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COVER

Addiction and misuse of opioids- prescription and non-prescription painkillers, synthetic opioids, and heroin- has increased rapidly in the United States in recent years. Public health officials have cited this as one

of the worst drug epidemics in history. Although new treatments have been created such as naloxone for overdoses, and suboxone, to ease withdrawal symptoms, there is no sign of the opioid epidemic letting up soon.

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DELAWARE MILITARY & VETERANS SUBCOMMITTEE
(DELAWARE SUICIDE PREVENTION COALITION)

SAVE THE DATE!

2017 Military & Veterans Mental Health Summit
Thursday, September 14, 2017

9AM – 3:30PM

For information and to register [CLICK HERE](#)

Or go to <http://tiny.cc/milmed2017>

Chase Center

815 Justison St. Wilmington, DE 19801

FREE CEUs

The Delaware Suicide Prevention Coalition's Military Subcommittee presents the 2017 Military & Veterans Mental Health Summit in support of suicide prevention month on Thursday, September 14, 2017 from 9:00 a.m. to 3:30 p.m.

This event will present and disseminate information and resources to veteran, service members, families and support members in Delaware. The event will emphasize workshops for service providers who may work with veterans and the military.

In recognition of September being suicide prevention month the annual Francis J. Graves Award will be presented at 12:30 p.m. to Mr. Dan Young, retired, Military One Source consultant for the Delaware Air National Guard. Mr. Young has over 36 years of service in the Delaware Air National Guard. After his retirement from the Del. ANG in 2007, in 2008 he was hired as the Military One Source consultant, assisting and providing resources for all Soldiers, Airmen and their families in the state of Delaware. On April 7, 2017 Mr. Young retired from his work with Military OneSource, but continues to be involved with working with homeless veterans on a new statewide initiative.

The Graves award was created in recognition of bringing light to suicide prevention recognition after the loss of Army Specialist, Francis J. Graves III in 2015.

This event is co-sponsored with the following institutional partners: Delaware Suicide Prevention Coalition, Department of Veterans Affairs, Delaware Commission of Veterans Affairs, The Delaware Academy of Medicine / Delaware Public Health Association, Mental Health Association in Delaware, The Department of Services for Children, Youth and Their Families, Rockford Center, Dover Behavioral Health System, Delaware National Guard, Meadow Wood Behavioral Health Systems, Delaware Health and Social Services, Contact Lifeline Inc.



IN THIS ISSUE

According to the National Institute on Drug Abuse of the National Institutes of Health,

Abuse of tobacco, alcohol, and illicit drugs is costly to our nation, exacting more than \$740 billion annually in costs related to crime, lost work productivity and health care.

| | Health Care | Overall | Year Estimate Based On |
|-----------------------------------|---------------|----------------|------------------------|
| Tobacco ^{1,2} | \$168 billion | \$300 billion | 2010 |
| Alcohol ³ | \$27 billion | \$249 billion | 2010 |
| Illicit Drugs ^{4,5} | \$11 billion | \$193 billion | 2007 |
| Prescription Opioids ⁶ | \$26 billion | \$78.5 billion | 2013 |

<https://www.drugabuse.gov/related-topics/trends-statistics>



Omar A. Khan, M.D., M.H.S.
President Elect

It is in the overdose deaths due to heroin and opioid, that the NIH has reported the most dramatic increases in both men and women (<https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>), and we focus this edition of the Delaware Journal of Public Health on the Opioid Crisis and Delaware. Our guest editor for this issue is Terry Horton, MD. Dr. Horton is nationally recognized as an expert in the field, and a frequently called upon expert in testimony in Dover, and in the United States Congress.



Timothy E. Gibbs, M.P.H.
Executive Director

Addiction related to tobacco, alcohol, and drugs other than opioids has enormous health burden and economic impact. Addiction & abuse of non-dependence-producing substances (laxatives, steroids, antidepressants) and behaviors (gambling, sex, and the internet) are serious issues facing society as well.

Our focus on opioids reflects a nationwide interest in the public health of this complex topic. It does not suggest one addiction or abuse being worse than another. Ask anyone who is addicted or in recovery, or knows someone who is, and the answer will be similar – addiction is a disease, and it is serious. While this issue focuses on opioids, the lexicon of terms, glossary, and resources sections address addiction and substance abuse more broadly. We hope you find this issue of the DJPH useful, thought provoking, and to result in a deeper understanding of a pressing public health concern that faces us all directly or indirectly.

As always we want to hear from you. Drop us a line at: chealy@delamed.org and review the entire DJPH issue lineup at: www.djph.delamed.org or at www.issuu.com/dam-dpha

Guest Editor

The opioid epidemic has been growing for a decade and is erupting across the country at unprecedented rates. Yet, the extent of its reach and degree of its destruction are beyond expectation. Opioids such as oxycodone or heroin now rule the lives of men and women from across the socio-economic strata. Unbelievably, drug overdose deaths in 2015 surpassed the number of HIV deaths at the peak of the pre-HAART epidemic.

We've known for centuries that opioids can be wildly addictive. Exposure to vulnerable individuals leads to widespread addiction as seen with opium and the Chinese army in the early 1800's, morphine and the Victorians, and the post-Vietnam heroin epidemic of the 1960's and 70's. In retrospect, the perfect storm created over the last two decades was painfully predictable. The aggressive marketing of extended-release opioid formulations, a coercive national strategy to improve pain management, a reduction of physician and patient perceived harm, and relaxation of prescribing habits lead to unbridled exposure of millions to addictive molecules. States responded by enacting regulatory measures to foster provider education and more responsible prescribing. Pharma launched promising anti-abuse formulations of popular medications like OxyContin. Both appear to have had unintended consequences. Access dwindled and prices rose. Market forces drove users into the waiting clutches of a new breed of heroin merchants who created distribution networks reaching into every community, able to home deliver a purer, easier to use, and cheaper product. (Sam Quinones Dreamland, Wilson Compton NEJM). Average use is now measured in bundles of thirteen three dollar bags of heroin, with one to four bundles a day being the new norm. Though a few continue to inhale, most have transitioned to the cheaper intravenous method, learning from friends and fellow users. To further support their profit margin, heroin merchants have begun mixing in cheaper fentanyl and its analogs, boosting potency by up to fifty fold at a fraction of the cost. As a result, overdoses have spiked in Delaware over the past year. Narcan use data suggests that nearly fourfold more are overdosing and surviving in the community (DMI Annual Report 2016). Repeated injection use poses other risks. From 2015 to 2016, Christiana Care Health System has measured a doubling of spinal abscesses, osteomyelitis and endocarditis from 71 to 139 cases diagnosed as well now daily admission of young and old who have survived near fatal overdoses or related maladies.

Strategies to address the epidemic are emerging driven in part by the clear understanding that opioid use disorder is a chronic brain disorder requiring on-demand access to long term evidence-based treatment that includes use of medications such as methadone, buprenorphine, and extended-release naltrexone and a host of wrap around services to facilitate and support recovery. The basic principles are clear: identify those affected and develop methods to engage them into care where they can be found, be it in the clinic, the Emergency Department, the hospital bed, the local lock up, or out in the field after an overdose. Admission into and retention at evidenced-based drug treatment is protective and efforts are underway to help this system of care become adaptive to the varying needs of its patients. Further preventive measures to enforce responsible opioid prescribing will hopefully lessen ready access to pharmaceuticals and stem exposure.

The following articles are written by those who are actively engaged in developing these responses in the State of Delaware. They will discuss innovative adaptations of methods new and old to better understand the epidemiology of this epidemic, better link disparate resources to define reachable moments to help find and engage patients into care and finally better apply treatment methods and tools to treat the chronic brain disorder that threatens so many lives. In light of current political developments surrounding the reversal of the Affordable Care Act which threaten to gut funding to the very public health mechanisms required to meet the challenges posed at the very time they are most needed, there is new imperative for physicians and providers alike to understand and advocate for best practices to address the opioid epidemic.



Terry Horton, M.D., is the chief of Christiana Care's Division of Addiction Medicine and a recognized authority on substance abuse. He is also Medical Director for Project Engage, the Associate Physician lead for the Behavioral Health Service Line and a scholar in Christiana Care's Value Institute.

Dr. Horton joined Christiana Care in 2007 as director of the Consult Service at Wilmington Hospital. The next year, he helped launch Project Engage at Wilmington Hospital. This program embeds a peer engagement specialist at the hospital to reach substance-addicted patients when they most need help and provide a clear pathway to treatment. Project Engage has drawn national attention for its innovative approach and success in reducing health care costs and utilization by reducing emergency room visits and hospital stays. Dr Horton has also help institute a number of innovations at Christiana Care Health System including methodologies to screen and treat alcohol and opioid withdrawal. He has published and presented both nationally and internationally on addiction-related topics.



The APHA PHACT
Campaign in action
in Delaware

Katherine Smith, M.D., M.P.H.
Timothy E. Gibbs, M.P.H.

The abuse of and addiction to opioids like heroin, morphine, and prescription pain killers is a serious global problem, and it is only getting worse. In 2012, between 26 and 36 million people abused opioids worldwide, and 2.1 million Americans were addicted to prescription pain relievers (Volkow, 2014). Over 16,000 deaths were attributed to opioid drug poisoning deaths in that year (Fiore, 2015). In 2017, there have been nearly 100 deaths per day due to opioid use or abuse, and the use of potent synthetic opioids like fentanyl and carfentanil could increase that number to 250 (Blau, 2017).

Substance abuse has a major impact on individuals and communities. These effects can lead to social, physical, mental, and public health problems. Substance abuse has been linked to an increase in teenage pregnancy, HIV/AIDS and STD transmission, domestic violence, child abuse, crime, homicide, and suicide (Healthy People, 2017).

Every year, the American Public Health Association (APHA) develops an awareness campaign to educate members of the United States Congress on the importance of public health in building and maintaining healthy communities. The 2017 Public Health Action (PHACT) Campaign has three main priorities: advocating for public health funding, opposing the repeal or weakening of the Affordable Care Act (ACA), and examining how climate change can impact the health of our nation (PHACT Campaign, 2017).



The PHACT Campaign

Public Health Funding

Most national public health agencies and programs are funded through discretionary spending, the part of the national budget Congress votes on every year. This means that the budgets for the Centers for Disease Control and Prevention (CDC), and the Health Resources and Services Administration (HRSA) can change every year, depending on the amount of discretionary spending approved. Any cut to that spending could result in cuts to the CDC's programs for emergency preparedness, global health security, health promotion, and disease prevention. HRSA funds programs for HIV/AIDS, rural healthcare, and health worker training. These, and many other programs, will

be effected by the lack of funding, and as a result will put the health of the nation at risk (APHA (a), 2017).

Protecting the ACA

By offering subsidies, expanding Medicaid, forbidding insurance companies from denying healthcare to people with pre-existing conditions, banning lifetime limits, and requiring all plans to cover essential health services, the ACA created an online marketplace where people could shop for private insurers and get plans that met their needs (Sanger-Katz, 2017). Since the ACA was passed in 2010, over 20 million Americans with pre-existing conditions, mental health disorders, and chronic diseases have been able to gain insurance and pay for life-saving procedures and treatments. The ACA also established the Prevention and Public Health Fund to “expand and sustain national investments in prevention and public health programs” (Trust for America’s Health, 2017).

On May 4, 2017, the House of Representatives passed the American Health Care Act (AHCA). The Congressional Budget Office (CBO) reported later that month that the AHCA would increase the number of uninsured Americans to 51 million by 2026 (CBO (a), 2017) and eliminate the Prevention and Public Health Fund. Eliminating this funding would devastate CDC’s budget, where the fund now makes up 12 percent of the agency’s annual budget. The AHCA was not considered by the Senate.

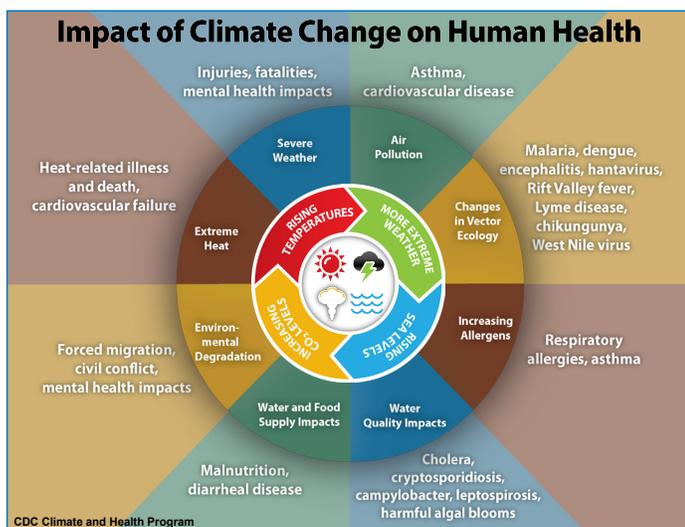
On June 26, 2017, the Senate proposed its Better Care Reconciliation Act (BCRA). The CBO reported that the BCRA would increase the number of uninsured Americans to 49 million by 2026 (CBO (b), 2017). The BCRA was defeated by a vote of 43-57. The Senate also voted on and defeated two other proposals meant to repeal the ACA: the Obamacare Repeal Reconciliation Act of 2017 (defeated 45-55), and the Health Care Freedom Act – also known as the “skinny repeal” (defeated 49-51). All of these proposals sought to repeal or significantly defund the Prevention and Public Health Fund and cut funds to Medicare.

After those defeats, the Senate Majority Leader announced that the Senate would begin focusing its attention on other legislative matters, but that future proposals could be brought forth to repeal or replace the ACA. On August 1, the Senate Health, Education, Labor, and Pensions Committee Chairman announced that bipartisan hearings will be held in early September to hear ideas on how to best stabilize and strengthen the individual insurance market (APHA (c), 2017).

Climate Change

The United States has seen increases in prolonged periods of heat, heavy rain, severe floods, and droughts since the 1980s. The National Climate Assessment reports that human-induced climate change has increased both the number and the probability of heatwaves since the start of reliable record-keeping. These increases in temperature can create additional issues, like increased evaporation, drying of soils, and drought. Warmer air contains more water vapor, which leads to heavier downpours. These downpours have become much more frequent, and the amount of rain falling at one time has increased, which can lead to flooding. Floods can also be due to increased snowmelt, thunderstorms, and storm surges – all of which can be caused by rising temperatures. Hurricanes, winter storms, tornadoes, and damaging thunderstorms have also increased in frequency and intensity since the 1950s, which places a sizable financial and practical burden on a population. (Global Change Research Program, 2014).

In addition to increasing the global temperature, the number of people in any given area is also increasing. Population scientists expect that “almost all of the world’s population growth between now and 2025 will take place in urban areas” (Gordy, 2016). The urban poor are at an increased risk during disasters



because urban expansion brings about new patterns of water runoff and sewer usage; increased physical hazards during severe weather events like hurricanes, earthquakes, and floods; and an increased population density needing governance.

In 2005 when Hurricane Katrina made landfall in Louisiana, a third of New Orleans citizens lived below the poverty line, and the very poorest lived on the lowest elevations south of Lake Pontchartrain. More than

700,000 lived in mobile homes, 1 in 6 had no method of transportation away from the city, and many of them had to seek shelter in the Superdome. In a time before the ACA, thousands had no health insurance, and many more lost their homes to flood damage (ABC News, 2005).

When Hurricane Sandy crashed into the eastern coasts of New York and New Jersey in 2012, those with low incomes were hit especially hard. Of the 518,000 households asking for federal aid after the storm, 43% reported annual incomes of less than \$30,000. The sea surge destroyed or damaged hundreds of thousands of homes and buildings – most of them in low-lying coastal areas. Floodwaters damaged 402 public housing buildings with more than 35,000 units in New York City alone (Huffington Post, 2013).

In 2017 to date, there have been 9 weather and climate disaster events with losses exceeding \$1 billion each across the United States. These events include 2 floods, 1 freezing event, and 6 severe storms: together they resulted in the deaths of 57 people (National Centers for Environmental Information, 2017). Severe weather can lead to injuries and even death, but it can also lead to the development of severe mental health disease if people are forced to abandon their homes and lifestyles due to property loss, physical disability, or financial ruin.

At the level of government, financial and physical losses due to natural disasters can be attributed to many risk factors: poor governance, rapid and poorly planned urbanization, and ecosystem decline to name a few. Climate change then acts as an overarching magnifier of these risk factors. One of the most significant factors of disaster risk is poverty (Gordy, 2016). It is the communities of color, the sick, the poor, and the homeless that are at an increased risk for disease from and least able to prepare for an extreme climate event (APHA (b), 2017). People of lower incomes do not have the funds to pay for the protection from hazards, cannot buffer any losses they may take, nor do they have extra income to help them recover from extreme events (Gordy, 2016).

How Does This Effect Delaware?

Grant Funding

In 2016, over \$3 billion in discretionary funds were approved for the CDC and HRSA to disperse to the states. The CDC awarded Delaware over \$18 million, or about 0.5% of the total disbursement (CDC, 2017).

| CATEGORY | OBLIGATED AMOUNT | PERCENTAGE |
|--|---------------------|---------------|
| Birth Defects, Developmental Disabilities, Disability and Health | \$98,826 | 0.5% |
| Cdc-Wide Activities and Program Support | \$1,333,534 | 7.1% |
| Chronic Disease Prevention and Health Promotion | \$5,468,895 | 29.0% |
| Emerging and Zoonotic Infectious Disease | \$977,924 | 5.2% |
| Environmental Health | \$102,113 | 0.5% |
| Hiv/Aids, Viral Hepatitis, Sti and Tb Prevention | \$2,463,102 | 13.1% |
| Immunization And Respiratory Diseases | \$1,555,032 | 8.3% |
| Injury Prevention And Control | \$1,928,528 | 10.2% |
| Public Health Preparedness And Response | \$4,243,150 | 22.5% |
| Public Health Scientific Services (Phss) | \$28,692 | 0.2% |
| Vaccines For Children | \$629,114 | 3.3% |
| Grand Total | \$18,828,910 | 100.0% |

Table 1 Summary profile for funds granted to Delaware in fiscal year 2016 (CDC, 2017).

Delaware was also awarded over \$14 million in active grants to fund programs for HIV/AIDS, maternal and child health, and rural health by HRSA (Health Resources and Services Administration, 2016).

Most of these funds were granted to the Department of Health and Social Services (DHSS). The DHSS is one of the largest agencies in the state, and employs more than 4,000 people. Its 11 divisions¹ provide public health, social service, substance abuse and mental health, child support, long-term care, and medical assistance services, among others (Walker, 2017). Without these discretionary funds, the department would be unable to provide public health and service programs to the people of Delaware.

Protecting the ACA

In 2016, approximately 64,000 Delawareans (6.8% of the population) were uninsured under the ACA (US Census Bureau, 2016). If the AHCA had been signed into law, over 147,000 Delawareans would be left without insurance (United States Census Bureau, 2017). The bill would also cut premium subsidies for low- and middle-income families, and phase out the ACA's Medicaid Expansion, ensuring thousands of Americans

would have higher co-pays, higher out of pocket costs, and higher deductibles (Benjamin, 2017). If the BCRA had been passed into law, over 142,000 Delawareans would be without insurance by 2026.

Since 2010, Delaware has received over \$24 million from the Prevention and Public Health Fund: over \$2 million in 2016 alone. If the Prevention Fund were repealed, Delaware would lose more than \$12 million over 5 years (Trust for America's Health, 2017).

Climate Change

According to the US Census Bureau, 12.4% of Delawareans (118,000 people) were living in poverty in July 2016 (US Census Bureau, 2016). In 2014, there were 2,278 people staying in homeless shelters, transitional housing facilities, or receiving services from the homeless outreach team in Delaware (Homeless Planning Counsel of Delaware, 2015). Delaware currently has 1,517 beds in various emergency shelters, transitional housing programs, and permanent supportive housing programs. All of this points to a homeless population that could be seriously affected by climate events and hazardous weather (Housing Alliance Delaware, 2017).

The PHACT Campaign and the Opioid Crisis

Grant Funding

Opioid addiction is a complex disorder that can affect every aspect of a patient's life: family, at work and school, and within their communities. Drug addiction treatment, therefore, typically involves many components, delivered in many different settings, and using a variety of behavioral and pharmacological approaches. In the United States, more than 14,500 specialized drug treatment facilities exist to provide counseling, therapy, medication, and case management services to people with substance abuse disorders. Because opioid abuse is a major public health program, a large portion of opioid abuse treatment is funded by local, state, and the federal government (National Institute on Drug Abuse, 2012).

In 2012, the Delaware Division of Professional Regulation (DPR) implemented the CDC funded Prescription Monitoring Program (PMP) in an attempt to promote appropriate use of prescription opiates and decrease their abuse (Delaware Prescription Monitoring Program, 2017). In 2016, the Prescription Drug Overdose Prevention (PDOP) program was funded by the CDC to provide services for patients suffering from opioid abuse. These services include screenings, evaluations, treatment, methadone maintenance, detoxification, and residential services (Substance Abuse, 2017). Without the funding provided by the CDC and HRSA, these programs would not be available to those who need them, and the opioid crisis in Delaware would grow.

