- increase the timeliness of reporting nonfatal and fatal opioid overdose and associated risk factors;
- disseminate surveillance findings to key stakeholders working to prevent opioid-involved overdoses; and
- share data with CDC to support improved multi-state surveillance of and response to opioid-involved overdoses.

Data Driven Prevention Initiative The newly created Prescription Drug Overdose: Data-Driven Prevention Initiative (DDPI) planned to award $18 million over a three-year project period to 13 states and the District of Columbia beginning in federal fiscal year 2016 to support efforts to end the opioid overdose epidemic in the United States. [124] The program is intended to help states advance and evaluate their actions to address opioid misuse, abuse, and overdose. The states are expected to:

[123] "Opioid Overdose: Enhanced State Surveillance of Opioid-Involved Morbidity and Mortality," CDC website, October 20, 2016, accessed April 25, 2017, https://www.cdc.gov/drugoverdose/foa/state-opioid-mm.html.
[124] "Opioid Overdose: Data-Driven Prevention Initiative (DDPI)," CDC website, October 20, 2016, accessed April 25, 2017, https://www.cdc.gov/drugoverdose/foa/ddpi.html.

- improve data collection and analysis around opioid misuse, abuse, and overdose;
- develop strategies that impact behaviors driving prescription opioid dependence and abuse; and
- work with communities to develop more comprehensive opioid overdose prevention programs.

The 13 states selected to receive the funds through the competitive application process were Alabama, Alaska, Arkansas, Georgia, Hawaii, Idaho, Kansas, Louisiana, Michigan, Minnesota, Montana, New Jersey, and South Dakota, and Washington, D.C.

Funding was available through a $70 million appropriation to the CDC in fiscal year 2016. Overall, in fiscal year 2016, the CDC is providing over $50 million to state health departments in support of the agency's overarching Overdose Prevention in States. The CDC plans to continue to provide scientific expertise, enhance surveillance activities, and tailor resources to address states' growing and changing needs.

APPENDIX A

Table 1 presents the cost data analyzed in 2011 by H.G. Birnbaum in the seminal article, "Societal Costs of Prescription Opioid Abuse, Dependence, and Misuse in the United States."[125]

Table 1.
Societal Costs of Prescription Opioid Abuse
Annual societal costs of opioid abuse, dependence, and misuse
United States 2011

Cost category	Estimated cost (in millions)[1]	Percent of total societal costs
Health care		
Excess medical and drug (excluding substance abuse treatment)[2]		
Privately insured opioid abuse patients	$6,736	12.1
Medicaid opioid abuse patients	7,336	13.2
Medicare opioid abuse patients	1,010	1.8
Uninsured opioid abuse patients	6,861	12.3
Privately insured caregivers[3]	547	1.0
Medicaid caregivers[3]	596	1.1
Medicare caregivers[3]	82	0.1
Uninsured caregivers[3]	557	1.0
All excess medical and drug costs	23,725	42.6
Substance abuse treatment		
Federal	326	0.6
State and local	558	1.0
Private	235	0.4
All treatment costs	1,119	2.0
Prevention		
Federal	52	0.1
State and local	14	0.0
Private	19	0.0
All prevention costs	85	0.2
Research		
Federal	52	0.1
State and local	2	0.0
Private	16	0.0
All research costs	69	0.1
Total health care costs	24,998	44.9

[125] H.G. Birnbaum, et al, "Societal Costs of Prescription Opioid Abuse, Dependence, and Misuse in the United States," Pain Medicine, vol. 12, issue 4, (April 2011), http://www.ncbi.nlm.nih.gov/pubmed/21392250.

Table 1. Societal Costs of Prescription Opioid Abuse Annual societal costs of opioid abuse, dependence, and misuse United States 2011		
Cost category	**Estimated cost (in millions)[1]**	**Percent of total societal costs**
Criminal justice		
Police protection	1,526	2.7
Legal and adjudication	$726	1.3
Correctional facilities		
Federal	212	0.4
State	1,430	2.6
Local	623	1.1
All correctional facility costs	2,265	4.1
Property lost due to crime	625	1.1
Total criminal justice costs	5,142	9.2
Lost workplace productivity		
Premature death	11,218	20.1
Lost wages/employment	7,931	14.2
Incarceration (lost wages)		
Federal	143	0.3
State	1,097	2.0
Local	528	0.9
All incarceration costs	1,768	3.2
Excess medically related absenteeism		
Employees with abuse/dependence	1,171	2.1
Employed caregivers	643	1.2
All excess medically related absenteeism costs	1,814	3.3
Excess disability		
Employees with abuse/dependence	727	1.3
Employed caregivers	80	0.1
All excess disability costs	807	1.4
Presenteeism		
Employees with abuse/dependence	1,576	2.8
Employed caregivers	468	0.8
All presenteeism costs	2,044	3.7
Total workplace costs	25,582	45.9
Total societal costs (in millions)	55,721	100.0

1. All costs are reported in 2009 USD.
2. Estimates of excess health care costs include patients exhibiting clinical abuse/dependence and do not include patients engaging only in nonmedical use.
3. Caregivers are defined as dependents or spouses of patients with abuse or dependence, but who do not meet criteria for abuse or dependence themselves.

APPENDIX B

The following information about the use of evidence-based SUD treatment programs in the state was excerpted from the Pennsylvania Department of Drug and Alcohol's *The Pennsylvania Drug and Alcohol Annual Plan and Report 2015-2016*.

PROGRAMS AND STRATEGIES

The Department encourages SCAs and prevention providers throughout the Commonwealth to utilize Evidence-Based and Evidence-Informed programs as a part of their comprehensive approach within their counties. Each SCA is required to deliver at least 25% of services through a combination of Evidence-Based and Evidence-Informed programs.

Using a combination of Evidence-based and Evidence-Informed programs and strategies, based on local community needs, have proven to be a highly successful and effective way of reducing risk factors associated with substance use/abuse. SCAs plan and deliver program services by considering and addressing underage drinking risk and protective factors, youth attitudes towards use, youth-perceived risk concerning consumption and by tracking social indicator data.

Evidence-Based, Evidenced-Informed and Supplemental Programs are defined as follows:

Evidence-Based Programs: Characteristics of evidenced-based prevention programs and strategies include:

- Shown through research and evaluation to be effective in the prevention and/or delay of substance use/abuse;
- Grounded in a clear theoretical foundation and carefully implemented;
- Evaluation findings have been subjected to critical review by other researchers;
- Reported (with positive effects on the primary targeted outcome) in peer-reviewed journals;
- Replicated and produced desired results in a variety of settings; and,
- Included in Federal registries of evidence-based programs (note: inclusion in a Federal registry is necessary, but not a sufficient characteristic to merit inclusion on DDAP's list of evidence-based programs). Examples of federal registries include:

  The Substance Abuse and Mental Health Services Administration (SAMHSA) National Registry of Evidence-Based Programs and Practices (NREPP) http://www.nrepp.samhsa. gov

  U.S Office of Juvenile Justice And Delinquency Prevention (OJJDP) Model Programs Guide http://www.ojjdp.gov/mpg

  Exemplary and Promising State, Disciplined and Drug-Free Schools Programs sponsored by the U.S. Department of Education http://www2.ed.gov/admins/lead/safety/exemplary01/exemplary01.pdf

  Center for the Study and Prevention of Violence Blueprints for Healthy Youth Development http://www.blueprintsprograms.com

Evidence-Informed Programs: Characteristics of Evidence-Informed prevention programs and strategies must include the following four characteristics:

- Based on a theory of change that is documented in a clear logic or conceptual model, or is based on an established theory that has been tested and supported in multiple studies;
- Based on published principles of prevention, e.g., NIDA's Prevention Principles;
- Supported by documentation that it has been effectively implemented in the past, and multiple times, in a manner attentive to scientific standards of evidence and with results that show a pattern of credible and positive effects; and,
- Must have an evaluation that includes, but is not limited to, a pre/post-test and/or survey.