Protecting the ACA

The 2014 National Survey on Drug Use and Health reported that, of the 23.5 million Americans suffering from some kind of addiction, only 4.1 million sought and received treatment (Han, Hedden, Lipari, Copello, & Kroutil, 2015). Many people who abuse opioids and other drugs are also struggling with mental illnesses like alcoholism, depression, anxiety, bipolar disorder, and post-traumatic stress. ACA plans currently guarantee insurance coverage for multi-disciplinary addiction treatment programs and include treatment for co-occurring mental health conditions (American Addiction Centers, 2017). If the ACA is repealed, insurers would no longer be required to cover mental health services as an essential health benefit, and many Americans would lose their ability to safely and effectively fight their addictions (Grayson, Hurt, & Kodjak, 2017).

Climate Change

Addictive disorders are a major cause of relationship disruption and the loss of employment. This can begin a spiral of loss: two-thirds of homeless people reported that drugs and/or alcohol were a major reason for their becoming homeless (National Coalition for the Homeless, 2009). Additionally, the stress of homelessness and trying to reverse their situations can lead a person to abuse opiates (US Dept. of Veterans Affairs, 2017).



Extreme climate events can have devastating effects on human health. Extremely hot daytime temperatures coupled with very warm night time temperatures do not give much time for heat recovery (Di Liberto, 2017). This can put people without access to air conditioners at an increased risk for heat stroke or heat exhaustion. The opposite happens when the weather turns colder: without access to heat controlled spaces, people are at a greater risk for hypothermia and frostbite. People living with no access to shelter are at increased risk for injury and death in hurricanes, snow events, and dangerous thunderstorms.

Opioid abuse and mental health disorders can also leave people at risk for poor decision making and irregular behavior, which can be problematic and dangerous during a weather event.

Conclusion

The PHACT campaign focuses on prevention, preparedness, and public health priorities at a national level. If these priorities are ignored, and funding cut, many Delawareans will lose their basic health care services and no longer have government programs to turn to for assistance. As this issue proves, Delaware – and the nation – have a continuing opioid problem. The Delawareans struggling to beat an opioid addiction, raise themselves out of homelessness, or take care of their families may not succeed if programs are defunded. Our population may be forced to live through increasingly numerous and destructive weather events that take a toll on our belongings and our lives. These priorities are not something we can take lightly.

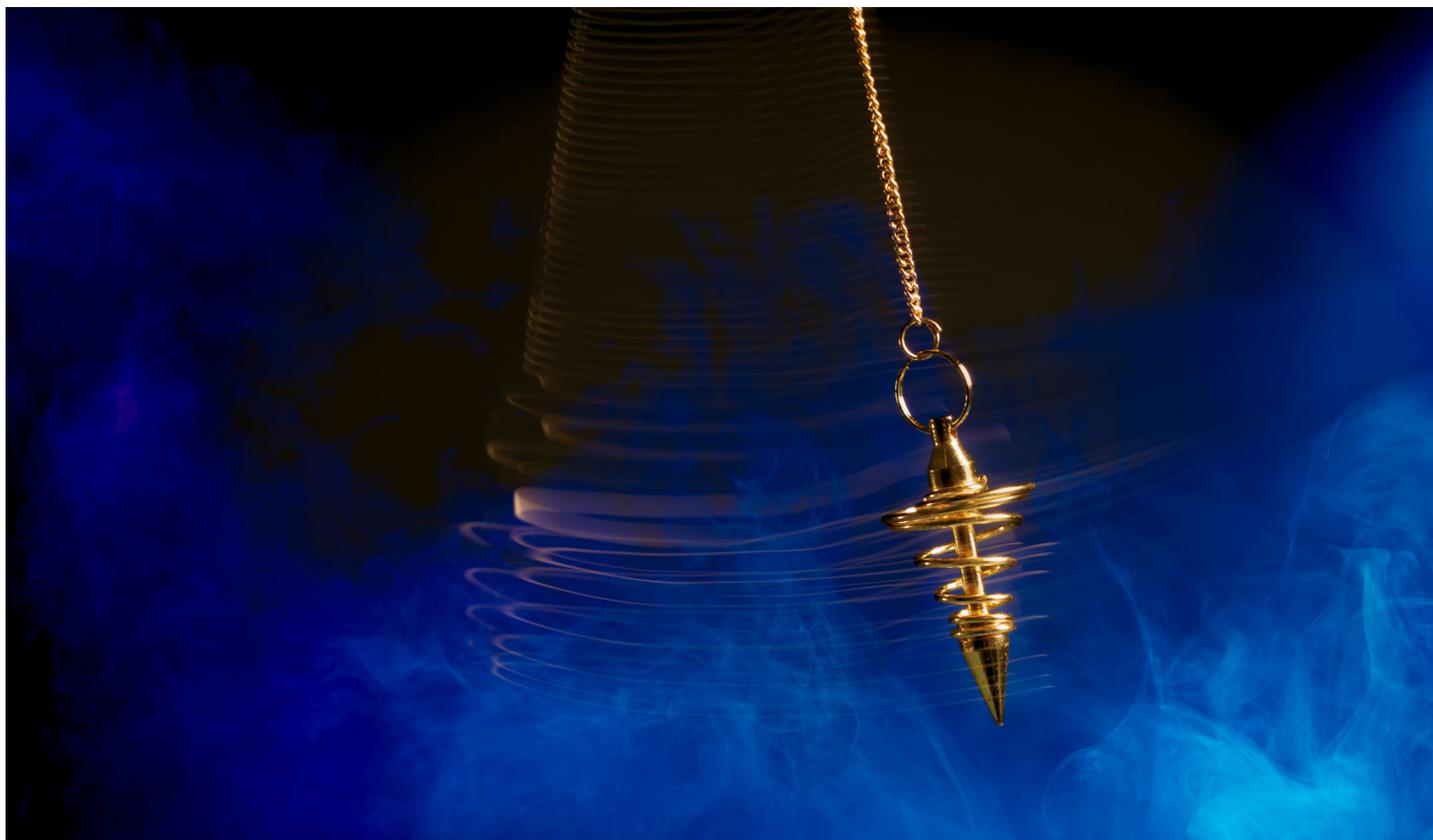
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¹ Division of Services for Aging and Adults with Physical Disabilities, Division of Child Support Services, Division of Developmental Disabilities Services, Division of Long Term Care Residents Protection, Division of Management Services, Division of Medicaid & Medical Assistance, Division of Public Health, Division of Social Services, Division of State Service Centers, Division of Substance Abuse and Mental Health, Division for the Visually Impaired



Reflections on the Opioid Abuse Problem from a Delaware Perspective



John Goodill, M.D.

Lately, you see or hear something about the opioid abuse epidemic almost where ever you turn. Its urgency is appropriately conveyed with terms such as ‘epidemic’ and ‘crisis’. In 2015, 59,000 persons nationwide, and 228 persons here in Delaware, lost their life to a drug overdose with opioids involved 60% of the time (a good number of those were illicit drugs)¹. The number of deaths related to drug overdose was greater than 300 in Delaware in 2016, with many being attributed to heroin and illicit fentanyl². The opioid abuse problem has affected many of us in a variety of ways: friends or family struggling with drug dependence or addiction; many impacted from the violence/crime associated with the illicit drug trade; those living with serious pain finding it harder to obtain their meds or find a provider willing to prescribe, even appropriate, pain meds.

When I reflect on the opioid abuse problem three thoughts come to mind: the unintended consequences; a swinging pendulum; and balance.

The pendulum has been swinging for some time. In the 1990’s there was a strong push to get providers to treat pain more aggressively. Credentialing bodies, such as JCAHO, developed the concept of the ‘5th vital sign’ and pushed the idea that a person’s pain was what they said it was, and the goal was to relieve that pain completely³. Pharmaceutical companies like Purdue aggressively marketed new formulations like Oxycontin . The medical literature touted opioids to be relatively safe and effective even for chronic pain and suggested there was no ceiling to their dosing as long as side effects were managed. Opioids were relatively easy to prescribe and so the number of opioid prescriptions rose 4 fold between 1999 and 2010⁴.

Unfortunately, the opioid abuse problem came about as an unintended consequence of these less stringent prescribing policies. More recent studies with prescription opioid use have shown a higher risk of drug dependence and less effectiveness for chronic pain.

We now know that patients on higher doses of opioids have a higher risk of overdosing and these doses are less effective for pain relief. There are a significant number of persons that develop drug dependence with prescription opioids and then convert to using illicit opioids when they can no longer obtain the prescription drugs⁵. The increasing use of illicit opioids has led to a variety of serious medical conditions as sequelae (hepatitis, endocarditis, drug dependence/accidental OD/death)⁶. The increase in violent crime is also connected to the illicit drug trade.

Responses to this developing drug misuse/abuse problem have come from a number of sources on both the national and local level. The national Office of Drug Control Policy (ONDCP) with varying resources has tried to focus on education, prevention, monitoring and law enforcement. That office is now undergoing an extensive review under the new administration. The Department of Veterans Affairs has instituted a comprehensive program to address the opioid abuse problem. By focusing significant resources on four areas: education, pain management, risk mitigation and treatment of addiction they have been able to show significant improvement in their opioid use picture⁷.

Local Advocacy groups like Attack addiction have been very effective in raising awareness especially about the need for addiction treatment. The Governor created a multi-stakeholder group in 2012 called Prescription Drug Action Committee (PDAC). This group, headed up by the div Public Health and Medical Society Delaware (MSD), has helped coordinate efforts on part of many different stakeholders to bring about education for prescribers as well as public; pass laws such as the Good Samaritan Act and naloxone distribution statute; create CME requirement for controlled substance licenses; and develop mechanisms for drug disposal. PDAC has had regular input to Division Professional Regulation on use of Prescription Monitoring Program (PMP) and its data and input into the new opioid prescribing regulations.

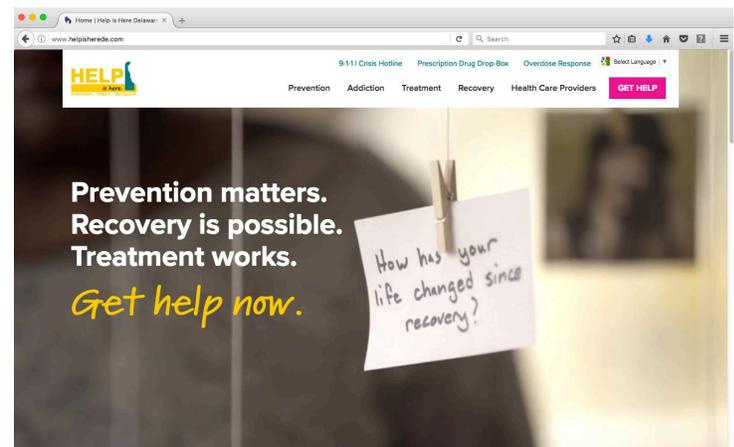
Similarly, the NCCO Opiate and Heroin Dependency Transition Committee (OHDTC) has recently come out with a good summary of local/state-wide efforts and suggestions for the new County Executive on coordinating/supporting efforts aimed at the opioid abuse problem in the future.

As measures are put in place to limit and decrease prescription opioids, the demand for illicit opioids has

increased. Consequently, other unintended consequences include persons with legitimate pain and no problem with opioid misuse/abuse sometimes experiencing difficulties obtaining medications that might have controlled their pain effectively and without problems.

With wide support, the Attorney General's office has introduced legislation to ensure insurance coverage for addiction treatment without preauthorization. In addition to the drug disposal stations at police stations in each county, Walgreens is now accepting drugs at their stores state wide.

The Delaware Division of Public Health has developed an increasingly robust web site, www.Helpisherede.com, that will be a clearinghouse for resources in the state for education, regulation, and treatment options related to the opioid abuse problem, drug dependence/addiction, and pain management in general.



Millions live with pain on a daily basis. Chronic pain is estimated to cost US between \$560-\$635 billion annually⁸. It is important to strike the right balance between reducing/eliminating the opioid abuse problem while also providing safe and effective opioid prescribing for pain. This safe and effective prescribing would be characterized by careful risk assessment, informed consent and monitoring for drug dependence and achievement of treatment goals. The use of a bio-psychosocial and multi-modal approach to pain management should be encouraged. A significant part of this includes insisting on insurance coverage for interdisciplinary and non-pharmacologic therapies for chronic pain.

Two other aspects of the opioid abuse problem require attention. We have made some progress with the identification, referral, and access to treatment for addiction. Referral for treatment can occur within health care systems with programs like CCHS Project Engage and state-wide with increased inpatient beds for drug dependence treatment and increased availability of medication assisted therapy (MAT). There is a need to eliminate barriers to immediate access to addiction treatment and there is still an important need to dispel the stigma of drug dependence within our health care system and society in general.

Law enforcement has contributed with Hero Help (NCCO police) and Angel (Dover police) programs where referral to treatment is available as an alternative to incarceration. Police stations have been early participants as drug disposal sites. 'Drug courts' are another referral path that is being developed.

There are resources aimed at interdiction on a regional level like High Intensity Drug Trafficking programs that seem to have had mixed results to date.

This complex issue will require ongoing cooperation and coordination by a multitude of stakeholders. Ongoing measurement and monitoring of the impact of our efforts is key to our ability to adjust focus and efforts as circumstances change to keep the pendulum in balance.

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John J. Goodill, M.D., FACP, FCCP, is the chief of Christiana Care's Pain and Palliative Care Section. He is a clinical instructor at Thomas Jefferson University Hospital in Philadelphia. He is director of the Adult Cystic Fibrosis Program at Christiana Care. Dr. Goodill also has been the chair of the Christiana Care Ethics Committee since 1996.

Please save the date for the
**16th Annual John Scholz
Stroke Education Conference**

Saturday, October 14, 2017
8:00 a.m. to 1:00 p.m.

John H. Ammon Medical Education Center
Christiana Hospital

Register online at www.delamed.org/stroke
or www.destroke.org



The DPH Bulletin

From the Delaware Division of Public Health

August 2017



Delaware Governor John Carney signed Senate Bill 48 which improves access to naloxone, an antidote to opioid overdoses, by protecting pharmacists who dispense it. Front row, from left: Hemang Shah and Jaime Frink of CVS, Governor Carney, Rehoboth Beach Commissioner Kathy McGuiness, RPh of Cape Pharmacy, and Sgt. Megan Moerman of Kent County EMS. Back row: Jessica Wearden, UMES student pharmacist, Kevin Musto, Atlantic Apothecary and Delaware Pharmacists Society, Maggie White, UMES student pharmacist, Hooshang Shanehsaz of Cardinal Health and the Board of Pharmacy, and Mark Bastarache, Region Manager, CVS Pharmacy. Photo by Donna Sharp.

Delaware expands access to overdose-reversing medicine

Delaware expanded community access to the life-saving drug naloxone as Governor John C. Carney signed [Senate Bill 48](#) on July 20 in a Dover CVS store. Pharmacists can now dispense naloxone, an antidote to opioid overdoses, without an individual prescription. Naloxone will be available at the pharmacy counter in participating pharmacies to anyone who is educated on its appropriate use and signs an acknowledgement form.

“Increasing our ability to prevent overdose deaths is vital to our response to the addiction epidemic,” Governor Carney said. “Naloxone can give people a second chance to get medical care and be connected to resources to treat their addiction.”

Primary legislative sponsors were Senator Bryan Townsend, chair of the Senate Health, Children, and Social Services Committee; Representative David Bentz, chair of the House Health and Human Development Committee; and Representative Paul Baumbach.

Visit www.helpsherede.com for prevention, detox, treatment, and recovery resources. In 2016, 308 people died from overdoses in Delaware, compared to 228 overdose deaths reported in 2015. So far in 2017, there are 125 suspected overdose deaths.

Stay cool with home preparations

Prepare for summer's continued high temperatures and thunderstorms. Follow these tips from the [Federal Emergency Management Agency](#) to keep homes cool and families safe:

- Drink water often, even if you are not thirsty.
- Check on older, younger, sick or vulnerable family, friends, and neighbors without air conditioning.
- Never leave children, anyone unable to open a door or window, or pets alone in closed vehicles.
- Check on pets and farm animals frequently to ensure they have fresh water, shade, and are not suffering from the heat.
- If your home loses power during periods of extreme heat, go to a designated public shelter. Stay on the lowest floor out of the sunshine if air conditioning is not available.
- Check the weather; listen to [NOAA Weather Radio](#) from the National Weather Service.
- Cover windows that receive morning or afternoon sun with drapes, shades, awnings, or louvers. (Outdoor awnings or louvers can reduce the heat that enters a home by up to 80 percent.)
- Insulate around window air conditioners and make sure they fit snugly.
- Weather-strip doors and sills to keep cool air in.
- Keep storm windows up all year.



DPH launches new Data Information and Request Process webpage

Those seeking health data and statistics have a variety of data sources in one place, at DPH's new Data Information and Request Process webpage: <http://www.dhss.delaware.gov/dhss/dph/drpmain.html>.



It is one click off of the Health Data and Statistics button at the bottom of the DPH main page. If seekers need more than what is available online, they can complete a form to request exactly what they need. The standardized and centralized online application allows DPH to meet an increasing demand for program-specific data requests and to process them efficiently and in a timely manner.



DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health

A Vision for the SUD Treatment System in Delaware



*By Kara Odom Walker, M.D., M.P.H., M.S.H.S.
and Karyl Rattay, M.D., M.S.*

He was released from a local Emergency Department just hours after he overdosed on heroin, was revived by paramedics using naloxone, and brought to the hospital for follow-up treatment. He left the hospital against the medical advice of the health professionals who treated him and returned to his parents' home. Less than 24 hours after he was brought to the hospital, his father found him dead in his bedroom, packets of heroin on his bed next to his lifeless body.

That scene or one similar to it has been an almost everyday experience in our state, with 308 lives lost to drug overdoses last year, an increase of 35 percent from 2015. These painful and tragic losses are a clear indication that our substance use disorder treatment system is not working the way it needs to in response to the opioid addiction crisis we are facing.

Too many people are not finding their way into treatment fast enough when they are ready. Too many people are not receiving treatment such as medication-assisted treatment that is best supported by science. Too many people are falling through the cracks when they transition from one level of treatment to another. Too many Delawareans still don't understand that substance use disorder is a chronic disease and should be treated like any other chronic disease. Often, the complex physical and mental health needs, as well as such social needs as housing, vocational skill development and

financial stressors are not being addressed. All of these factors lead to people struggling with a substance use disorder who either do not seek treatment or fall out of the system instead of getting the support they need to address the chronicity of their disease.

We envision a treatment system that is engaging, comprehensive, coordinated, integrated, high-quality, and person-centered. Learning from the successes of such states as Maryland, Rhode Island and Vermont, we are developing plans to create Centers of Excellence (or COEs) for the treatment of addiction. The COEs should provide the following services: comprehensive substance use disorder evaluation; induction and maintenance of medication-assisted treatment such as buprenorphine, methadone and vivitrol; group and individual counseling; strategic outreach using peers at key touch points to engage new or lost-to-care clients. The centers also will include wrap-around services such



as peer recovery services; case management; mentorship of collaborating health care providers, like primary care; links to recovery/transitional housing; occupational therapy; vocational training/placement; family engagement; syringe exchange services; and financial and legal coaching. In addition, the COEs will either provide or partner for psychiatric evaluation and treatment and the co-management of other chronic medical disorders. It will be critical that the centers are held accountable for the quality of the services they provide and that they participate in a learning community as a way to learn from each other, from a broader stakeholders group and from the communities they serve.

We recognize that in our current system there are many missed opportunities, times that could be reachable moments for individuals in active use, but where successful engagement into treatment, or back to treatment, does not occur. We want to make sure that our system identifies and reaches people at those opportune times and quickly brings them into the treatment services that are the right fit for them. This will involve using peer coaches who can engage with individuals at key touch points; increasing public awareness of what is available and how to connect to care; designing and implementing an Emergency Medical Services system of care – involving referral to treatment, follow-up via peer coach after overdose and possibly even initiation of medication-assisted treatment prior to ED discharge; identifying SUD among pregnant women, engaging them in treatment and implementing



postpartum plans of safe care upon diagnosis of neonatal abstinence syndrome (NAS) after delivery as needed; and connecting people to treatment via the criminal justice system.

We will be discussing this vision, learning from experts and listening to each other at a forum on October 26 at Delaware Technical Community College’s Terry Campus in Dover. We hope you will join us and make your voice be heard.