Other characteristics of evidence-informed prevention programs and strategies may include:

May be similar in content and structure to interventions that appear in registries and/or the peer-reviewed literature;

May have appeared in a non-refereed professional publication or journal; and,

May have been identified or recognized publicly and may have received awards, honors or mentions.

Supplemental Programs: Characteristics of Supplemental programming must include:

- Capture activities that utilize methods of best practice
- Provide basic alcohol, tobacco and other drug awareness/education, as well as everyday alternative prevention activities
- Captures strategies that address population-level change
- Captures activities necessary to implement or enhance evidence-based and evidence-informed programs

In order for a new program or strategy to be added to DDAP's program and strategy listing, it must be submitted to DDAP for review and approval. DDAP has a formal process for reviewing programs and strategies to determine the appropriate program classification.

Each of the three program categories listed above must be delivered through single services and/or recurring services types and be recorded as such in the prevention data system. SCAs are required to provide 20% of services through recurring events. Single and Recurring Services are defined as follows:

Single Service Type – Single prevention services are one-time activities intended to inform general and specific populations about substance use or abuse (examples: Health Fairs, Speaking Engagements).

Recurring Service Type – Recurring prevention services are a pre-planned series of structured program lessons and/or activities. These types of services are intended to inform, educate, develop skills and identify/refer individuals who may be at risk for substance use or abuse. A recurring prevention activity needs to have an anticipated measurable outcome, including, but not limited to, Pre/Post Test and/or survey. (examples: Classroom Education, Peer Leadership/Mentoring, and ATOD Free Activities Recurring). Recurring services also cover certain, limited types of meetings and activities that are not structured lessons and may not have measurable outcomes. (Examples: coalition meetings, technical assistance meetings, Core Team recurring meetings)

There are approximately 43 Evidence-Based and 42 Evidenced-Informed programs that are currently being delivered throughout the Commonwealth that address drug use. Some of these programs include, but are not limited to:

Too Good For Drugs – a school-based prevention program designed to reduce the intention to use alcohol, tobacco and illegal drugs in middle and high school students;

Big Brothers Big Sisters – a mentoring program in which participating youth reach their potential through supported matches with adult volunteer mentors;

Girls Circle – a structured support group for girls that is designed to increase positive connection, personal and collective strengths and competencies;

Life Skills Training – a school-based program that works with elementary to high school students to assist them in developing the necessary skills to resist social pressures to use alcohol, tobacco and other drugs;

Strengthening Families Program – For Parents & Youth 10 to 14 year-olds is a family skills training program designed to enhance school success and reduce youth substance use and aggression;

Communities Mobilizing for Change on Alcohol (CMCA) – a community-organizing program designed to reduce adolescent access to alcohol by changing community policies and practices;

Student Assistance Program (SAP) – a mandatory intervention program provided within the school setting intended to identify and address problems negatively impacting student academic and social growth; and,

Project Lead and Seed – a structured leadership program in which adults, such as parents, youth pastors, youth-serving civic organization facilitators or teachers are trained to return to their schools or communities to provide training to their own youth leaders (in middle or high school); and whom implement action plans to reduce and prevent underage drinking, tobacco and other drugs.

The Department also collaborates with and supports other state agencies and organizations in their efforts to reduce substance use/abuse and promote health and rehabilitation efforts.

Department of Human Services, Office of Mental Health and Substance Abuse Services (OMHSAS)

Pennsylvania Youth Suicide Prevention Monitoring Committee

- The Pennsylvania Youth Suicide Prevention initiative is a multi-system collaboration to reduce youth suicide.

Substance Abuse and Mental Health Services Administration (SAMHSA)

- Support SAMHSA prevention initiatives such as the National Town Hall Meetings

Pennsylvania Liquor Control Board (PLCB)

- Contribute to the mandated Act 85 Legislative Report coordinated by the Pennsylvania Liquor Control Board.

Pennsylvania Commission on Crime and Delinquency (PCCD)

- Disproportionate Minority Contact Committee – Provides technical assistance and information to ensure that individual communities are providing the necessary drug and alcohol prevention supports to disproportionately burdened minorities.

- Balanced and Restorative Justice in Pennsylvania Committee – The committee supports the juvenile justice system in working with children that have committed delinquent acts and supports their care and rehabilitation to include, but not limited to, substance abuse issues.

Department of Health

- Statewide Injury Prevention & Control Plan Injury Community Planning Group (ICPG) – Falls Prevention in Older Adults Workgroup – Mission is to develop a comprehensive and coordinated plan that focuses on preventing injuries and violence across the lifespan by empowering state and local partners through the collection and analysis of data and the leveraging of resources for injury prevention programs to recapture lost human potential. Workgroups have been formed for three main injury topics: motor vehicle crashes, unintentional falls and unintentional poisonings.

- Sexual Violence Primary Prevention Planning Commit- tee – Addresses sexual violence prevention throughout the commonwealth.

- Pennsylvania Coalition Against Domestic Violence – Assist in the development of a statewide prevention plan to support communities throughout Pennsylvania to prevent domestic violence before it occurs.

Department of Education

- Pennsylvania School Wide Positive Behavior Support State Leadership Team - Through training and technical assistance, supports schools and their family and community partners to create and sustain comprehensive school based behavioral health support systems in order to promote the academic, social and emotional well-being of all Pennsylvania's students.

- Youth and Family Training Institute Advisory Board - To achieve quality family and youth driven outcomes by advancing the philosophy, practices and principles of High Fidelity Wraparound through training, coaching, credentialing and ensuring fidelity to the process.

- Safe and Supportive Schools (SAS) Student Interpersonal Skills Development Committee - To develop social and emotional standards that educators and teachers will utilize for instructions with students Pre-K to 12th grade.

- Student Assistance Program Commonwealth Interagency Committee – Provides leadership for developing a safe and drug-free environment and mental health wellness in schools and communities across the Commonwealth.

Department of Transportation

- Multi Agency Safety Team (MAST) – Assist in the development and implementation of the Comprehensive Strategic Highway Safety Improvement Plan.

Commonwealth Prevention Alliance (CPA)

- Representative to the Board of Directors
- Conference Planning Committee – Provide trainers and staff support for the annual conference.

Pennsylvania Association of County Drug and Alcohol Administrators (PACDAA)