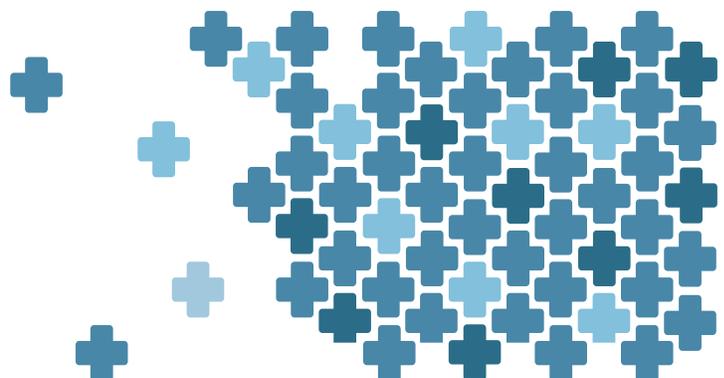


We know that treatment for substance use disorder works and long-term recovery is possible. Our hope is that in the not too distant future all Delawareans who are struggling with substance use disorder are better able to have their needs met, including treatment of their chronic brain disease and all other social supports. Many lives are counting on all of us.

Dr. Kara Odom Walker is the Cabinet Secretary for the Department of Health and Social Services and a board-certified family physician. Dr. Karyl Rattay is the Director of the Division of Public Health and a board-certified pediatrician.



Kara Odom Walker M.D., M.P.H., M.S.H.S. currently serves at the Cabinet Secretary for Delaware Department of Health and Social Services. Ms. Walker was formerly the Deputy Chief Science Officer at the Patient-Centered Outcomes Research Institute (PCORI).



The Department of Justice Focuses on Prevention and Treatment of Substance Abuse



Attorney General Matt Denn took office in January 2015, and has focused on the issue of reducing violent crime in Delaware. He proposed a plan for more police officers on patrol in Wilmington, legislation to crack down on young people caught with guns, and proposed using bank settlement funds for programs addressing crime along with the root cause issues of addiction,

education, reentry and housing. He also established a new Office of Civil Rights and Public Trust.

When I ran for Delaware Attorney General in 2014, Delaware's opioid epidemic was not highlighted in my campaign. I certainly had a position paper on it – informed by, among other people, our guest editor Dr. Horton – but it was not a prominent part of what I talked about.

That changed quickly when I took office in January of 2015, and started witnessing – firsthand – the dramatic impact that substance abuse has on law enforcement in Delaware. Our criminal prosecutors told me then that over half, and in some cases, two-thirds of their caseloads were connected in some way to drug addiction and drug trafficking. That's not just drug crimes; that's all crimes – homicides, violent felonies, burglaries, robberies, home invasions, and right on down the line. Those numbers from two years ago remain unchanged, and may – in fact – be getting worse.

Aside from substance abuse being a top driver of criminal activity, I also got a closer view of the raw human cost of the opioid epidemic, as I met more and more families who had lost children, brothers, sisters, and parents to drug overdoses. We have all heard the stories by now – good kids who got hooked through prescriptions they received after a sports injury or an auto accident, and transitioned into illegal drugs when either the prescription or the money ran out. Others are kids who tried opioids one time at a party and were immediately hooked.

So, after just a few months in office, even though the Department of Justice doesn't have any formal role in the prevention and treatment of substance abuse, I decided that DOJ needed to become much more vocal about addressing this epidemic. Delaware has a long way to go, but working with advocacy organizations

like AtTAcK Addiction, a group of family members who have lost loved ones to drug overdoses, and with medical professionals like Doctor Horton, our state is in many ways leading the nation in terms of the thought and energy that it is investing in the fight against the opioid epidemic. Here is what we have been working on.

1. Revision of the State's Regulations for Prescription of Opioids.

In the summer of 2015, DOJ weighed in vocally with the state's Office of Controlled Substances on its planned revisions to the state's regulations for prescription of opioid drugs. Our recommendations were focused in two areas. For short-term prescription of opioids, we thought substantially more communication should occur between prescribers and patients before those drugs were prescribed, with respect to side effects and possible alternatives. For longer-term opioid prescriptions, we had the same concerns with respect to communication, but also additional concerns relating to monitoring of patients. Part of the reason for our recommendations was that Delaware consistently ranks near the top of the country with respect to the volume of opioids that are prescribed per capita. Although the Office of Controlled Substances did not adopt our recommendations verbatim, it did adopt a set of regulations that thoughtfully incorporated DOJ's concerns and placed Delaware near the forefront of the country with respect to how closely it regulates the prescription of these drugs. The new regulations went into effect in April, and we are watching with interest to see how they affect actual prescribing practices.

2. Breaking Down Private Insurance and Medicaid Barriers to Drug Treatment.

It is no secret that too few Delawareans willing to seek substance abuse treatment are able to access appropriate treatment. Our observation from talking to both practitioners and patients is that a big part of this treatment shortfall is private insurers and Medicaid; individuals who wanted to get treated for substance abuse were either blocked by insurers at the front door, or had their treatment downgraded or terminated by insurers before they had an opportunity to complete treatment. This past year, DOJ worked with the General Assembly to pass

legislation that would attack this problem directly. One of the bills that was passed prevents insurers from imposing pre-authorization requirements on persons seeking to get in the front door to drug treatment, and circumscribes the type of “utilization review” that can occur during a person’s first two weeks of treatment. The second bill provides legal and medical assistance to individuals denied treatment by either Medicaid or private insurers on the basis that the treatment is not medically necessary. These two bills, which take effect later this calendar year, should break down at least some of the obstacles created by public and private insurance to people getting appropriate drug treatment.

3. *Holding Drug Manufacturers Accountable.* For some time, Delaware has helped to lead an effort among a majority of the country’s Attorneys General to investigate whether drug manufacturers have violated state laws in the manufacture and marketing of opioid drugs. Until recently, the existence of that investigation was confidential, but the states recently agreed among themselves to disclose the existence of the investigation (which is still ongoing). Separately from that investigation, our office recently posted an RFP inviting private law firms who might wish to investigate and, if warranted, pursue legal action against opioid manufacturers on behalf of Delaware to make proposals to the state for the terms under which they would do so. Together, these efforts will allow Delaware – if the investigations conclude that the manufacturers violated Delaware law – to hold the opioid manufacturers financially accountable for the impact that their practices have had on Delawareans.

4. *Expanded Use of Naloxone.* Delaware has been among the most aggressive states in the country in encouraging its police officers and other first responders to carry Naloxone, which can be used to resuscitate opioid overdose victims. The success of Delaware’s efforts is largely due to the efforts of AtTAcK Addiction. One of the significant obstacles for first responders is the cost of purchasing the drug. To address that challenge, the Department of Justice invited all of the state’s law enforcement agencies to apply for start-up funds for the purchase of Naloxone from the State Law Enforcement Assistance Fund (SLEAF), a fund overseen by DOJ, created by assets seized from persons involved in drug crimes. A number of police departments applied for these funds and all requests were granted. Although the SLEAF funds are limited, our office will continue to be supportive of state support for the purchase of Naloxone by local law enforcement agencies.

5. *Heightened Oversight of Prescription Practices.* In addition to the state’s revised regulations regarding prescription of opioids, DOJ also worked with the General Assembly to pass legislation that will allow the Office of Controlled Substances to make better use of the state’s prescription drug database to identify unusually high-volume opioid prescribers. It also allows the office to make initial determinations as to whether those prescribers are complying with state laws and appropriate medical practices in their prescription practices. To the extent that those inquiries raise concerns, referrals will be made for follow-up to the appropriate licensing authorities or, where concerns are raised about criminal activity, appropriate law enforcement authorities.

6. *Helping the State Adopt Thoughtful, Evidence-Based Approaches to the Opioid Epidemic.* As important as all of the steps described above will prove to be, it is also our office’s perception that much of the state’s past approach to addressing the opioid epidemic has been based on anecdotal evidence. Thus, we have taken two steps to try to ensure that – moving forward – the state is able to take additional steps based on a combination of anecdotal and more concrete evidence. The first step was working with the General Assembly in 2016 to create a Drug Overdose Fatality Review Commission – the first statewide commission of its kind in the country -- that will carefully review all deaths resulting from opioid fatalities and make annual recommendations to the state for changes based upon its systemic review of those deaths. Doctor Horton is the chair of that Commission. The second step was DOJ’s retention in 2016 of a nationally recognized consultant to conduct a “treatment inventory” for Delaware, where he would comprehensively review the unmet needs in Delaware’s network for treatment of opioid addiction and suggest specific, prioritized steps to fill those unmet needs. The consultant’s report is in its final stages and will be released this summer. One of the focuses of his report will be on the state’s ability to expand the responsible use of medically assisted treatment of substance use disorder.

With the steps described above, I am hopeful that DOJ has – over the last two years – been a helpful partner in aggressively addressing Delaware’s opioid epidemic and in laying the foundation to continue improving the state’s response in the future. Attacking this epidemic may not be part of our statutory mandate, but it is a moral imperative and our office will continue to be actively involved in this fight.



INFORMING PRACTICE:

A Review of Overdose Fatality & Drug Monitoring Initiatives in Delaware

Rebecca Walker, Ph.D., J.D., M.S.N.

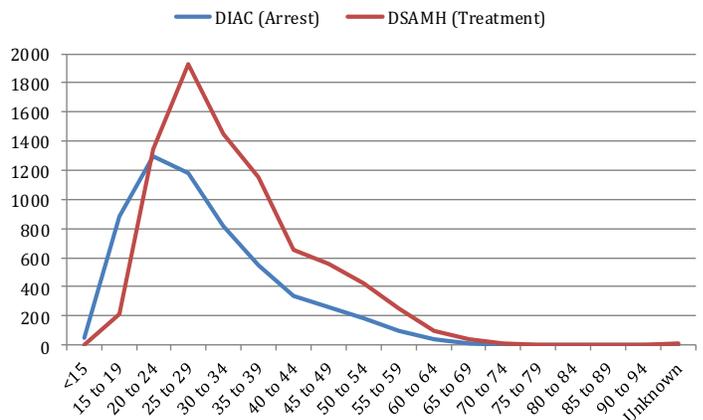
Over the past few years state agencies and private organizations have started taking a closer look at overdose fatality in Delaware. Though policies have been drafted, protocols established, and treatment plans initiated, drug overdose deaths in Delaware have doubled since 1999. Delaware now ranks high on the national list for overdose mortality.¹ This article will examine current statewide strategies and innovative collaborations between the law and health care communities to combat this epidemic.

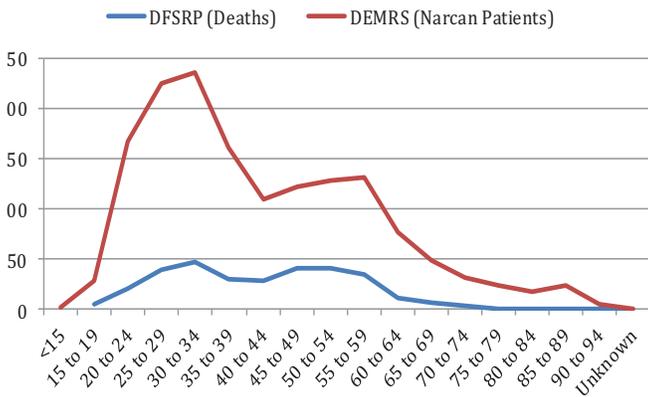
CURRENT TRENDS

Over the past four years overdose, death rates have steadily increased. As a result, data associated with several government agencies were reviewed collaboratively with the goal of providing actionable information that could be shared with other government officials. When examined in totality, these data continue to demonstrate alarming trends across the lifespan.

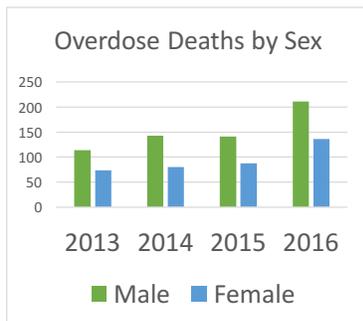
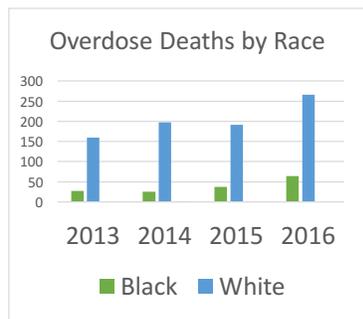
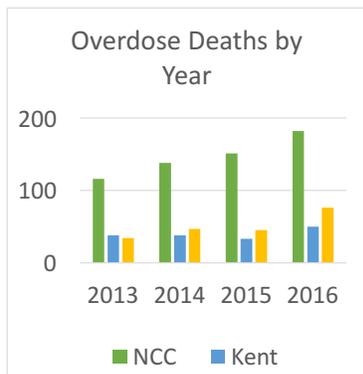
Four variables were examined and correlated with regard to age and contact. Looking at 2016, there were significant correlations in the peaks between contact with law enforcement and treatment programs. There were also age correlations seen with Narcan administration by emergency providers compared to overdose fatality data. These correlations support the argument that without access to one variable, the other variable would significantly increase. For example, the

peaks in the chart below demonstrate that without the ability to administer Narcan in a pre-hospital setting, the number over overdose fatalities would likely more than double in Delaware.



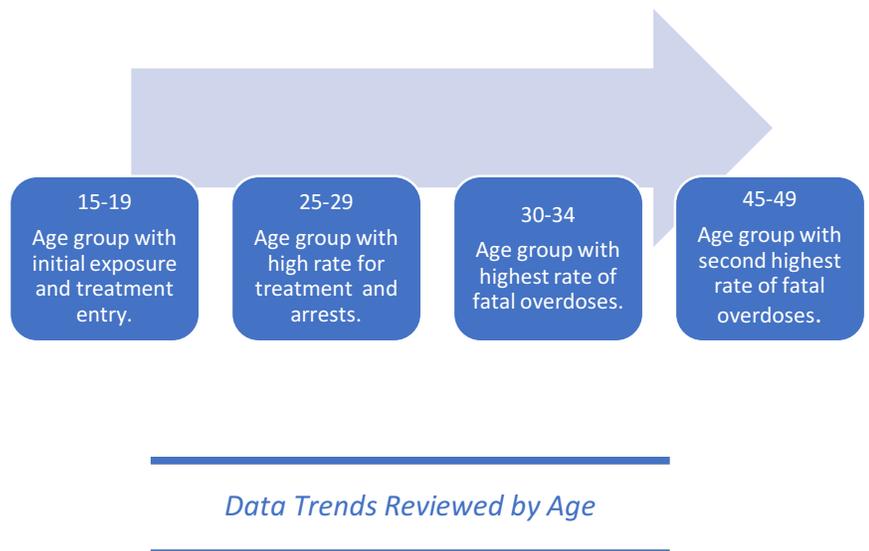


While New Castle County has seen the greatest increases at 31% over Kent and Sussex counties combined,² demographically, this epidemic has impacted predominately white males, with growing trends noted in all sex and race categories.³ Examining specific agency data points across the lifespan has allowed for a richer understanding of the challenges statewide. Collaborative work to examine current trends will provide evidence to support an interdisciplinary analysis of the Delaware drug overdose monitoring data.



Delaware emergency medical services (EMS) have observed significant increases in overdose related patient contacts. In 2016, 2,274 Narcan doses were administered by EMS, with 62% of those administrations being male patients.⁴ Most of these administrations occurred in the home or residence (73%) with the top five locations for these incidents occurring in Wilmington (26%), Newark (12%), New Castle (7%), Dover (7%), and Millsboro (5%).⁵

The Delaware Division of Substance Abuse and Mental Health (DSAMH) has presented identifiable demographics for those in addiction treatment. In this review it was identified that while women made up 38% of those treated with Narcan in 2016, only 30% of these women entered treatment. Of those in treatment, 70% were white and 3% fell into the 15 to 19 year old age category. These data correlated with data provided by Delaware law enforcement. Delaware law enforcement agencies have recognized that 24% of all opioid arrests fell into the 25 to 29 age group, and consistent with treatment contacts, most arrests or law enforcement contacts occurred in New Castle County.⁶ Examining this cross-agency data from the four state organizations present clear trajectory across the lifespan. Initial contact most commonly occurred during treatment in the late teen years, with continued treatment or law enforcement contact in the 20-29 year old category, followed by increased rates of Narcan administration and death though into the 30-49 year old age groups. This is represented across the lifespan in the figure below.



STATEWIDE INITIATIVES

In 2016 the State of Delaware was given the opportunity to participate in a learning lab offered by the National Governor's Association (NGA) in Washington D.C. This program concentrated on developing state strategies for reducing overdose and deaths associated with heroin and illicit fentanyl. The overall goal of this work was to improve information sharing and data analysis between law enforcement and public health agencies. Participants from four Delaware agencies were selected to participate on the Delaware team. As a result of this work the team members identified three goals: 1) develop a mechanism for gathering, analyzing and sharing actionable information with forensic science, public health and law enforcement; 2) formalize a Delaware action committee working in conjunction with High Intensity Drug Trafficking Association (HIDTA) representatives; and 3) leverage resources to establish sustainable infrastructure for information sharing.

The first goal was accomplished through an integrative process whereby data was examined between several agencies statewide. This innovative work resulted in the creation of the Delaware Drug Monitoring Initiative (DMI) Report. This report is currently in its infancy but is being utilized on a quarterly basis for situational awareness by examining data from the following state agencies:

- **Delaware Division of Forensic Science (DFS)**, provides data related to toxicology drug testing and death
- **Delaware Emergency Medical Reporting System (DEMRS)**, provides data related to first responders and Narcan administration
- **Delaware Information and Analysis Center (DIAC)**, provides data related to law enforcement and arrests
- **Delaware Division of Substance Abuse and Mental Health (DSAMH)**, provides data related to treatment and addiction services

To better address the issues related to the drug epidemic affecting Delaware, the objective of the DMI report is innovative as it examines data to identify correlations. The goal of the DMI report is to aid multiple agencies across Delaware. The DMI stimulates the sharing of consistent, actionable information across agencies, with government officials who are in a position to propose innovative strategies designed at impacting the opiate crisis. The ability to cross-examine data from agencies

with very different focuses allows for a collaboration and information sharing process that in the past, have not easily been accomplished in government systems. For example, by using the information presented in this report, when peaks are identified in fatal overdose or law enforcement activity in a certain community or geographical area, personnel from addiction treatment organizations could initiate focused strategies to reach out to individuals in those peak communities. It is the consensus of these agencies that efforts to identify those in jeopardy of addiction, and or overdose, will help support additional treatment or law enforcement related programs.

The second goal was initiated in 2016 with the formation of the Drug Monitoring Initiative Action Committee (DMIAC). The mission of the DMIAC is to impact the addiction epidemic in Delaware through a unified interdisciplinary team for the purposes of data collection, research analysis and the development of strategies, to positively influence the statewide response to overdose and addiction.⁸ This work is done through collaboration between state, local and private sector participants, all working to promote information sharing strategies and efficient utilization of data with the goal of guiding statewide responses and initiatives. While this committee is in its infancy, collaboration between private sector and governmental agencies has promoted consistent information sharing across organizations. The development of this information sharing concept fosters an innovative approach to the creation of effective strategies for all stakeholders.

The last goal of the NGA learning lab was to leverage resources to establish a sustainable infrastructure. This work required all participating agencies to develop written agreements to promote information sharing. Information would then be collectively gathered and analyzed to create the quarterly DMI report. With this sharing of information, all data remains the property of the submitting agency and all reports are leveraged through the Department of Safety and Homeland Security criminologist collaborating with the Department of Health and Social Services epidemiologists. These macro-monitoring efforts allow for the promotion of informed decision making across state departments, where findings and actionable recommendations can be evidence based and supported by statewide data. The development of these memorandums of understanding fleshed out the information sharing challenges faced by each state division. Addressing concerns with protected medical

information, classified investigative processes and the de-identification of data allowed for a broader approach to innovative strategy development.

In 2016 the Delaware General Assembly, through the passage of SB174, established the Overdose Fatality Review Commission (Commission). Housed under the Delaware Attorney General's office, the purpose of this commission is to review all overdose fatalities in Delaware that involve prescriptions, opiates, heroin, fentanyl and other illicit drugs then provide elected officials with data driven recommendations to prevent future overdoses.⁸ Membership on the Commission includes representatives from state agencies, health care providers, mental health professionals, public advocacy groups, law enforcement and legal counsel representation. This effort is facilitated by the establishment of three county wide regional review teams. These regional teams are charged with reviewing every death by overdose in accordance with the statutory requirements, then report findings back to the Commission for action³. The duties assigned to the Commission are two-fold: 1) advising the Governor and members of the General Assembly, annually, regarding those practices or conditions which impact the frequency of overdose deaths involving opiates, fentanyl or heroin and suggesting ways to reduce the frequency of such overdose deaths; and 2) investigating and reviewing the facts and circumstances of all overdose deaths involving opiates, fentanyl or heroin which occur in Delaware for the purpose of making system-wide findings or recommendations arising from the investigations and regional review process.

When Delaware collaborates with federal agencies such as the High Intensity Drug Trafficking Areas (HIDTA) program, other state agency stakeholders, private sector representatives on the Commission, and members of the DMIAC, one process can be established to allow each organization to inform the other. This cross-collaboration work promotes a broader examination of the opiate crisis in Delaware whereby alternative perspectives are considered and incidents occurring in other jurisdictions or surrounding states are monitored.