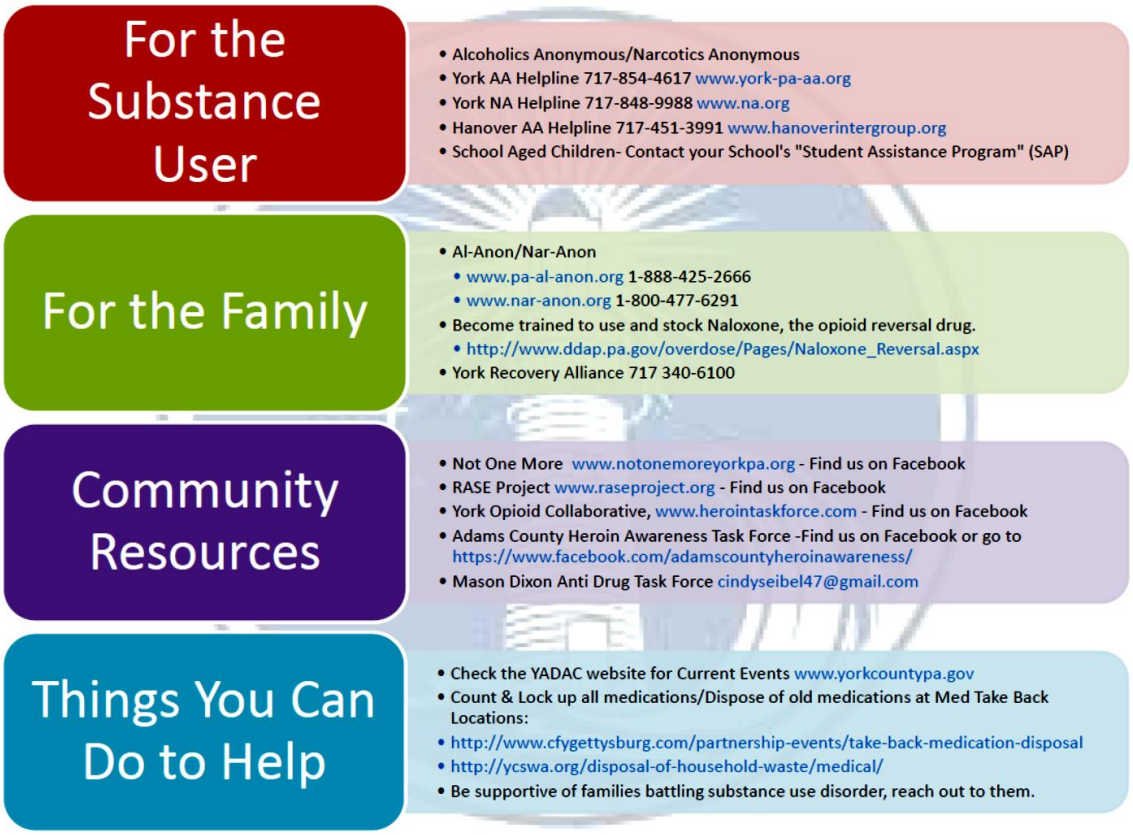
- Provides information and support for grantees (SCAs) related to adherence to requirements and implementing best practices.

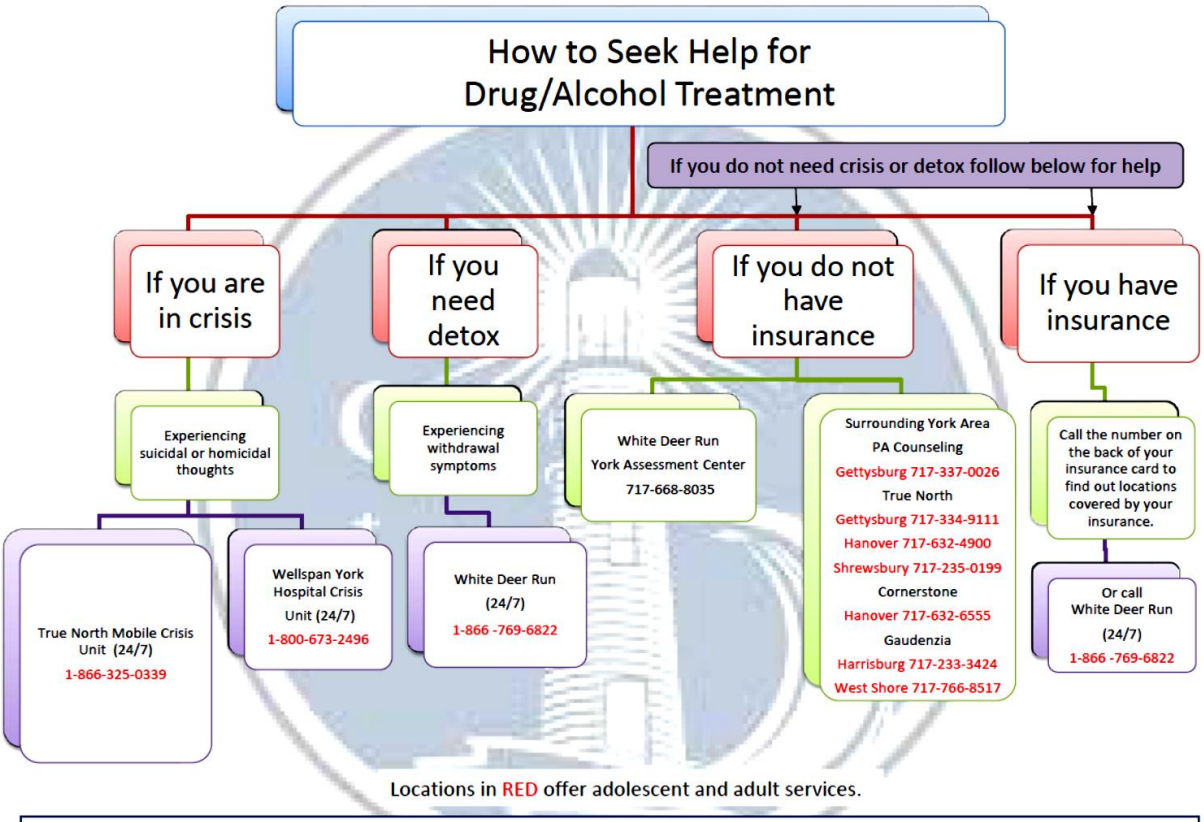
Pennsylvania Prevention Director's Association (PPDA)

- Provides informational updates regarding the Department's prevention relevant matters to PPDA members as well as provides meeting space for their quarterly meetings.

APPENDIX C

The following information is provided to the public by the York SCA.





Locations in RED offer adolescent and adult services.

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THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE RESOLUTION

No. 893 Session of 2015

INTRODUCED BY READSHAW, BARBIN, PAYNE, CALTAGIRONE, HARPER, FREEMAN, D. COSTA, VEREB, COHEN, PASHINSKI, TAYLOR, ROTHMAN, KIRKLAND, HEFFLEY, WARD, JAMES, SCHLOSSBERG, McNEILL, V. BROWN, DRISCOLL, NEILSON, O'BRIEN, DONATUCCI, GIBBONS, SAYLOR, STAATS, MILNE, BURNS, GABLER, GINGRICH AND MAJOR, MAY 18, 2016

AS REPORTED FROM COMMITTEE ON HUMAN SERVICES, HOUSE OF REPRESENTATIVES, AS AMENDED, JUNE 13, 2016

A RESOLUTION

Directing the Joint State Government Commission to conduct a study and publish a report on the benefits, costs and drawbacks of alternative opioid dependence treatment programs that utilize Federal Food and Drug Administration-approved medications.

WHEREAS, Pennsylvania families are at the front lines of the opiate epidemic in this Commonwealth, with approximately seven individuals dying each day from opioid-induced overdoses; and

WHEREAS, The opioid problem in this Commonwealth has grown to epidemic proportions and is a major health hazard for all Pennsylvanians; and

WHEREAS, We, as a community, must stop simply talking about the issue and begin looking for viable options to combat this disease and provide individuals with all avenues for recovery; therefore be it

RESOLVED, That the House of Representatives direct the Joint State Government Commission to conduct a study and publish a

report on the benefits, costs and drawbacks of alternative opioid dependence treatment programs that utilize Federal Food and Drug Administration-approved medications; and be it further

RESOLVED, That the Joint State Government Commission examine the following for its study:

(1) The effectiveness of treating opioid dependence with alternate medications, including the three Federal Food and Drug Administration-approved medications: methadone, naltrexone and buprenorphine.

(2) The number of treatment providers that are currently using all three Federal Food and Drug Administration-approved medications for the treatment of opioid dependence.

(3) The effectiveness of alternative treatments, including, but not limited to, positive reinforcement therapy.

(4) The current standards of care that opioid dependence treatment providers are following in this Commonwealth.

(5) The costs associated with opioid dependence treatments.

(6) Potential positive and negative outcomes of each opioid dependence treatment.

(7) How surrounding states are combating opioid dependence in comparison with the current methods in this Commonwealth.

(8) The feasibility of reopening closed State hospitals as opioid dependence treatment facilities;

and be it further

RESOLVED, That the Joint State Government Commission include in its report its findings from the study and any recommendations; and be it further

RESOLVED, That the Joint State Government Commission issue its report to the General Assembly within ~~six~~ NINE months of the <-- adoption of this resolution.