LESSONS LEARNED

Creating a statewide infrastructure does not come without challenges. Far too often agencies become so focused on how that particular agency is going to address a problem, that frequently personnel lose sight of the value of cooperation and collaboration. The projects discussed in this article have demonstrated the

criticality of a holistic approach to addressing a large scale problem. The overall goal of this holistic approach is three-fold with focuses on awareness, intervention and prevention.

Collaborative efforts between health and law enforcement have established new paradigms and partnerships. These working relationships contribute to a state of readiness that was not seen in government a few short years ago.⁴ The ability to balance confidentiality requirements of both professions can be maintained with the willingness to consider operational needs of both agencies. Health agencies have access to sensitive medical information. Much of this information is protected by the Health Information, Portability and Accountability Act (HIPAA), as well as other federal and state laws. Health officials are prohibited from openly sharing sensitive information if not for the purpose of providing continued care.⁵ In the alternative, often times law enforcement are prohibited from sharing sensitive investigative information in an effort to protect the integrity of casework. Butler et al. has identified that mitigating potential conflicts can be accomplished through careful planning.⁶

Confidentiality in health based agencies, for the purposes of protecting sensitive health information, is balanced with the confidentiality requirements in law enforcement agencies for the purposes of protecting the integrity of sensitive investigative information. Given the checks and balances required by both groups and the need to work in concert, new partnerships between public health and the law enforcement communities are evolving in both the federal and state government agencies. Through the creation of working agreements and clarification of legal authority beforehand, solid working relationships can be established. Increasing communications and developing an understanding of other perspectives between government agencies, especially between public health, medical providers, emergency services, forensic agencies, and law enforcement intelligence agencies lessens the necessity to choose between agencies.

Health and law enforcement must understand each other's work, standards and culture.⁷ Each agency offers a unique perspective and understanding this perspective, expands opportunities for statewide agencies to work together. Mutual collaboration and a willingness to work together will only improve the range of services offered. Doing this, will allow us to better serve the citizens impacted by this crisis.

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Dr. Walker is currently the Chief Operating Officer for the Division of Forensic Sciences in the Delaware Department of Safety & Homeland Security. She is also a retired member of the State House of Representatives, where during her two terms as a legislator she served as the chair of the House Judiciary Committee and vice-chair of the Health & Social Services Committee. Dr. Walker has 11 years experience in academia, where she was a tenure track faculty member with Wesley College; followed by a position with Widener University School of Law, as the Director of LLM Programs and a law professor for international students.

Science over Stigma:



A Symposium on Treating the Opioid Epidemic in Southern Delaware

In honor of National Recovery Month, this educational event will provide a science/research based understanding of the FDA-approved medications for the treatment of the chronic brain disease of addiction, with a particular focus on opioid use disorders.

Keynote Speaker: Yngvild K. Olsen, M.D.

Medical Director of the Institutes for Behavior Resources Inc/REACH Health Services in Baltimore City

Wednesday, September 20, 2017

8 a.m. – 1 p.m.

Heritage Shores Clubhouse

One Heritage Shores Circle

Bridgeville, Delaware 19933

**For more information or to register to attend, email
ataylor@connectionscsp.org**



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NAM Launches New Online Interview Series, *Community Health Heroes*

The NAM recently launched a new online interview series, entitled *Community Health Heroes*. Inspired by the 2017 National Academies report [Communities in Action](#), this series will highlight individuals or groups who are pursuing health and health equity in communities across the nation.

▶ Calling artists of all kinds! ◀

What does health equity look, feel, and sound like to you?



Show the National Academy of Medicine what health equity means to you!

Visualize Health Equity: A Community Art Show

Learn more: nam.edu/VisualizeHealthEquity

[#PromoteHealthEquity](#)

NAM Calls Artists of All Kinds to Submit Work for Visualize Health Equity: A Community Art Show

The NAM is calling upon artists to demonstrate what health equity would look like to them—whether it's access to healthy food or safe neighborhoods, good education or a living wage, clean drinking water or affordable housing, connection to cultural heritage or lack of discrimination, or any other opportunity that helps them live their healthiest lives. The submission deadline is September 4, 2017. [Learn more about the project>>](#)

Featured Report from the National Academies of Sciences, Engineering, and Medicine

Global Health and the Future Role of the United States identifies global health priorities in light of current and emerging world threats. This report assesses the current global health landscape and how challenges, actions, and players have evolved over the last decade across a wide range of issues, and provides recommendations on how to increase responsiveness, coordination, and efficiency – both within the U.S. government and across the global health field. [Read more >>](#)

More NAM News

Save the Date! NAM Annual Meeting will be held October 14-16, 2017. The scientific symposium will focus on *Developmental Neurosciences: Do We Know Enough to Prevent or Reverse Major Behavioral Disorders?* Registration for the 2017 annual meeting is open. [Join the mailing list](#) to be notified with updates.

The Delaware Opioid Epidemic



Paul R. Silverman, Dr.P.H., Jamie Mack, Frann S. Anderson, L.C.S.W., C.A.D.C., and Karyl T. Rattay, M.D., M.S.

In 2014, only eight states had an age-adjusted death rate from drug poisoning higher than Delaware (NCHS, 2016). In Delaware, deaths from drug poisoning first surpassed deaths from motor vehicle injuries in 2009 (Delaware Division of Public Health, 2016).

Figure 1 demonstrates the dramatic rise in drug overdose mortality among Delaware residents, from 1999 to 2015. The actual number of deaths increased from 50 to 228 during this period. Prescription drugs are the primary driver of the increase, and opioids are the primary type of prescription drug involved. Preliminary data from the Division of Forensic Sciences suggest that more than 300 Delawareans died in the year 2016 from drug overdose.

The impact of the epidemic is also evident among Delaware's youngest citizens. In 2003, 38 babies were cared for in Delaware hospitals because of neonatal abstinence syndrome – drug withdrawal in the newborn. This number climbed to 215 in 2013. Not surprisingly, the cost to care for these babies has also climbed from \$392,000 in 1999 to almost \$9,600,000 in 2013. A separate analysis looking at hospital discharge data from the period of 2010 – 2013 suggests that Delaware's NAS rate is about three times higher than the national rate. During the same period, there was a continued annual increase in the number of NAS cases and the median charges billed for a NAS newborn were five times higher than the charges for a non-NAS newborn. (Delaware Division of Public Health, 2016).

THE PRESCRIPTION CONNECTION

Given the prevalence of chronic pain, it is not surprising that opioid analgesics are the most commonly prescribed class of medications in the United States (CDC, 2014). Since 1999, the amount of prescription opioids sold in the U.S. nearly quadrupled (CDC, 2016). In 2015, 36.4 percent of Americans over the age of 12 years used painkillers (Hughes, et al., 2016). Not only are opioid analgesics widely misused but the major source of diverted opioids is physician prescriptions (Shei, Rice and Kirson, 2015). For this reason, there is increasing attention on prescribing habits. In 2012, Delaware healthcare providers prescribed more high-dose opioids than healthcare providers in any other state. Delaware was second in the nation for long acting/extended release opioid prescriptions (Paulozzi, Mack and Hockenberry, 2012).

The good news is that the percentage of patients prescribed high-dose opioids in Delaware has been decreasing (Figure 2). Still, the number of prescriptions per Delaware resident has not changed (Figure 3) and nearly 11 % of patients who are prescribed opioids are receiving a benzodiazepine at the same time (Figure 4)—a potentially dangerous combination.

A COMPREHENSIVE SOLUTION

Figure 5 is from the Association of State and Territorial Health Officials Public Health (*Public Health Approaches...*, n.d.). It is a useful framework to conceptualize the comprehensive approach necessary to address the opioid problem. Public health practitioners will recognize the primary, secondary and tertiary prevention concept. At the top of the pyramid is preventing adverse outcomes from addiction or harm reduction (tertiary prevention). The administration of naloxone is a good example. Naloxone is used in opioid overdoses to counteract life-threatening depression of the central nervous system and respiratory system, allowing an overdose victim to breathe normally, receive additional emergency care and provides an opportunity to engage or re-engage that individual in treatment.

The middle of the pyramid is the diagnosis and treatment of addiction (secondary prevention). Medication-Assisted Treatment (MAT) is an example which involves the use of medications in conjunction with counseling and behavioral therapies to treat substance use disorders and prevent overdose. MAT is not without controversy. Proponents say that it leads to a smoother transition to a drug-free lifestyle. This claim is strongly supported by empirical evidence. Opponents claim that MAT is simply

replacing one addiction with another, and that the medical profession is in effect endorsing long-term addiction (Center for Substance Abuse Treatment, 2005).

The bottom of the pyramid is primary prevention – the prevention of a disease or injury before it occurs. Note the variety of potential interventions that are listed.

The system improvements and collaborative work necessary to put into place these prevention measures, let alone to have them function seamlessly, is a monumental task that will take leadership from government, healthcare providers, community agencies, law enforcement, schools and many other entities.

While there is much more to do, important steps have been taken in Delaware. Prominent among these are the establishment in 2012 of the Prescription Drug Action Committee (PDAC). Led by the Delaware Division of Public Health and the Medical Society of Delaware, PDAC's mission has been to coordinate public, private and community efforts to address the opiate crisis we are facing. PDAC has done its work through four subcommittees – Public Education, Provider Education, Access to Substance Use Disorder Treatment, and Control and Surveillance. You can access the PDAC report from the Delaware Division of Public Health website (*Prescription Drug Action Committee, n.d.*). The progress made by PDAC and the importance of the mission led to the introduction of legislation to codify the committee as the Addiction Action Committee. The legislation, passed on June 30 and signed by Governor Carney on August 16th, 2017, provides the committee with a broader mission of establishing a comprehensive, coordinated strategy to address addiction in Delaware.

Under the leadership of PDAC and multiple partners, some significant accomplishments are listed below, organized by the framework presented in Figure 5. This is not intended to be an inclusive list.

TERTIARY PREVENTION (PREVENT LIFE-THREATENING ADVERSE OUTCOMES)

♦ **Naloxone** – With a revision of Delaware law (16 Del.C. § 3001G), naloxone can now be administered by peace officers, emergency responders, school nurses and community members. The number of doses administered increased approximately 12 percent from 2014 (1,236 doses) to 2015 (1,389 doses). In both years, roughly 50 percent of the patients experienced an improved outcome after receiving naloxone (DEA Intelligence Report, 2016). The administration of naloxone continues to increase in frequency with 1,535

doses administered in 2016 and 866 doses administered in the first six months of 2017. In July 2017, a further legislative revision was made to provide pharmacists who dispense naloxone the same protections afforded doctors and first responders who prescribe and administer the drug. The removal of this barrier to access will further contribute to the increased availability of naloxone in the community.

- ♦ Good Samaritan Law – Except for the most serious felonies, this law, passed in 2013, provides that someone who seeks medical attention for an individual in the midst of an overdose or life threatening emergency, including for him or herself, will not be arrested or prosecuted (*16 Del. C. § 4769*).
- ♦ The Delaware law allowing for a sterile needle and syringe exchange program (*16 Del.C. § 7990*) was originally limited to the City of Wilmington. The law was revised to remove this geographic restriction so that all Delaware residents could have access to this important tool in combatting drug addiction and preventing disease transmission. Syringe exchange services are now offered on a limited basis in Kent and Sussex counties.

SECONDARY PREVENTION (DIAGNOSE AND TREAT ADDICTIONS AND SUBSTANCE USE DISORDERS)

- ♦ www.Helpisherede.org – This website, maintained by the Department of Health and Social Services is a one place stop for medical providers, individuals looking for treatment, and those concerned about their friends and loved ones. The site was updated in the spring of 2017 to include personal stories to better engage with the audience, information in multiple languages to make it more accessible and improvements to make the site more mobile friendly. On the provider side, there are now more tools available to assist prescribers in helping their patients. (*Help is Here, n.d.*)
- ♦ **Hero Help and Angel programs** – Hero Help (New Castle County Police) and the Angel program (Dover Police) are programs offered by the respective police departments to connect individuals seeking help with drug treatment resources without fear of repercussions. (*Dover Police Angel Program, n.d., Hero Help, 2016*).
- ♦ **Drug Court** - The Treatment Access Center (TASC) is the primary liaison between the Division of Substance Abuse and Mental Health and the criminal justice system. TASC provides case management services to offenders as they move through both the criminal justice and treatment systems. Assessments are conducted and

treatment recommendations are provided to the court and other criminal justice officials for use in disposition. Once a case is engaged, TASC ensures that treatment placement occurs in a timely basis (*What is TASC?, n.d.*)

- ♦ **Delaware treatment system** – The Delaware Division of Substance Abuse and Mental Health's response to opiate addiction has been to increase treatment capacity while creating a continuum of care that includes residential treatment options as well as less intensive treatment options such as traditional outpatient care. MAT is a treatment option for individuals seeking to address addiction issues with the assistance of medication and counseling. Opioid treatment programs offer medication in the form of Methadone, Suboxone or Subutex along with treatment sessions in group and individual counseling. Detoxification programs are also offered on an inpatient or outpatient basis. The treatment system in Delaware operates as a continuum in which clients may move from more intensive levels of treatment to less intensive, or from less intensive to more intensive. A comprehensive assessment determines the level of support. Living in a safe environment free from substances is an important aspect of treatment. For this reason, Delaware provides Sober Living residences in which individuals in early recovery can find a safe place to live while receiving counseling, case management, medical and psychiatric support.

PRIMARY PREVENTION (REDUCE THE NEED TO SELF-MEDICATE, CONTROL ACCESS TO ADDICTIVE SUBSTANCES, AND PROMOTE PROTECTIVE FACTORS)

- ♦ **Prescription Drug Monitoring Program (PMP)** – The Delaware Prescription Monitoring Act (*16 Del. C. § 4798*) authorizes the Delaware Division of Professional Regulation to establish, maintain and monitor the PMP in order to reduce misuse of controlled substances in Delaware and to promote improved professional practice and patient care. The PMP gives prescribers information about the opioid using history of a patient, and has great potential as a quality assurance tool. The PMP collects dispensed controlled substance prescription data from pharmacies every 24 hours and provides practitioners and authorized support staff with access to patient profiles and drug dispensing records for clinical assessment. The information can also be accessed by law enforcement for investigative purposes. PMP data is also an important public health surveillance tool. In the Fall of 2017, Delaware's PMP is expected to migrate to the AwareRx/NarxCare® system which will provide substantial improvements to functionality, give practices the ability to integrate with EMR's, if they choose, and

- make other improvements to facilitate better prescribing practices and oversight.
- ✦ PMP activities will be enhanced by a bill signed into law in May 2017. The bill, HB-91, established the PMP Advisory Committee to bring together stakeholders working to improve oversight of prescribing practices in Delaware. The Committee will focus on developing criteria to be used to identify circumstances that warrant referral to professional licensing or law enforcement authorities. Other Committee activities will include recommendations and input to improve the ability of the PMP to connect with other state PMP's and to increase use of the PMP among prescribers and dispensers.
 - ✦ In 2016, Delaware created an Overdose Fatality Review Commission to examine deaths from opioid overdoses, including prescription opioids, fentanyl and heroin, and to make recommendations to prevent future overdoses. The law was revised in 2017 to allow the Commission limited, specific access to the PMP and obtain other data and information pertinent to its mission (*16 Del.C. Chapter 47*).
 - ✦ **Provider education** – All controlled substance prescribers must take one-hour of continuing education on Delaware-specific prescription drug abuse and pain management topics, including the PMP (*Uniform Controlled Substances Act Regulations, n.d.*), within the first year of registration and two hours of CE's every two years in the areas of controlled substance prescribing practices, treatment of chronic pain, or other topics related to prescribing controlled substances as long as they hold registration.
 - ✦ **Delaware's Board of Medical Licensure and Discipline Regulation 18** – This regulation defines specific requirements applicable to pain control, particularly related to the use of controlled substances, to alleviate licensed practitioners' uncertainty, to encourage better pain management, and to minimize practices that deviate from the appropriate standard of care and lead to abuse and diversion (1700 Board of Medical Licensure and Discipline, n.d.) In addition, the Uniform Controlled Substances Act Regulations were updated in April 2017 to refine guidance for prescribing for pain management in acute care instances and chronic treatment. Key elements around prescribing opioids for chronic, long-term pain treatment include: an initial query of the PMP for prescription history and at least every 6 months; administration of fluid drug screens at least every 6 months; and obtaining a signed informed consent and treatment agreement.
 - ✦ **Access to long acting reversible contraceptives (LARCs)** – Upstream USA, in partnership with the Delaware Division of Public Health, initiated a new program called *Delaware CAN* (Contraceptive Access Now), a public-private partnership designed to reduce unintended pregnancy in the state of Delaware (*Small State. Big Idea., n.d.*). Since 80-90% of babies born to mothers with a substance use disorder are unintended, increasing access to effective contraception by women dealing with addiction should also reduce the incidence of neonatal abstinence syndrome.
 - ✦ **Drug take back** – There are 14 police departments throughout Delaware where individuals can anonymously discard their expired and unused medicines (*Stop Flushing Your Medications, n.d.*). The Division of Public Health is working with pharmacies to enable them to take back drugs on-site. Now, Walgreen's has established drug take back kiosks at six of the company's locations in Delaware. Related, Verde Technologies recently partnered with PDAC and the Delaware Pharmacists Society to launch the first Deterra Drug Deactivation System statewide pilot program in the country. Verde worked with six participating Delaware pharmacies to provide free Deterra Drug Deactivation System packages to residents so that they may safely and conveniently deactivate and dispose of unused highly addictive and sought after prescription medications at home (*Division of public health coordinates..., 2015*).
 - ✦ **Hospice drug disposal** – Delaware regulations now require hospice facilities to have procedures to safely dispose of unused prescription medications following the death of an in-home hospice patient (*4468 Delivery of Hospice Services, n.d.*).
 - ✦ **Secured Script Program** – Delaware implemented the Secured Script Program in March 2012 to combat prescription fraud. This program requires prescribers of controlled and non-controlled substances to use tamper resistant prescription forms, which are supplied by the Division of Professional Regulation approved vendors (*DEA Intelligence Report, 2016*).
 - ✦ **School education** – Red Clay Consolidated School District partnered with the Delaware Division of Public Health to offer an education program to prevent and identify prescription drug abuse among teenagers and pre-teens. The program adapted Smart Moves/Smart Choices, a research-based program developed by the National Association of School Nurses and Janssen

Pharmaceuticals for middle and high school students (*Delaware Public Health and Red Clay...*, 2013). DPH is working with the Department of Education to better assess the needs of health teachers and provide support for implementation of evidence-based health education programs in Delaware schools. DPH is working to conduct three pilot projects to implement the Botvin Life Skills training in one school district in each Delaware county.

- ♦ **Drug Diversion Investigations** – Prescription drugs are diverted in various ways including prescriptions and prescription pads being sold to third parties; prescriptions being filled and the pills sold to third parties; “doctor shopping;” and residential theft. The Delaware State Police maintains a Drug Diversion Unit consisting of 5 Agents and 1 Trooper (*Delaware Drug Diversion Unit, n.d.*) to investigate drug diversion.
- ♦ **HIDTA** – In 2015, the White House Office of Drug Control Policy announced 5 High-Intensity Drug Trafficking Areas. One of these areas includes Philadelphia, Camden and New Castle County. The objectives are to reduce opioid-related overdose deaths, dismantle primary heroin distribution networks, and educate families and young people about the risks of opioid abuse and available treatment resources (*Heroin Response Strategy High Intensity Drug Trafficking Areas, n.d.*).

THERE IS MUCH MORE TO DO

The accomplishments to date pale in comparison to the work ahead if real progress is to be made. Some of the most important priorities include the following.

- ♦ **Support for healthcare providers** – We need to re-double efforts to help providers change their practice around safe opiate prescribing so as to be consistent with accepted guidelines and changing state regulations. This includes arming them with information, providing technical assistance for quality improvement, and facilitating technology that makes it easier for them to check the PMP and tap into prescription information across state lines. Providers also need support to utilize alternative (non-opiate) approaches to pain management, including insurance reforms that reimburse them accordingly. Finally, availability and awareness of and engagement with coordinated, evidence-based, person-centered and quality substance use disorder treatment services must continue to be a priority.

- ♦ **Public education** – There is an urgent need to expand education to children, youth and their families around addiction and approaches to prevent it. Strong support for our schools and teachers to implement current, related regulations is necessary. Expansion of the implementation of Botvin Life Skills, based on the outcome of the pilot projects, is part of the statewide vision for public school health education. Also needed is broad education of the public: approaches to prevent opiate misuse and addiction; alternative approaches to pain management; identification of substance use disorders; means to reduce the stigma associated with addiction; and how to navigate to system to receive quality treatment services.
- ♦ **Connecting individuals to treatment** – Providers that are the most likely to encounter those at the highest risk of adverse outcomes from opioid addiction, especially providers who work with pregnant women, EMS providers and hospitals that treat those who have overdosed and those in the criminal justice system are uniquely positioned to help individuals connect with the support they need. While there are some programs that already make that connection, they need to be expanded and fully integrated into patient care.
- ♦ **Correctional programs** – Given the number of drug users admitted to and leaving Delaware correction facilities, support is needed for efforts now under way to redesign programs that emphasize effective treatment while incarcerated and coordinate a warm hand-off when inmates leave prison.
- ♦ **Surveillance** – Given the complexity of this problem, understanding it at a level of nuance useful to policy makers and program managers is a challenge. Existing efforts to coordinate the collection of data and its analysis are a start.

CONCLUSION

The historical approach to substance misuse has been narrowly defined, largely limited to government control, criminal justice and more recently treatment. We are now in what Thomas Kuhn called model crisis (Kuhn, 1962). Our understanding has changed due to the accumulation of experience. The “old” model is broken. It can no longer serve as a reliable guide to problem solving. Attempts to patch the model will fail.

The new paradigm is the public health approach. The good news is that we have begun to shift - but we have a long way to go. Unprecedented collaboration and system re-design will be necessary if we are to be successful.

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Figure 1. Annual Age-Adjusted Drug Overdose Mortality Rates by Type of Drug, Delaware 1999-2015

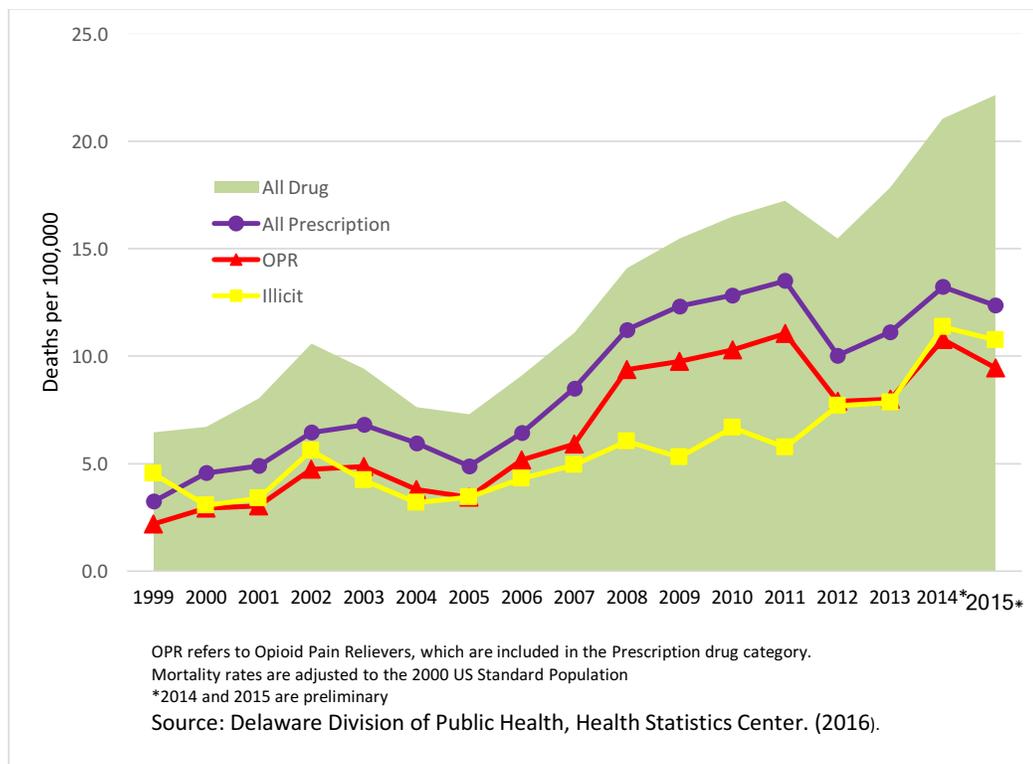


Figure 2. Quarterly percentage of patients receiving > 90 Morphine Milligram Equivalents daily, Delaware, January 2012 – December 2016

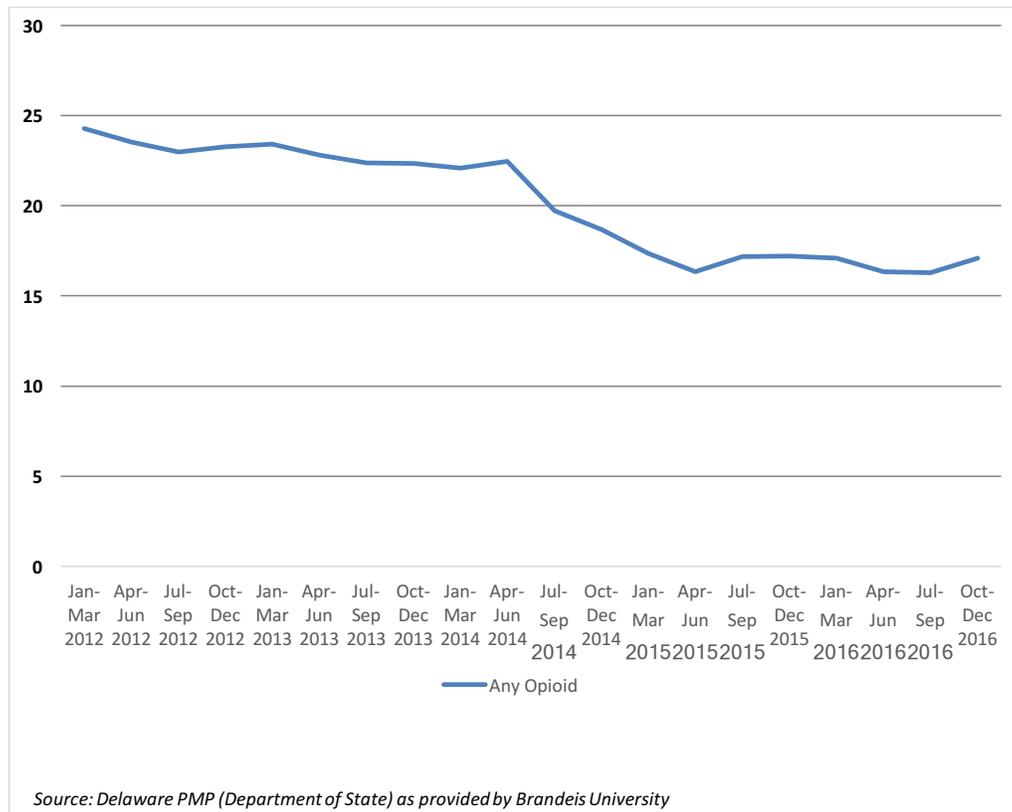


Figure 3. Opioid and benzodiazepine prescription rate per 1,000 residents, Delaware, January 2012 – December 2016.

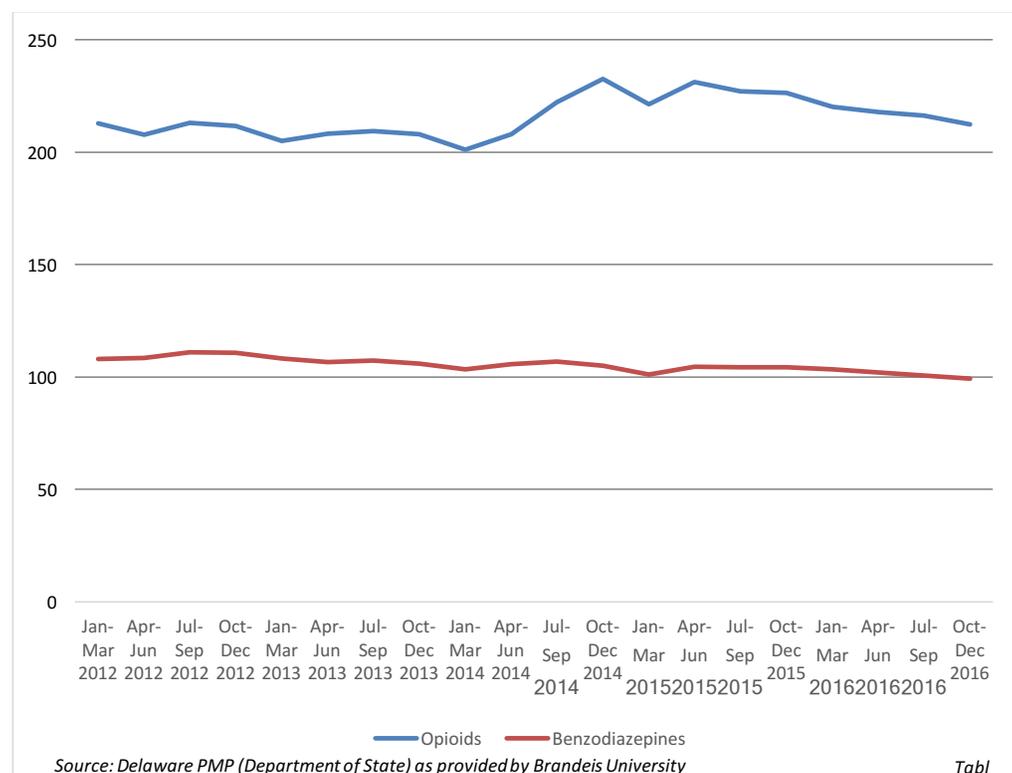


Figure 4. Percentage of days with overlapping prescriptions across opioid and benzodiazepine drug classes and across opioid release forms, Delaware, January 2012 - December 2016

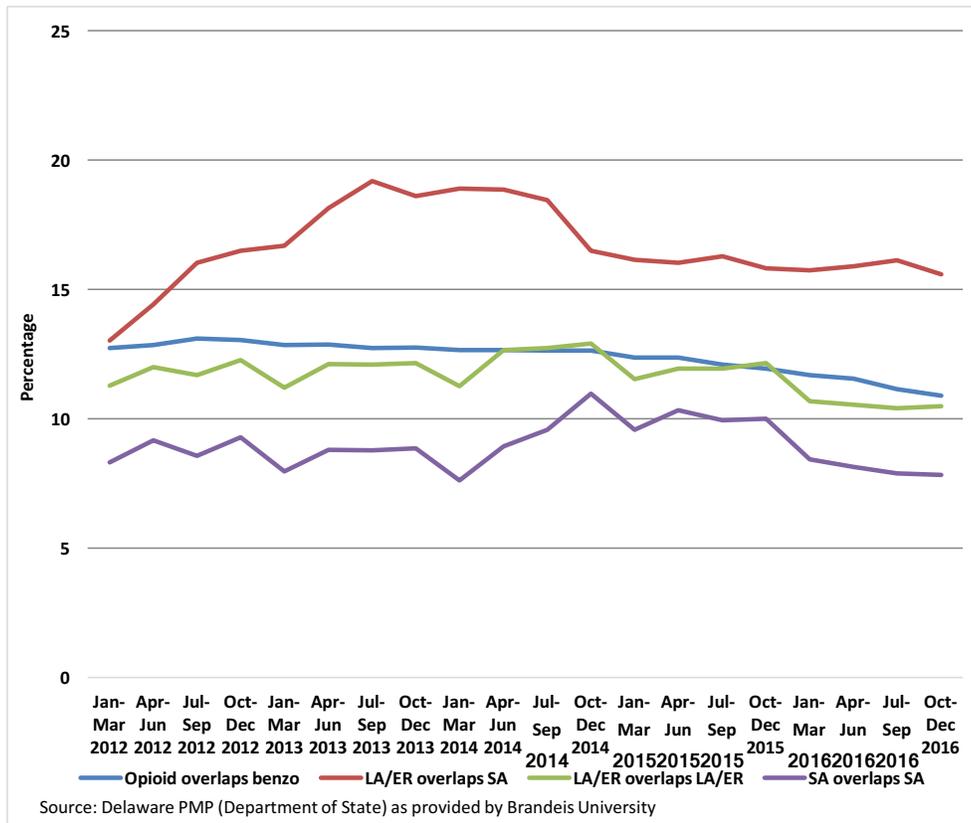
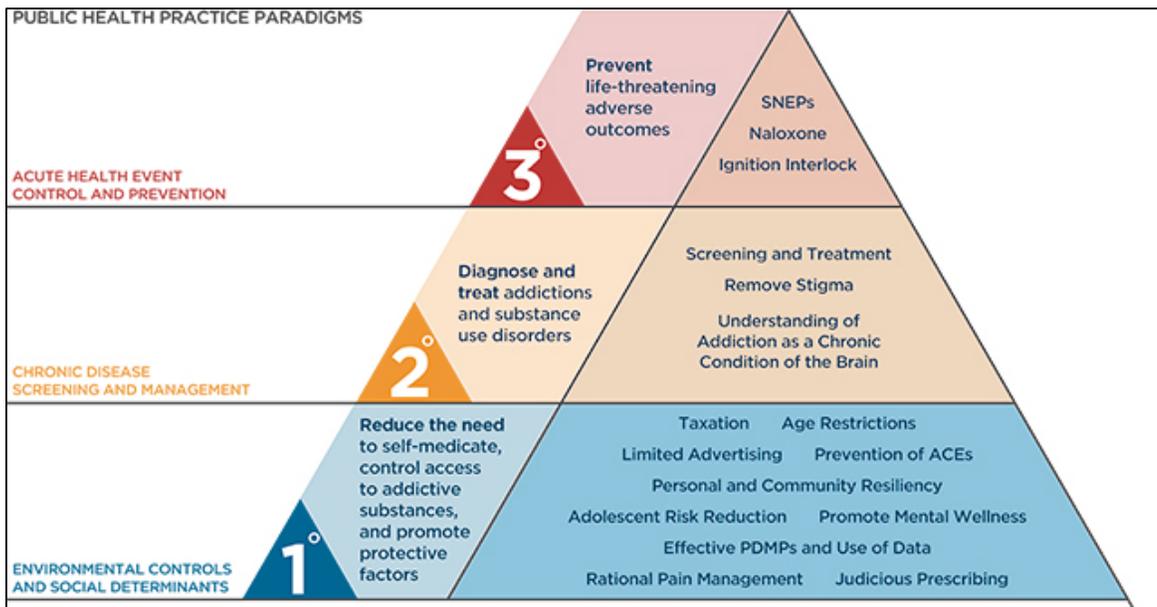


Figure 5. Substance Misuse and Addictions Prevention Framework.



Source: Public Health Approaches to Preventing Substance Misuse and Addictions, n.d.



Pediatric Perspectives 2017: Issues in Pulmonology, Infectious Diseases and Newborn Care

**September 15 - 17, 2017
Atlantic Sands Hotel and Conference Center
Rehoboth Beach, DE**

This conference is designed to provide pediatricians, family physicians, infectious disease specialists, pulmonologists, physicians-in-training, respiratory therapists and nurses with new perspectives on pediatric infections, pulmonary diseases and newborn care.

Topics Include:

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- Cystic Fibrosis- Update in Newborn Screening
- Common Referrals to the ID Clinic
- Cystic Fibrosis- Update in the Care of the Newly Diagnosed
- Chorioamnionitis: Changing our Management of Mothers and their Newborns
- Emerging Infectious Diseases Update
- Cystic Fibrosis: Recent Advances in Disease-Specific Therapies
- Parasitic Infections

Course Registration

Advance registration is required and should be received by August 18, 2017. All registration received by this date will be confirmed in writing.

The registration fees are as follows -

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This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Nemours and Christiana Care Health System.

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For more detailed conference information and to register, please go to PedsUniversity.org.

If you have any questions about the conference, or registration, please contact Karen Supplee, (302) 651-6758, or karen.supplee@nemours.org.





2017 Cancer Symposium

John H. Ammon
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Save the Date

Thursday, October 26, 2017
6 – 8:30 p.m.

Save the Date: Thursday, October 26, 2017 | 6 – 8:30 p.m.

Embracing Palliative Care: A Physician's Role

The Helen F. Graham Cancer Center & Research Institute presents the 2017 Cancer Symposium on Thursday, October 26. This year's symposium and dinner program Embracing Palliative Care: A Physician's Role will help to advance the knowledge and practice of healthcare professionals who impact the quality of life for their patients and families who are experiencing life threatening illnesses. A panel discussion local experts will follow.

You will receive an invitation via e-mail in the near future. In the meantime, please mark your calendar for October 26.

We look forward to seeing you at this year's Cancer Symposium.



CHRISTIANA CARE
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Heroin and Pain

Irina Phillips, M.D.

Pain Management in the Patient with Opioid Abuse

As the number of patients who are prescribed chronic opioid therapy for pain not related to cancer has grown so have the rates of opioid-related morbidity and mortality. In addition to a rise in prescription opioid use, there has also been an increase in the use of illicit opioids. In our region, the surge in heroin use has been particularly startling with steadily increasing rates of morbidity and mortality (Rudd et al, 2016). In the inpatient setting, providers may struggle to manage acute pain in individuals abusing opioids prior to admission, due to the challenge of balancing safety and adequate analgesia. Literature on the management of acute pain in patients on chronic prescribed opioid therapy is often used as a guide for treating patients that use opioids illicitly. There are, however, some factors that are unique to those abusing opioids that further complicate their treatment. A few of the specific obstacles to achieving adequate analgesia include opioid tolerance, heightened pain sensitivity, comorbid psychiatric disease, risk of opioid withdrawal, and specific challenges related to their transition to the outpatient setting. In my personal experience as an inpatient pain management physician, I work to address all of these concerns and have found several strategies to improve the patient's overall analgesia while they are in the inpatient setting. Unfortunately, there are still barriers to the outpatient management of the patient's pain which have no straightforward solution.

Prevalence of Pain and Addiction

The use of opioids for chronic pain management was popularized in the 1990's when we believed that the use of opioids in the presence of painful stimuli would not lead to addiction. This belief was supported in part by early studies conducted by Portenoy and colleagues (Portenoy RK & Foley KM, 1986) and further encouraged by the pharmaceutical industry's aggressive advertising campaign. The conclusion that opioids were a safe and effective long-term pain management strategy contributed to the steady rise in opioid prescribing. Subsequently, we have seen an increase in the misuse of both prescribed and illicit opioids. While determining precise rates of misuse and addiction have been difficult, due to inconsistencies in the definitions of dependence, misuse, and addiction used by researchers, attempts have been made to describe the epidemiology of the problem. Vowles and colleagues conducted a systematic review in 2015 which estimated the rates of opioid misuse to be between 21-29% and the rates of addiction to be between 8-12% (Vowles et al., 2015). Another study published by Turk and colleagues in 2008 found that 30-40% of patients on prescribed opioids were misusing their medications based on urine toxicology results (Turk, Swanson, & Gatchel, 2008). These reported rates of misuse are staggering and have a major impact on our ability to provide effective treatment when these patients present with acute pain.

One of the primary difficulties in treating acute pain in individuals with an opioid addiction, specifically those patients abusing heroin, is achieving adequate analgesia in the face of opioid tolerance. We routinely utilize nonopioid adjuncts including acetaminophen, NSAIDs, gabapentanoids, and topical anesthetics as part of a multimodal analgesic plan, but opioids are often required. Finding the precise opioid dose needed to achieve adequate analgesia is difficult, however, because there is significant interpatient variation in the amount of opioid used at baseline. Additionally, there is no standard conversion from heroin to oral or intravenous opioids. Researchers have attempted to measure the opioid dose increase needed for patients on chronic, prescribed opioid therapy to help guide treatment of acute pain. Two studies conducted in the postoperative setting found that opioid-tolerant patients undergoing various surgical procedures, using both epidural and patient-controlled analgesia, required up to three times the amount of opioid compared to the opioid-naïve patient (Rapp, Ready, & Nessly, 1995 & de Leon-Casasola, Myers, Donaparthi, 1993). Even with the expectation that higher than typical doses of opioid will be required, the medications should be titrated carefully to effect for each patient as they remain at risk of oversedation and other opioid-related side effects.

Addiction and its Impact on Pain Perception

Beyond the difficulty with opioid dose titration due to tolerance in patients abusing opioids, other factors further complicate their analgesic management. One in particular is the phenomenon of opioid-induced hyperalgesia (OIH), which is characterized by a paradoxical response to opioids whereby opioids are believed to worsen the patient's pain rather than provide relief. Opioid-induced hyperalgesia has been recognized in patients on prescribed high-dose opioid therapy, those abusing heroin as well as individuals enrolled in medication-assisted opioid abuse treatment programs. Development of OIH is thought to be secondary to central sensitization of the neurons in the dorsal horn and dorsal root ganglion, similar to the pathophysiology of neuropathic pain (Stoicea, Russell, & Weidner, 2015). The pain is often characterized as increased intensity above the patient's baseline pain with a more widespread distribution. Studies involving quantitative sensory testing have demonstrated lower pain thresholds and tolerability in patients on chronic opioids for noncancer pain, those abusing heroin, and those enrolled in methadone maintenance (Schug, Palmer, Scott, Halliwell, & Trinca, 2015). Additional studies have found that this

hyperalgesic state can persist for months after opioid cessation (Ren, Shi, Epstein, Wang, & Lu, 2009 & Treister, Eisenberg, Lawental, & Pud, 2012).

The typical treatment for OIH is a reduction in dose or complete opioid cessation, but this is not usually possible in the case of a patient admitted with acute pain. There have been no studies done specifically on management of OIH in patients abusing heroin, but data pertaining to OIH due to other opioids can help guide treatment. Studies conducted by Lee et al in 2013 and Wu et al in 2015 investigated OIH secondary to the use of remifentanyl, a short-acting opioid most often used in the perioperative period. They found that pregabalin and NMDA-receptor antagonists such as ketamine, magnesium, and amantadine could reduce the development of OIH (Lee, Lee, & Kim 2013 & Wu, Huang, & Sun, 2015). These data can be extrapolated by providers to the opioid-abusing population, and both pregabalin and ketamine are routinely used in our hospital as well as nationwide as part of a multimodal analgesic plan in the care of patients admitted with acute pain and opioid tolerance.

Other factors may also contribute to increased pain sensitivity in patients abusing opioids, and one of those is the presence of comorbid psychiatric disease. It is well known that there are high rates of comorbid substance abuse among patients with mood disorders. Regier and colleagues reported that mood disorders were 4.7 times more prevalent in drug-dependent individuals than the general population. Most notably, those patients diagnosed with bipolar disorder had a 56% rate of substance use disorders (Regier et al, 1990). Kessler and colleagues reported similar findings where they found that those individuals with depression were twice as likely and those with bipolar disorder were seven times more likely to have a substance use disorder (Kessler et al, 1994). In addition to the correlation between substance use and mood disorders, the literature also supports a connection between mood disorders and increased pain, and this may provide explanation for why opioid abusing patients, particularly those with comorbid psychiatric conditions, having increased difficulty with analgesia. Taenzer et al found that depression was associated with increased postoperative pain scores as well as analgesic use (Taenzer, Melzack, & Jeans, 1986) and De Cosmo and colleagues reported similar results in patients with preoperative depression and anxiety (De Cosmo et al, 2008). In my experience as an inpatient pain physician, I find that most of the patients I care for with acute pain and opioid abuse also

carry psychiatric diagnoses including depression, anxiety, bipolar disorder, and posttraumatic stress disorder. These conditions are not always easily addressed in the acute setting, but if I do feel that the patient is demonstrating a strong affective component to their pain, I will ask my colleagues in Psychiatry for assistance. I feel we should make every effort to improve the patient's perception of pain relief and addressing their psychiatric disease is one tool.

The Inpatient Pain Management Experience

In my work as an inpatient pain physician, I have personally witnessed the tremendous rise in the number of patients who suffer with both prescription as well as illicit opioid addiction. Our service is consulted when these patients are admitted with acute pain secondary to a variety of conditions including but not limited to multi-system trauma, cellulitis related to heroin injection requiring surgical debridement, and epidural abscesses from intravenous drug use necessitating surgical evacuation, etc. Beyond the complexities related to the pharmacologic management of the heroin-abusing patient, the interpersonal interactions between these patients and their providers can be equally complex and can have an even larger impact on their care.

The first step in developing a pain management plan with an opioid-abusing patient is establishing rapport. These patients often mistrust the medical system based on past experience or perceive that they will not receive good care due to their addiction. Healthcare workers must make a conscious effort to demonstrate to the patient an open mind and a desire to earn the patient's trust. These patients are acutely aware of the stigmas surrounding opioids and addiction and may become defensive and withdrawn if they feel "judged" in any way. Many healthcare providers mistakenly view the patient's requests for opioid medication to be "drug seeking behavior" rather than appropriate and normal pain relief-seeking behavior. Many of my patients have admitted a reluctance to request pain medication for fear of being labeled a "drug seeker" and thus suffer with pain as well as opioid withdrawal unnecessarily. Unfortunately, not only do uncontrolled pain and untreated withdrawal lead to a miserable hospital stay, both factors have also been associated an increased likelihood of abuse relapse.

To gain trust, I typically approach the first interview with as much transparency as possible and openly discuss the patient's opioid abuse including their drug

of choice, the route administered, and their average daily use. While there are no specific guidelines for opioid dosing in patients abusing heroin or other illicit opioids, knowledge of their pre-admission use can provide some frame of reference for their degree of opioid tolerance. I establish very early that my primary goals are providing safe and effective analgesia as well as withdrawal symptom management. I employ a multimodal analgesic regimen with scheduled use of nonopioids, and I also utilize opioid medications if needed. Given the degree of injury and pathology in the patients I see, opioid analgesics are typically required. I explain to the patient that complete relief of their pain may not be possible but I will do my best to make it manageable. Establishing realistic expectations as well as setting functional rather than numeric pain score goals allows for more constructive discussion and analgesic adjustments. Specifically, I work towards an acceptable pain level that will allow the patient to participate in self-care, physical therapy or other in-hospital treatments.

I also begin discussing the patient's discharge analgesic plan early in the hospitalization as I have found this to be one of the most challenging aspects of the patient's care. Many of the patients seen by our inpatient service are left with new, painful conditions at the time of discharge when most were using opioids exclusively for recreation prior to admission. Although it can seem cruel to discharge a patient home with a new painful condition and no opioid analgesics, particularly when they have been given as an inpatient, I feel that the risks of prescribing these medications outweigh the potential benefits. I fear it would be tremendously difficult for the opioid-addicted patient to regulate their opioid use appropriately, and most of these patients have no more than a few follow up visits with their healthcare providers after discharge. There is currently no system in place for the kind of very close follow up these patients would require such as a clinic where they could be seen every few days or every week with procedures in place to help monitor their outpatient opioid use such as pill counts and urine drug screening.

I do recommend that the patient continue their nonopioid adjuncts at discharge as these can provide a great deal of relief. Some of these medications such as gabapentin or pregabalin are initiated at lower doses during their admission due to the risk of sedation but these can be further titrated as an outpatient for ongoing pain. In anticipation of stopping opioids completely at discharge, I begin weaning the patient's dose as early as possible to help reduce or eliminate the risk of

opioid withdrawal after discharge. As previously stated, untreated withdrawal symptoms are a major risk factor for relapse in opioid abuse so I often offer these patients a prescription for clonidine, a common medication used in withdrawal, to be used at home.

Just as I begin formulating a discharge analgesic plan as early as possible, I also open the discussion of substance abuse treatment early in the patient's hospitalization. We are very fortunate to have a robust substance abuse treatment program at our institution, which offers support and guidance to those patients wishing to enter recovery. This liaison program presents the various outpatient options for substance abuse treatment available to the patient, taking into account where they live, their financial situation, as well as their ability to get to and from the clinic each day. Although entry into these programs is based on the presence of addiction, both of the commonly used treatment medications, methadone and buprenorphine, have analgesic properties so they may provide a dual benefit for the addicted patient with a new painful condition. Not all patients elect to enter treatment but many do as they see treatment as an opportunity to get healthy as well as have some analgesia while they continue to heal. I strongly encourage them to consider treatment since their analgesic options are more limited than those of a patient who does not suffer with addiction. It is established that poorly controlled pain is a risk factor for relapse so any effort we can make to control their pain can be helpful to maintaining their recovery.

Pain in the Setting of Medication-assisted Substance Abuse Treatment

In addition to offering entry into treatment for patients with active substance abuse disorders, our consult service has also seen a rise in the number of patients admitted with acute pain who are already receiving medication-assisted treatment. The two most commonly used medications are methadone and buprenorphine, and there are several unique challenges in managing pain in these patients as well as several misconceptions. Methadone acts as a full opioid agonist much like typical opioid medications while buprenorphine is a partial agonist, which binds tightly to the receptor and prohibits the binding of other opioids. For patients with mild to moderate pain, they can often be managed with continuation of their methadone or buprenorphine, since both of these medications have analgesic effects, and receive supplementary analgesia with nonopioid adjuncts. In patients with more severe pain, however,

additional opioid therapy is often required. Like those who are actively abusing opioids, patients on methadone and buprenorphine are considered opioid tolerant and often require higher opioid doses to achieve adequate analgesia.

In patients on methadone maintenance with severe pain, the most commonly used strategy for treating pain is to continue the patient's baseline daily dose, use scheduled nonopioid adjuncts, and carefully titrate opioids for breakthrough pain. Like patients on chronic prescribed opioid therapy, we are unable to predict precisely what breakthrough dose will be needed based on the maintenance dose so we titrate carefully based on the patient's pain and clinical status. Individuals taking buprenorphine for medication-assisted treatment present a unique challenge due to the medication's mechanism of action. In patients on buprenorphine maintenance, there are several options for management. One method is to continue buprenorphine and also use full opioid agonists to treat breakthrough pain. This often requires aggressive opioid titration to overcome the tight receptor binding of the buprenorphine. Another option, the one I employ most often, involves discontinuation of buprenorphine followed by careful titration of full opioid agonists for breakthrough pain. In both cases, I anticipate higher than average opioid dose requirements to achieve pain relief. In the case of discontinuation of buprenorphine, the increased requirement due to buprenorphine binding may dissipate 24-48 hours after the last dose as the medication slowly dissociates from the receptor.

In addition to the difficulties in achieving adequate analgesia in patients on medication-assisted maintenance therapy for opioid addiction, there are a few misconceptions regarding this type of treatment, which can impact the patient's care. One common misconception is the belief that the patient's maintenance dose is adequate for analgesia which can lead to the inaccurate assumption that the patient should not require additional opioid dosing. Patients in maintenance therapy have established opioid tolerance and thus may require higher doses to achieve an analgesic response. Additionally, they most commonly receive only once daily dosing which is insufficient for pain relief based on the pharmacokinetics of the medication. The analgesic half-life of both methadone and buprenorphine is only four to eight hours while the suppression of withdrawal symptoms lasts 24-48 hours (Fullerton et al., 2014 & Thomas et al., 2014). As mentioned, the continuation of once daily dosing is a

common strategy, but some have proposed dividing the daily dose into every six to eight hours which may provide enhanced relief by taking advantage of the analgesic half-life. There is emerging data on buprenorphine specifically that suggests that patients do better if the buprenorphine is continued in divided doses during the treatment of acute pain before resuming once daily dosing at discharge (Macintyre, Russell, Usher, Gaughwin, & Huxtable, 2013).

A second common misconception regarding pain management in the opioid-abusing patient in recovery is that any opioid administration will trigger a relapse. While this concern is understandable, untreated pain is also a risk for relapse so these patients should have their pain managed commensurate to their medical conditions with judicious and intelligent use of opioids (Schug et al, 2015). It has been suggested that intravenous opioids present more of a threat for relapse than oral opioids based on the more rapid rate of absorption and peak concentration so an early transition to oral medications should be sought (Schaeffer T, 2012).

There are many challenges in caring for patients with both active opioid abuse as well as those in recovery who present with acute pain. The difficulties are related to their opioid tolerance, heightened pain sensitivity, as well as the challenges related to making the transition to outpatient care. The strategic use of opioids along with nonopioid analgesics during their hospitalization can effectively manage these patients' acute pain, but there is much room for improvement in the way we manage their pain in the outpatient setting. Not all institutions have inpatient pain and addiction medicine specialists, but consulting with an expert can provide valuable guidance in the management of these challenging patients.

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Irina Phillips, M.D. is the Medical Director for the Pain Management program at Christiana Care Hospital which provides inpatient care to patients with both acute and chronic pain. She is board certified in both Anesthesiology and Pain Medicine and has previously worked in the inpatient and outpatient settings providing pharmacologic and interventional pain management to her patients.



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Medication Treatment for Opioid Use Disorders:

A Brief Overview with Comments on Extended Release Naltrexone

*George Woody, M.D., Professor, Department of Psychiatry,
Perelman School of Medicine at the University of Pennsylvania*

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Opioid use disorders, particularly those involving compulsive use with tolerance and withdrawal, are among the most harmful substance use disorders worldwide due to their association with mortality, morbidity and criminal behavior. Maintenance treatment using methadone or buprenorphine/naloxone have helped hundreds of thousands of patients worldwide and been the only meaningful outpatient therapies for many years. Both are controlled substances and can only be administered under conditions that are aimed to reduce diversion and abuse. Methadone, a full opioid agonist, is administered in specially licensed programs, and typically requires daily observed dosing for several months before “take home doses” are permitted. Methadone programs have varying criteria for who can receive take-homes but they usually require negative urine tests, keeping regular appointments, absence of behavioral problems, and other indicators of a meaningful treatment response and responsible use of unsupervised medication administration.

Buprenorphine/naloxone (Suboxone[®]) is less tightly regulated and can be provided in primary or specialty care settings with less observed dosing by providers that received permission from the Drug Enforcement Administration after passing a course in how to use it. These differences in the level of supervision for using methadone or buprenorphine are a function of their abuse liability and safety. Methadone, being a full agonist, has a higher abuse liability and lower safety margin than buprenorphine, which is a partial opioid agonist. A third medication is naltrexone, a μ -opioid receptor antagonist that blocks exogenous opioids and the euphoric effects of heroin and other opioids.¹ One 50 mg oral dose provides opioid blockade for 24-36 hours, and long-term use does not cause tolerance to its blocking effect or withdrawal after it is discontinued.²

Naltrexone will displace opioids from their receptors thus patients need to be detoxified and free of physiologic dependence before it is administered to avoid precipitated withdrawal. Provided this condition is met naltrexone is easy to administer, safe (no serious adverse events if used as recommended), generally well tolerated, and does not have addictive potential. Because of its blocking effect, self-administration of opioids at usual doses produces no euphoric effect so that the patient either stops using opioids or ceases taking naltrexone.³ Like other medications, naltrexone is effective only so long as the patient takes it, thus compliance is very important.^{4,5,6} It is facilitated by involving families or other significant others to supervise dosing; where there is strong external motivation to remain abstinent such as persons under criminal justice supervision⁷ or health care professionals at risk of losing their license; or settings where naltrexone is the only available treatment option.

The earliest studies of oral naltrexone had little success due to high dropout^{8,9} however a 6-month, placebo-controlled, randomized trial conducted in the late 1990s in St. Petersburg, Russia⁴ in which one or more close family members (e.g., mother, spouse) agreed to supervise daily dosing and found significant differences in retention and relapse favoring naltrexone at the end of the first month to the end of the study. At 6 months, 12 of the 27 (44%) patients in the naltrexone group remained in the study and had not relapsed compared to 4 of 25 (16%) in the placebo group ($p < 0.05$).

Efforts to develop extended release naltrexone in hopes of reducing dropout were started in the 1970's⁹ and realized with the approval of extended-release injectable naltrexone (XR-NTX; Vivitrol[®]) for preventing relapse to alcohol dependence in 2005 and for opioid

dependence in 2010.¹⁰ XR-NTX contains 380 mg naltrexone dissolved in a viscous solution that is injected into the gluteal muscle and produces an effective plasma naltrexone level for approximately 28 days. Its most common side effects involve soreness at the injection site, headaches, and nausea, however these problems typically last 1-3 days and are not severe.¹¹ It fills a niche created by situations in which methadone and/or buprenorphine-naloxone maintenance are unavailable or undesirable due to legal, logistic, or patient preference.

Transitioning from opioid dependence to antagonist treatment is a challenge because it requires detoxification. Methadone or buprenorphine tapers require a 7-14 day opioid-free interval before starting XR-NTX and are most effective when done on an inpatient setting, but these settings can be unavailable and/or unaffordable. Similarly, agonist tapers are not always available and non-opioid detoxification protocols based on an alpha-2 adrenergic receptor agonist such as clonidine have been widely used. Though clonidine suppresses some of the sympathetic over-activity of withdrawal it does not prevent the dysphoria and other subjective effects, thus making it marginally effective and unpopular with patients and physicians alike.

Correctional facilities are locations where detoxification is part of usual treatment and reentry is followed by community supervision with pressure to not use drugs. XR-NTX is a logical option in these situations and has been evaluated in recent clinical trials.^{12,13,14} One was a 24-week open label trial randomized consenting, detoxified, opioid addicted former prisoners on probation or parole to XR-NTX or the usual course of supervision and counseling with referral to community treatment programs.¹⁴ Results were that participants assigned to XR-NTX had a longer median time to relapse than those assigned to usual treatment (10.5 vs. 5.0 weeks, $p < 0.001$; hazard ratio, 0.49; 95%CI 0.36 to 0.68) and a lower rate of relapse (43% vs. 64%, $p < 0.001$; OR 0.43; 95%CI, 0.28 to 0.65). Notably, there were no overdoses in the extended-release naltrexone group and seven in the usual-treatment group ($p = 0.02$).

Though not approved in the U.S., an extended-release implant (Prodetoxon[®]) is available in Russia. It consists of a pellet that is inserted under the skin of the abdominal wall, contains 1000 mg naltrexone in a dissolvable matrix, blocks opioid effects for 2-3 months, and resulted in more time in treatment and less relapse when compared to oral naltrexone.¹⁵ Similar outcomes

were seen in a Swedish study¹⁶ and in a study of a similarly acting implant that has been used in Australia.¹⁷

A recently-completed 12-month study whose preliminary findings were presented at the February 2017 CROI study in Seattle (Krupitsky et al) compared the Russian implant (NI) with oral naltrexone 50 mg/day (ON) for HIV+ patients who were starting antiretroviral therapy (ART). The primary outcome of viral < 400 copies/ml at month 12 was more common in NI than ON patients [66% vs 50%; OR (95% CI = 1.94 [1.10-3.43]); addiction treatment completion was better on NI than ON (32% vs 17%, respectively, $p < 0.05$); ART retention was better on NI (46% vs 32%; $p < 0.05$); and CD4 count was higher in those who stayed on naltrexone, regardless of group assignment, vs. those who dropped out.

In conclusion, methadone, buprenorphine/naloxone, and naltrexone are all effective for treating opioid addiction, though they do not “cure” it in the sense that antibiotics cure infections. In the case of naltrexone, extended release is much more effective than the oral formulation due to its impact on adherence. How it compares with buprenorphine/naloxone or methadone maintenance in settings where all three options are available is a topic for future studies. How long patients should continue medication treatment is unclear but high relapse rates following detoxification alone or termination of a brief course of relapse prevention medication indicate that outcomes are best for most patients if the medication of choice is continued until the patient has made the life style and attitudinal changes that facilitate of sustained recovery; such changes can take months to years.

Acknowledgment

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Dr. George Woody is a Professor of Psychiatry at the Perelman School of Medicine at the University of Pennsylvania.

Partners in Care and Research: Engaging Stakeholders for a Patient-Centered Agenda for Chronic Kidney Disease in Delaware



REGISTRATION NOW OPEN

DATE: Friday, September 15th

TIME: 8:00 am to 1:00 pm
(Registration opens at 7:30 am)

**LOCATION: John H. Ammon Medical Education Center
at Christiana Hospital.**

For more information and to register visit www.delamed.org/CKD

Chronic Kidney Disease (CKD) and end stage renal disease (ESRD) are serious and costly diseases. CKD affects more than 20 million adults, and is seen most often in individuals over 60 years of age. Diabetes and hypertension are the most frequent causes of CKD in the United States.

We invite you to attend our second conference which is part of a two-year project to engage stakeholders as we address the impact and burden of CKD and ESRD in Delaware. Patients and their supporters, providers, payers, researchers, and policy makers are all encouraged to attend this event.

Please join us as we work together to address CKD and ESRD. Together, we will make a difference.





Partners in Care and Research: Engaging Stakeholders for a Patient-Centered Agenda for Chronic Kidney Disease in Delaware

Friday, September 15, 2017 | 8:00 am to 1:30 pm
Christiana Hospital | John H. Ammon Medical Education Center

There is no cost to attend this educational activity.

Breakfast, lunch, and snacks will be provided. Continuing education credits available.

About this conference

The goal of this conference is to develop a network of stakeholders (patients, providers, payors, and researchers) interested in issues related to chronic kidney disease (CKD), in hearing the patients and caregivers voice, and in developing patient-centered outcomes research projects to improve the quality of life of patients with CKD.

We will begin a discussion about:

- The patients and caregivers experience
- Transitions of care from childhood to adulthood
- Shared decision-making and end of life care
- Exercise for patients with CKD or end stage renal disease (ESRD)

Target Audience

- Patients and their caregivers
- Payers (representatives from insurance companies, Medicare/Medicaid, and similar groups)
- Providers including, but not limited to, primary care physicians, nephrologists, nurses, physician assistants, social work and public health professionals
- Researchers
- Policy makers

For more information and to register please visit www.delaware-ckd.org.

Contact Kate Smith at (302)733-5571 for questions or assistance.

"This program is partially funded through a Patient-Centered Outcomes Research Institute (PCORI) Eugene Washington PCORI Engagement Award 3426."



Medication Assisted Treatment for Opioid Use Disorder



*Catherine Devaney McKay, M.C., C.A.A.D.C.
President and CEO, Connections Community Support Programs, Inc.*

By 2015, the United States Center for Disease Control and Prevention (CDC) was reporting that drug overdoses had surpassed traffic fatalities as the leading cause of accidental death in the United States. The rise in the use of long-acting, high-dose, opioid pain relievers, coupled with crackdowns on the physicians who prescribed them, had led to more deaths from all illegal drugs combined.¹ In the ten years between 2002 and 2012, heroin dependence in the United States more than doubled, with four out of five new heroin users switching over from prescription painkillers because heroin was cheaper and easier to obtain.²



According to the CDC, drug overdose deaths and opioid-involved deaths continue to increase in the United States. The majority of all drug overdose deaths (more than six out of ten) involve an opioid. Since 1999, the number of overdose deaths involving opioids has quadrupled. From 2000 to 2015, more than half a million people died from drug overdoses. Ninety-one Americans die every day from an opioid overdose—36,000 annually.³

Overdoses from prescription opioids are a driving factor in the 15-year increase in opioid deaths. Since 1999, the amount of prescription opioids sold in the U.S. nearly quadrupled, yet there has not been an overall change in the amount of pain that Americans report. Deaths from prescription opioids—drugs like oxycodone, hydrocodone, and methadone—have more than quadrupled since 1999.⁴ Despite a high rate of opioid related overdose deaths nationwide, only about 10% of the 23, million Americans with an Opioid Use Disorder (OUD) receive treatment in any given year.⁵

Even with the harrowing data about the epidemic and the increasing number of deaths annually, the Legal Action Center reports that ‘Despite the devastating toll of this epidemic—both human and financial—a demonstrably effective medical response...is tragically, and senselessly, underutilized: Medication Assisted Treatment (MAT).’⁶

More than 20 years ago, the National Institutes of Health (NIH) Consensus Development Panel concluded that opioid dependence is a medical, brain-related disorder to be treated like any other chronic medical illness:

‘Opioid dependence (addiction) is defined as a cluster of cognitive, behavioral, and physiological symptoms in which the individual continues use of opiates despite significant opiate-induced problems. It is characterized by repeated self-administration that usually results in opioid tolerance, withdrawal symptoms, and compulsive drug-taking. Withdrawal symptoms include – anxiety, restlessness, runny nose, tearing, nausea, and vomiting.’

Untreated opioid dependence often leads to criminal activity, continued illicit drug use, increased mortality,

and increased health risks including hepatitis B and C and HIV/AIDS. Medication is an essential tool in the treatment of chronic diseases. For opioid dependence, methadone, buprenorphine (known as Suboxone when combined with naloxone), and naltrexone (known as Vivitrol) are the three FDA approved drugs that have been proven effective. Because opioid dependence is a chronic condition, treatment lasts for as long as it is needed, often for life.

Methadone has been widely used to treat opioid dependence since the 1960s and is still an excellent treatment option, particularly for patients who do not respond well to other medications. Methadone is only available through approved, federally registered outpatient treatment programs, where it is dispensed to patients on a daily basis, providing an opportunity for counselors to offer psychosocial interventions designed to enhance the motivation of patients to develop a recovery plan and obtain and maintain abstinence from heroin and other illicit drugs. Methadone stops heroin cravings, the leading cause of relapse, and blocks the painful effects of heroin withdrawal. Whereas heroin destabilizes the brain, methadone helps stabilize it. A 1997 NIH Panel concluded that the safety and efficacy of methadone maintenance treatment (MMT) has been 'unequivocally established' adding that 'methadone maintenance coupled with relevant social, medical and psychological services has the highest probability of being the most effective of all available treatments for opioid addiction.'⁷

Despite the evidence of its effectiveness for treating opioid dependence, controversy over the use of MMT remains because methadone is itself a narcotic, and because some people remain in treatment indefinitely. Although it is true that methadone is a narcotic, it does not produce the satisfactory feeling of a high or a euphoric effect in people who are opioid dependent. In contrast, the action in heroin has an immediate onset, lasts four to six hours, and is typically injected, snorted or smoked several times a day. Methadone's onset of action is slow and its 24-hour half-life results in long-lasting action, effectively blocking the euphoric effect of the opiate use and making it unattractive for abuse.

In 2002, an additional agent, buprenorphine (Subutex[®]) was approved by the FDA for use in the treatment of opioid use disorder. Buprenorphine's action is a little different from that of methadone, in that it is a partial opioid agonist. However, like methadone, buprenorphine relieves drug cravings without producing

the "high" or dangerous side effects of other opioids. As with methadone, buprenorphine is dispensed daily and only at a highly regulated opioid treatment program where counseling and other behavioral interventions are offered for as long as the individual in treatment needs them.

Suboxone[®] is a formulation of buprenorphine that is taken orally or sublingually and contains naloxone (an opioid antagonist) to prevent attempts to get high by injecting the medication. If an opioid dependent individual were to inject Suboxone, the naloxone would induce withdrawal symptoms, which are averted when taken orally as prescribed. For that reason, Suboxone can be prescribed on a weekly basis at a physician's office if the physician has obtained a DATA 2000 Waiver, issued by a Federal agency, allowing him or her to prescribe it. Individuals receiving Suboxone are required to meet certain requirements for counseling and other similar interventions, including urine drug screens and other specialized interventions used to prevent diversion. The use of methadone and buprenorphine creates a steady state of tolerance that effectively prevents death from overdose, even for individuals who continue to use heroin while in treatment.⁸

A recent article in the Journal of the American Medical Association (JAMA) a study found little difference in the efficacy of methadone vs. buprenorphine in the treatment of prescription opioid dependence. Long-term maintenance with either drug was associated with less opioid use and better adherence to treatment than either opioid taper or 'drug free' psychological treatment, regardless of whether methadone or buprenorphine was used.⁹

In an article published in March 2017, new evidence is reported that 'retention in methadone and buprenorphine treatment is associated with substantial reductions in the risk for all cause and overdose mortality in people dependent on opioids.' And, 'the time after immediately after leaving treatment with both drugs are periods of particularly increased mortality.'¹⁰

Why, then, when it is so clear that medication is the most effective approach to the treatment of opioid use disorder, is there so much controversy surrounding it? One problem is the lack of acceptance of opioid dependence as a chronic disease, in the same way that diabetes or hypertension are chronic diseases.

Research clearly shows that long-term MAT is much more effective as a treatment strategy rather than as a shorter-term detoxification plan. When people

with opioid dependence terminate MAT, they relapse rapidly—over 80% of methadone patients who stop using it will return to using heroin within one year. When compared with both short-term and long-term detoxification strategies, maintenance treatment using methadone or buprenorphine combined with psychosocial counseling is a far more effective treatment for opioid use disorder—because the disease is chronic and does not lend itself to short or even medium-term treatment.¹¹

Although it is subject to stigma, there is no question that MAT not only helps those suffering from opioid dependence, it also helps the broader society. The crime rate linked to heroin abuse is astonishing: more than 95% of people using heroin reported committing crimes ranging from homicide to theft during an 11-year-at-risk interval. MAT has been shown to improve life functioning and decrease heroin and other opioid use; criminal behavior; drug use practices, such as needle sharing, that increase human immunodeficiency virus (HIV) risk; and HIV infection. Methadone is also cost-effective. The Vermont Office of Alcohol and Drug Abuse Programs found that for each dollar spent on methadone treatment, twelve to fourteen dollars would be saved in health and social costs, namely in crime reduction, health care cost reduction, and increased employment among those with opioid dependence.¹²

Access to treatment and collateral costs to society are changing because of the changing face of opioid dependence. Most individuals who began using heroin in the 1960s were young men (82.8%; mean age, 16.5 years) whose first opioid of abuse was heroin (80%). During the last decade, that profile has changed dramatically with new users having a mean age of almost 23, living in suburban and rural areas (75%), and having been introduced to opioids through prescription drugs (75.0%). Although men still outnumber women among those with opioid dependence, women are rapidly closing the gap. While heroin users in the 1980s were equally distributed between whites and persons who identified with other races, 90% of those who began use in the last decade were white.¹³

Among the implications of these changes is that the locations and approaches to MAT have had to change over the last ten years. Where methadone clinics were previously located mostly in urban settings with dense populations, the growth in need for such services is now primarily in ex-urban and rural settings, where the presence of treatment providers is not always welcome. Because of a large burden of comorbidities, persons

with untreated opioid use disorders experience high rates of hospitalization often leading to misdiagnosed opioid withdrawal that impacts patient and staff safety, outcomes, patient satisfaction, and staff morale. For example, Delaware's largest hospital system, Christiana Care, has observed increased rates of discharges against medical advice and increases in readmissions. To standardize the management of opioid withdrawal and improve this situation the hospital system's Behavior Health and Acute Care Service Lines implemented a Pathway that embedded screening tools and algorithms into the electronic health record with the goal of improving identification of patients in opioid withdrawal and managing their withdrawal with Suboxone. Project Engage, a peer counseling program started in collaboration with the University of Pennsylvania with the primary goal of connecting patients with treatment in the community is notified when patients are in withdrawal and helps them transition to medication-assisted therapy (MAT). Within the first 11 months 857 patients answered "yes" to one of the two screening questions. 175 of 857 had a COWS score >8 suggesting opioid withdrawal, 43% of whom received Suboxone. Results from a physician led consultation showed that 46% of these patients accepted continuing care with MAT and 59% of those were on MAT a month later through the use of a 'warm handoff' between the hospital and a community-based opioid treatment program or private physician with a DATA waiver to prescribe buprenorphine.

Another relatively new population of focus is young men and women who present in couples where both members of the couple are opioid dependent and are in their child-bearing and parenting years. Their babies are subject to substance exposure, neonatal abstinence syndrome, and other potential developmental concerns. In July 2017, the American Academy of Pediatrics published an online clinical report which gave recommendations to its members for screening and helping families where substance use is a problem. In its report, The AAP highlighted the impact of parental substance abuse on healthy family functioning, routines, and relationships, raising the need for family-based and other family and client centered approaches to treatment as opposed to the usual mandated group therapies generally associated with medication assisted treatment.¹⁴

Since 2010, as the face of the opioid crisis has changed and the epidemic has grown, Connections Community Support Programs, Inc. has responded in a number of ways. First, we have opened treatment centers in previously unserved rural areas including Smyrna,

Harrington, and Millsboro. Although we also have treatment centers in the more urban areas of Newark and Dover, we have seen the most rapid growth in the rural centers. Second, we have added family-specific services including Ecosystemic Structural Family Therapy and specific services for women and children, including recovery coaches for pregnant and parenting women. In some cases, we have allowed family therapy and participation in recovery coaching to improve pregnancy and fetal health outcomes to substitute for the ‘treatment as usual’ approaches. We have also joined hands with Christiana Care to ensure that patients identified during medical hospitalizations are transitioned effectively to community medication assisted treatment at the time of discharge.

While the benefits of these approaches remain to be seen, we know that locating resources in parts of the State where they were previously absent has saved lives. Retention in treatment is high, with some families remaining for the births of multiple children, many of whom have been born with minimal effects from in utero substance exposure as the result of the help their mothers have received to stay free of illicit drugs and exposure to infectious diseases and premature labor during pregnancy. By increasing access to all of the medications used to treat opioid dependence, coupling them with services that people need and want, and increasing retention in treatment, we hope to continue to have a positive impact on reducing the negative outcomes of the opioid epidemic in Delaware.

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Cathy has been working as a therapist, supervisor, and behavioral health leader in Delaware since 1977. She has extensive experience treating people with serious mental health and substance use disorders and designing programs to meet their needs. Since 1986, Cathy has been the President and CEO of Connections Community Support Programs, Inc., one of the largest not-for-profits in Delaware, providing primary care, mental health, substance abuse and sex offender treatment to more than 35,000 Delawareans, including all of the individuals who are incarcerated in Delaware’s unified correctional system.



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Mitigating Post-Operative Dental Pain: as easy as 1, 2, 4, 24

Jason H. Goodchild, D.M.D.

Associate Professor and Chairman, Department of Diagnostic Sciences, Creighton University School of Dentistry Clinical Education Manager, Focus North America, Dentsply Sirona Restorative

*Mark Donaldson, B.S.P., A.C.P.R., P.H.A.R.M.D., F.A.S.H.P., F.A.C.H.E.
Senior Executive Director, Vizient Pharmacy Advisory Solutions Clinical Professor,
School of Pharmacy, University of Montana Clinical Assistant Professor, School
of Dentistry, Oregon Health & Sciences University Adjunct Professor, Faculty of
Dentistry, University of British Columbia*

*Nicholas R. Conte Jr., D.M.D., M.B.A.
Dental Director-Bureau of Oral Health and Dental Services, Division of Public
Health Delaware Department of Health and Social Services*

INTRODUCTION

The majority of pain in a dental setting is the result of either infection or surgical trauma. As a result, most of the pain is predictable and as such, many of today's providers rely on one or two standard medications to manage all of the situations they encounter. The reality of this approach is that the provider may not be treating the etiology of the pain but rather just masking its symptoms. Although dentists prescribe a relatively small amount of opioid analgesics, they play an important role in preventing misuse and diversion of these medications.¹ Dentists must be cognizant of improving patient care and avoiding potential adverse outcomes by working to prescribe the appropriate medicine for the right indication to best heal the patient.

Oral healthcare professionals (OHCPs), as a part of daily clinical practice, must select and prescribe analgesics to treat orofacial pain.² While pain has both psychological and physiological elements, an experience of poorly managed pain can lead patients to postpone or avoid dental visits, often resulting in patients who may be more difficult to manage and less compliant with prescribed treatments. Appropriately selected medications that reduce orofacial pain can improve clinical outcomes, making them an essential part of dental practice.³

The primary pathological process responsible for acute orofacial pain is tissue injury and inflammation (nociceptive pain).^{2,4} Tissue damage stimulates the release of inflammatory mediators (kinins, histamine, substance P, leukotrienes, and prostaglandins), which initiate and magnify the pain impulses transmitted to the central nervous system, generating the perception of pain. Of these mediators, prostaglandins are most responsible for sensitizing neurons peripherally where pain originates. They are also synthesized centrally in the higher brain centers where the pain is recognized. Finally, in response to pain impulses, prostaglandins amplify pain sensitivity and recruit additional secondary neurons in the spinal cord in response to the primary stimulus.

While nociceptive pain can spontaneously resolve if the underlying cause is definitively treated (e.g., abscessed gingiva, inflamed pulp, or carious lesion), the standard of care also includes a pharmacological approach to pain management. Medications that target the synthesis of inflammatory mediators such as prostaglandins are some of the most effective analgesics in our armamentarium.

NOCICEPTIVE OROFACIAL PAIN: MEDICATION SELECTION

In medical practice there is a commonly cited principle: match the right drug, at the right dose and the right time, for the right patient and the right procedure.^{5,6} The drugs of choice for postoperative dental pain include the nonsteroidal anti-inflammatory drugs (NSAIDs) and acetaminophen. The primary mechanism of action of these analgesics is to inhibit cyclo-oxygenase (COX) enzymes which are responsible for the formation of prostaglandins from arachidonic acid.^{2,4} The other class of medications often employed in conjunction with these agents are the glucocorticoids. Glucocorticoids reduce blood levels of prostaglandins and leukotrienes, which are both involved in the pathogenesis of trismus, edema, and pain.⁷

Since opioid-based medications target the central mu-opioid receptor and are not specifically anti-inflammatory agents, medications such as morphine, hydromorphone, and oxycodone should not be considered drugs of choice in treating dental pain secondary to inflammation. Rather, these analgesics should be reserved for a very small percentage of dental patients with severe, uncontrolled nociceptive orofacial pain, and even then they are best prescribed as combination products that contain a NSAID in addition to the narcotic moiety.^{3,8,9}



ASPIRIN AND RELATED NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDS)

Aspirin and the other NSAIDs specifically impede COX activity at the site of tissue damage, thus inhibiting prostaglandin formation peripherally, along the spinal cord, and in the higher brain centers. While inhibiting this enzyme ameliorates the inflammatory triad of pain, inflammation and fever, the conversion of arachidonic acid to cytoprotective prostaglandins is also impeded. For this reason, aspirin and other NSAIDs can cause adverse effects such as gastroduodenopathies (GI), delayed wound healing, prolonged bleeding, and an increased risk of cardiovascular (CV) events.

In 2005, the FDA began requiring manufacturers of prescription NSAIDs to include a black box warning and a medication guide with the package inserts for their products.¹⁰ The warning highlighted the drugs' potential to increase the risk of CV events and potentially life-threatening GI bleeding associated with their use. The medication guide accompanies every prescription NSAID at the time it is dispensed to better inform patients about the CV and GI risks. The FDA also asked manufacturers of non-prescription, over-the-counter (OTC) NSAIDs to amend their labeling to include specific information about the potential GI and CV risks, and information to assist consumers in the safe use of these drugs. In 2016, it was concluded by meta-analysis that patients taking routine NSAIDs for ten days or less to alleviate pain are not at increased risk for adverse cardiovascular side effects.¹¹

Concern around the adverse effects of NSAIDs was also the impetus for the development of COX-2 selective NSAIDs such as celecoxib (Celebrex[®], Pfizer Inc.). There are two well-described subtypes of tissue COX: COX-1 and COX-2. COX-1 is a constitutive form which promotes hemostasis (the synthesis of the prostaglandin analogue thromboxane A₂ which increases platelet degranulation and adhesion), stomach mucosal integrity (where synthesis of prostaglandins protects against acid damage), and kidney function (where prostaglandins help regulate normal renal blood flow). COX-2 is an inducible form, which promotes the synthesis of pro-inflammatory prostaglandins and plays a significant role in mediating pain, inflammation, and fever. Selectively inhibiting COX-2 mitigates the inflammatory response, while neglecting COX-1 inhibition reduces the occurrence of adverse effects seen with traditional non-selective NSAIDs.

ACETAMINOPHEN

Acetaminophen is found as a single-agent and in combination with other ingredients in OTC products, and is commonly combined with narcotic agents in prescription products. In general, acetaminophen is considered a safe medication, especially because it is associated with less CV, GI, renal, and bleeding adverse effects seen with the NSAIDs. Hepatic injury resulting from acetaminophen use, however, remains a serious health problem.¹² As a result, in June of 2009, the FDA analgesic advisory committee, suggested new labeling and dosing guidelines for this ubiquitous analgesic.¹³ This language was updated on November 1, 2016 to state, "Liver warning: This product contains

acetaminophen. Severe liver damage may occur if you take: more than 4,000 mg of acetaminophen in 24 hours; with other drugs containing acetaminophen; or 3 or more alcoholic drinks every day while using this product."¹⁴ The FDA also required that combination drug products not contain more than 325 milligrams of acetaminophen per tablet, capsule or other dosage unit.¹⁵

GLUCOCORTICIDS

Produced by the adrenal gland and controlled by the hypothalamus, glucocorticoids are primarily involved with carbohydrate metabolism. The principal endogenous glucocorticoid is cortisol, although others such as hydrocortisone, dexamethasone, methylprednisolone, and prednisone are more commonly used in dentistry as immunosuppressive agents (e.g., for the treatment of erosive lichen planus and pemphigus vulgaris), anti-inflammatory agents (e.g., for the treatment of mucositis and oral ulcerations, to reduce swelling), and analgesia.^{16,17}

The duration of glucocorticoid use in dentistry is typically short. Although glucocorticoids act similarly to NSAIDs in that they inhibit the synthesis and release of inflammatory mediators, they differ in that they affect leukocyte function and are immunosuppressive with prolonged use. Short-term use of less than seven days should not affect adrenal function and will likely avoid adverse side effects.¹⁷ Patients suffering from acute psychoses or with a psychotic tendency should not receive a glucocorticoid; additionally these medications should be used with caution in patients with diabetes, peptic ulcerations, and pregnant or lactating females.¹⁸ Although glucocorticoids are known to affect healing and bone remodeling, short courses of glucocorticoid therapy are not associated with wound disturbances or osseointegration of dental implants.¹⁹⁻²³

NOCICEPTIVE OROFACIAL PAIN: THE PERFECT PRESCRIPTION, "1 - 2 - 4 - 24"

Selecting analgesics for the management of nociceptive orofacial pain is ideally based on the patient's medical history, the drug's pharmacologic profile, the pain's actual or expected intensity, the medication's cost, the ease with which the medication can be obtained, and the anticipated patient compliance. In other words, "the medication that works is the one the patient takes."

Ibuprofen was the first NSAID to demonstrate analgesic superiority over aspirin.²⁴ A 400mg dose has a greater peak analgesic effect and a longer duration of action

than 600-1000mg of aspirin or acetaminophen, or 60mg of codeine, and has comparable efficacy to traditional opioid analgesic combinations.^{25,26} Maximum anti-inflammatory action with ibuprofen may require higher doses (e.g., 2400-3200 mg/day) than those indicated for effective analgesic action (e.g., 200-600mg four times per day; maximum 2400mg/day).^{27,28} With a half-life of approximately three hours, ibuprofen should ideally be administered every six hours to achieve steady-state blood levels.

Analgesia from acetaminophen in the average adult is readily measurable at a dose of 300mg and plateaus at 1000mg.²⁹ Acetaminophen follows first-order pharmacokinetics in the body (i.e., metabolism and elimination are constant regardless dose size), and similar to ibuprofen, with a half-life of approximately three hours, it should be administered every six hours to achieve steady-state blood levels.³⁰ The maximum effective daily dose is two 500mg tablets administered every six hours, for a total of 4000mg per day.

The combination of acetaminophen and ibuprofen has previously been described and touted as an effective analgesic recipe.^{29,31,32} Since no marketed drug combination in the United States contains both an NSAID and acetaminophen, Dionne first proposed taking the usual analgesic dose of ibuprofen (400-600mg) every four to six hours, not to exceed 2400mg over a 24-hour period; and taking acetaminophen (650-1000mg) every six hours, not to exceed 4,000 mg in 24 hours.³² This combination of two medications; ibuprofen (600mg) plus acetaminophen (1000mg) could be administered every six hours (four times daily) for 24 hours without exceeding the maximum daily dose of either drug (“2 – 4 – 24”).

If patients are compliant with these four doses of ibuprofen and acetaminophen, additional analgesics will likely not be required. The medications can be administered every six hours either together or in a staggered fashion based on physician and patient preference. The staggered approach may be desired for patients in whom more frequent medication administration may be psychologically beneficial following dental surgery, despite no pharmacological reason or benefit in doing so. Patient compliance and adherence with the prescribed regimen is vital to success; patients should set alarms to fulfill nighttime doses during the initial 24-hour postoperative period. After the initial 24-hour timeframe, patients may opt to take the medications, either alone or in combination, on

an “as needed” basis. If patients’ pain level necessitates continued routine pain medication administration after 2 days post-surgery, despite excellent compliance, follow-up and re-examination by the OHCP is encouraged.

Analgesics can also be given preoperatively to mitigate postoperative pain (preemptive analgesia).³³ This strategy could employ acetaminophen and/or a NSAID, or a glucocorticoid where pain, swelling, and trismus are expected.³⁴ Celecoxib 400 mg administered orally thirty minutes prior to the procedure may be the most attractive NSAID for preemptive analgesia as it can mitigate the inflammatory response without delaying wound healing or prolonging bleeding compared to the non-selective NSAIDs.³⁵ Celecoxib 200 mg given every 12 hours for the initial 24-hour postoperative period could also safely replace the postoperative ibuprofen 600 mg prescription for patients maintained on anticoagulants such as warfarin, dabigatran, rivaroxaban, apixaban or edoxaban.

The final ingredient for the perfect prescription, “1 – 2 – 4 – 24” in treating nociceptive orofacial pain is adding a pre- or peri-operative dose of the glucocorticoid dexamethasone. Several studies have demonstrated that a single 4mg dose of dexamethasone can significantly reduce pain, swelling, and trismus following third molar surgery, implant surgery, and endodontic procedures.³⁶⁻⁴⁰ Dexamethasone is supplied as tablets, for injection, and as an elixir. If the 4mg dexamethasone tablet is used, it is recommended to administer it a day either before or at the time of surgery. Alternatively, clinicians can inject 4mg of dexamethasone submucosally (SM) peri-operatively adjacent to the surgical site in a manner consistent with an infiltration injection, as the patient will be anesthetized in this area already. Dexamethasone injectable formulations come in several concentrations but either the 4mg/mL or 10mg/mL concentration is recommended, in this case 1mL or 0.4mL, respectively, would be injected (a 1mL syringe with 29-gauge ½-inch needle can be used in both cases). While the choice of oral administration versus submucosal injection is up to the clinician, SM injection presents the advantages of not requiring patient compliance, and the opportunity to inject the medication directly into the anesthetized tissue site of injury and swelling. In addition, SM injection offers a superior duration of action of 6 days versus approximately 2.5 days for oral administration.

While the choice of oral versus submucosal injection is up to the clinician, there are several factors that make submucosal injection attractive: no patient compliance

needed, the medication is deposited near the site of injury and swelling, presumably injected into anesthetized tissue, and capable of superior duration of action compared to oral administration. The duration of action of oral (PO) dexamethasone is approximately 2.5 days versus 6 days for submucosal (SM).⁴¹

OHCPs should strongly consider the “1 – 2 – 4 – 24” mnemonic as a device to remember the “perfect” analgesic formula: a single 4mg dose of dexamethasone, either pre- or peri-operatively followed by a combination of ibuprofen 600mg plus acetaminophen 1000mg administered every 6 hours for 24 hours (i.e., 1 single dose of dexamethasone, then 2 drugs for 4 doses, for 24 hours).³

CONCLUSIONS

This article describes a regimen that includes either a single oral or submucosal dose of dexamethasone followed by the combination of ibuprofen and acetaminophen to help OHCPs manage acute postoperative dental pain, swelling and trismus more effectively. Prescribers should always recommend the most effective analgesic regimen balanced against potential adverse events for the anticipated length of drug therapy. Postoperative dental pain usually has a short duration, and is caused by tissue injury and inflammation; as a result, a glucocorticoid followed by NSAIDs in combination with acetaminophen should be considered the first line analgesic regimen for most patients.

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Dr. Donaldson currently serves as the Senior Executive Director, Pharmacy Advisory Solutions for Vizient, in Whitefish, Montana. He is a Clinical Professor in the Department of Pharmacy at the University of Montana in Missoula, Clinical Associate Professor in the School of Dentistry at the Oregon Health & Sciences University in Portland, Oregon and Adjunct Professor, Faculty of Dentistry at the University of British Columbia. He has a special interest in dental pharmacology and has lectured internationally to both dental and medical practitioners. He has spent the last 18 years focusing on dental pharmacology and dental therapeutics, and is a leader in the field.

Dr. Donaldson has published numerous peer-reviewed works, continuing education modules and textbook chapters. He currently serves on the Editorial Board for the Journal of the American Dental Association, is board certified in healthcare management and is the Past-President and now Regent of the American College of Healthcare Executives Montana Chapter. Dr. Donaldson was named as the 2014 recipient of the Bowl of Hygieia for the state of Montana. This award is conferred upon an individual who possesses outstanding records of civic leadership in their communities, while encouraging pharmacists to take active roles in their communities. He is also the 2016 recipient of the Dr. Thaddeus V. Weclaw Award. This national award recognizes an individual who has made outstanding contributions to the art and science of dentistry and/or enhanced the principles and ideals of the Academy of General Dentistry.



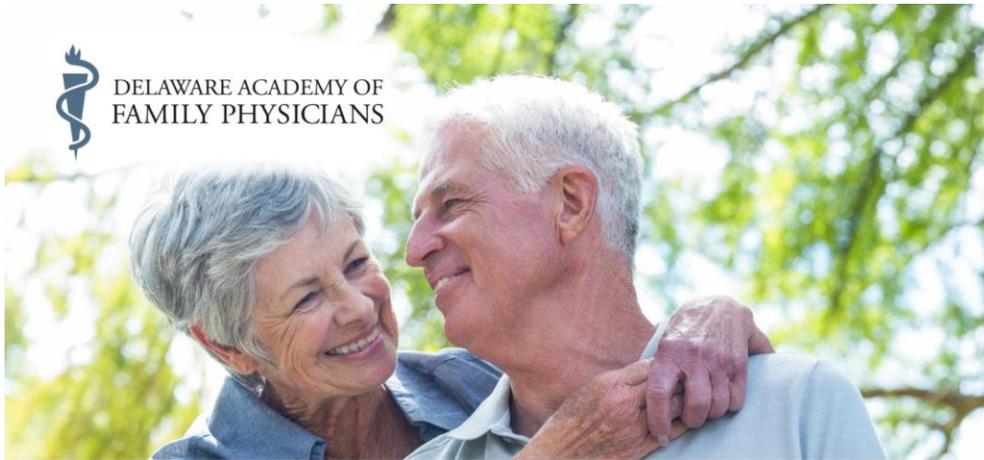
Dr. Goodchild has published numerous peer-reviewed articles and lectures nationally and internationally on the topics of treatment planning, treatment of medical complex dental patients, restorative dentistry, pharmacology, emergency medicine in dentistry, enteral sedation dentistry, and dental photography. He has been an invited speaker for the Academy of General Dentistry and American Association of Dental Examiners. He is a reviewer for the Journal of the American Dental Association, General Dentistry, Compendium, and Quintessence International.



Dr. Conte is the Dental Director of the Bureau of Oral Health and Dental Services which is within the Department of Public Health in the State of Delaware. Previously, Nick was the Director of Clinical Research and Education for Dentsply Sirona Restoratives during which time he worked on development teams to commercialize products ranging from composites and adhesives to impression materials and resin cements. Dr. Conte earned a B.A. from the University of Rochester in New York and completed both his DMD degree and Prosthodontic Residency Program at the University of Medicine and Dentistry in Newark, New Jersey. In addition, Nick earned an MBA from Wilmington University in Delaware in 2011. He holds a faculty appointment as a Clinical Assistant Professor at Rutgers School of Dental Medicine and a fellowship in the American College of Dentists. Nick enjoys lecturing on the evolution of dental materials, procedural based clinical solutions and team focused office efficiency.



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BUILDING A SYSTEM TO PREVENT, RECOGNIZE, AND TREAT SUBSTANCE EXPOSURE IN INFANTS

Authors: Jennifer Donabue, Child Protection Accountability Commission, and Emily Knearl, Division of Public Health. Donabue and Knearl co-lead the SEI IDTA.

Delaware and the nation are struggling with an addiction epidemic, a fact that is well known. Less well known is that the addiction epidemic is impacting pregnant women and their infants in increasing numbers. In 2016, there were 431 reports of substance exposed infants to the Department of Services for Children, Youth and Their Families, a sharp increase from the previous year.

The two most common substances found at birth in Delaware are marijuana and opioids; both of which are tied to either short and/or long term negative consequences for the infant. Alcohol exposure, which has the most well-documented long term negative impacts on an infant, is virtually impossible to detect immediately following birth.

In 2016, Delaware was one of the states selected for Substance Exposed Infants In-Depth Technical Assistance (SEI IDTA) funded by the U.S. Department of Substance Abuse and Mental Health Services Administration, and offered by the National Center on Substance Abuse and Child Welfare. The Delaware Child Health Protection Accountability Commission, Department of Health and Social Services, Department of Services for Children, Youth and their Families, March of Dimes, Delaware Healthy Mothers and Infant Consortium, Fetal Alcohol Task Force, Connections, medical providers, and many others have begun work to:

- *Increase screening of reproductive age women who may be at risk for substance abuse addiction, and increase links to treatment and home visiting services*
- *Educate physicians on the signs and symptoms of addiction in pregnant patients, and how to refer patients to treatment (See fact sheets next page.)*
- *Reduce stigma around maternal substance use, and highlight the role*

of addiction as a chronic disease and the importance of connecting families to support, not punitive measures.

- *Develop a system where infants born substance exposed and their families receive the medical treatments and supports they need as part of the federally-required "Plan of Safe Care" process. The revised federal rule requires states to address the health and substance use disorder treatment needs of the infant and family.*
- *Link to the Delaware Contraception Access Now (DE CAN) program to help women get access to effective contraception immediately post-partum.*

Pregnant women often do not realize the extent to which alcohol and drug use can harm their baby, and we know that women struggling with addiction are less likely to access prenatal care and significantly more likely to have an unplanned pregnancy.

Under Delaware Code, Title 24, Chapter 17 (Medical Practice Act), Subchapter V, § 1769A, <http://delcode.delaware.gov/title24/c017/sc05/index.shtml>, medical providers are required to educate their pregnant patients on the dangers of using alcohol and drugs during pregnancy. The Division of Public Health is charged with developing those messages. Working closely with the SEI IDTA partners, DPH created information to meet the requirements of the law, and provide medical providers the tools they need to screen their patients, educate them on the dangers of substance use, and provide links to treatment. This fall the materials will be distributed to medical providers serving reproductive age women and placed on the Help is Here website. (See fact sheets next page.)

For further information, call the Division of Public Health at 302-744-4704. For further information on preventing, recognizing, and treating addiction, visit www.helpisherede.com.

Fact sheets developed by the Division of Public Health and SEI IDTA

Fact Sheet for Medical Providers: SUBSTANCE USE DURING PREGNANCY

Delaware law requires that medical providers educate pregnant patients about the dangers of substance use:

DE Code, Title 24, Chapter 17, § 1769A. Required warning to pregnant women of possible effects of using alcohol, cocaine, or other narcotics.

(a) A person certified to practice medicine who treats, advises, or counsels pregnant women for matters relating to the pregnancy shall post warnings and give written and verbal warnings to all pregnant women regarding possible problems, complications, and injuries to themselves and/or to the fetus from the consumption or use of alcohol or cocaine, marijuana, heroin, and other narcotics during pregnancy.

(b) A person who treats, advises, or counsels pregnant women pursuant to subsection (a) of this section and who is certified to practice medicine may designate a licensed nurse to give the warnings required by this section.

(c) The Director of the Division of Public Health shall prescribe the form and content of the warnings required pursuant to this section.

QUICK SUMMARY OF SUBSTANCE EFFECTS

| | Nicotine | Alcohol | Marijuana | Opioids | Cocaine | Methamphetamine |
|---|-----------|---------------|-----------|---------------|-----------|-----------------|
| Short-term Effects/Birth Outcome | | | | | | |
| Fetal Growth | Effect | Strong Effect | Effect | Effect | Effect | Effect |
| Anomalies | ? | Strong Effect | ? | No Effect | No Effect | ? |
| Withdrawal | No Effect | Effect | Effect | Strong Effect | No Effect | Effect |
| Neurobehavior | Effect | Effect | Effect | Effect | Effect | Effect |

Long-term Effects/Birth Outcome

| | | | | | | |
|-------------|--------|---------------|-----------|-----------|--------|--------|
| Growth | ? | Strong Effect | No Effect | No Effect | ? | * |
| Behavior | Effect | Strong Effect | Effect | Effect | Effect | * |
| Cognition | Effect | Strong Effect | Effect | ? | Effect | Effect |
| Language | Effect | Effect | No Effect | Effect | Effect | * |
| Achievement | Effect | Strong Effect | Effect | * | ? | * |

? No Consensus on Effect * Limited or no data available

Updated by the Delaware Division of Public Health in 2017. Original source: Behnke, M. & Smith, V. C. (2013). Technical Report. Prenatal substance abuse: short and long-term effects on the exposed fetus. American Academy of Pediatrics, 131(3), e1009- e1024.

WHAT TO TELL YOUR PATIENTS

No amount of alcohol, marijuana, or other illegal drugs is safe for you or your baby. Prescription opioids should be taken exactly as prescribed and babies may experience neonatal abstinence syndrome (NAS) after birth, which will likely need medical intervention.

From the American College of Obstetricians and Gynecologists:

“A drug’s effects on the fetus depend on many things: how much, how often, and when during pregnancy it is used. The early stage of pregnancy is the time when main body parts of the fetus form. Using drugs during this time in pregnancy can cause birth defects and miscarriage. During the remaining weeks of pregnancy, drug use can interfere with the growth of the fetus and cause preterm birth and fetal death.”

(December 2013: www.acog.org/Patients/FAQs/Tobacco-Alcohol-Drugs-and-Pregnancy).

OPIOIDS: LEGAL AND ILLEGAL

what your patients need to know

Opioids are a highly addictive substance, and their use and abuse is driving the current addiction epidemic. Opioids can cause life-threatening withdrawal symptoms in babies, better known as neonatal abstinence syndrome (NAS). Symptoms include excessive crying, high-pitched cry, irritability, seizures, and gastrointestinal problems, among others. NAS requires hospitalization of the affected infant and possibly treatment with morphine or methadone to relieve symptoms. Treatment should also include non-pharmacological interventions like skin to skin contact and rooming in.

The research on the long-term impacts of opioid use during pregnancy is still evolving but there is some evidence to suggest behavioral and potential cognition effects on children whose mother used opioids.

No patient should be counseled to immediately stop using opioids, including heroin. Suddenly stopping use could send the fetus into distress, threaten the pregnancy, and even cause miscarriage. Consistent with ACOG guidelines, physicians should discuss a broad range of treatment options, including Medication Assisted Treatment (MAT). For information on treatment programs or to learn more about MAT for pregnant women, call 1-800-652-2929 in New Castle County or 1-800-345-6785 in Kent and Sussex counties.

COCAINE AND METHAMPHETAMINE (STIMULANTS)

what your patients need to know

Pregnant women who use cocaine are at higher risk for maternal migraines and seizures, premature membrane rupture, and placental abruption (separation of the placental lining from the uterus). Cocaine could exacerbate cardiac problems--sometimes leading to serious problems with high blood pressure (hypertensive crises), spontaneous miscarriage, preterm labor, and difficult delivery.

Babies born to mothers who use cocaine during pregnancy may also have low birth weight and smaller head circumferences, and are shorter in length than babies born to mothers who do not use cocaine. They also show symptoms of irritability, hyperactivity, tremors, high-pitched cry, and excessive sucking at birth.

Resources

For information on detox, recovery, intervention, and treatment resources, visit: www.helpisherede.com.

To help patients connect with home visiting and a variety of prenatal supports, call 2-1-1 for "Help Me Grow."



ALCOHOL

what your patients need to know

Alcohol is the number one cause of preventable birth defects. When a pregnant woman drinks alcohol, the alcohol reaches the baby through the placenta. While an adult liver will break down the alcohol, a baby's liver cannot and so the alcohol is significantly more toxic. Drinking alcohol during pregnancy can cause: damage to a baby's organs, physical, emotional and behavioral problems as they grow, difficulties in learning or memory, and higher incidence of Attention Deficit Hyperactivity Disorder (ADHD). The damage caused by drinking alcohol is well-documented and vastly underestimated.

MARIJUANA

what your patients need to know

Marijuana use should not be viewed as a "safe" alternative to other drugs, and, contrary to reports, marijuana can be addictive. The American College of Obstetricians and Gynecologists (ACOG) and American Academy of Pediatrics (AAP) state that marijuana cannot be used safely during pregnancy. There is research to suggest impaired neurodevelopment in fetuses, as well as low birth weight and problems in behavior and cognition in childhood. But, more research must be done. And, as ACOG suggests, the adverse effects of smoking to mother and fetus are well-documented.

TOBACCO

what your patients need to know

While this brief focuses on alcohol, illegal substances and prescription drug abuse, the negative impact of tobacco use on birth outcomes is well-documented. If a patient indicates they smoke, consider referrals to the Delaware Quitline for free cessation resources and tools at www.quitnow.net/delaware or by calling 1-866-409-1858."

Sources

ACOG Committee Opinion Number 637, July 2015, "Marijuana Use during Pregnancy and Lactation"

ACOG FAQ170, December 2013: Tobacco, Alcohol, Drugs, and Pregnancy

ACOG Committee Opinion 479, March 2011, Reaffirmed 2017, "Methamphetamine Abuse in Women of Reproductive Age"

Centers for Disease Control and Prevention: Fetal Alcohol

<https://www.cdc.gov/ncbddd/fasd/>

National Institute of Drug Abuse

<https://www.drugabuse.gov/publications/research-reports/>

[substance-use-in-women/substance-use-while-pregnant-breastfeeding](https://www.drugabuse.gov/publications/research-reports/substance-use-in-women/substance-use-while-pregnant-breastfeeding)

Delaware Fetal Alcohol Task Force



DELAWARE HEALTH
AND SOCIAL SERVICES
Division of Public Health



How to Screen Pregnant Patients for Substance Use Disorder and Alcohol Use

RECOMMENDATION

All pregnant women should be educated on the dangers of substance use during pregnancy and screened for substance use disorder and alcohol use, particularly during the first and third trimesters.

The American College of Obstetricians and Gynecologists (ACOG) recommends universal screening with brief intervention and treatment referrals for cannabinoids, alcohol, club drugs, dissociative drugs, hallucinogens, opioids, stimulants, tobacco, and other compounds such as anabolic steroids and inhalants.



BACKGROUND

No amount of alcohol, marijuana, illegal drugs, or tobacco is safe for the mother or baby. Alcohol is still the number one cause of preventable birth defects, and even minimal alcohol exposure can hurt a fetus. Data shows there are short- and long-term negative impacts of alcohol, tobacco, opioids, and other drug use on the mother and baby.

For further information on the dangers of substance use during pregnancy, see *Fact Sheet for Medical Providers: Substance Use During Pregnancy* in your packet.

Legal prescription drugs, including opioids, should be closely monitored and used exactly as prescribed. For mothers who consumed opioids legally as part of a treatment plan, their infant will still likely need treatment for neonatal abstinence syndrome (NAS) following birth.

Any pregnant woman who is on legal or illegal opioids should not cease her use immediately or there may be significant risks to the fetus. Conversion to Medication Assisted Treatment (MAT) is preferred for women seeking to discontinue use of illegal or legal opioids during pregnancy (see page 4).

To learn more about MAT treatment locations for pregnant women, visit the Substance Abuse and Mental Health Services Administration (SAMHSA) website at www.samhsa.gov or call 800-652-2929 in New Castle County and 800-345-6785 in Kent and Sussex counties.

OPIOIDS AND PAIN MANAGEMENT



Legally prescribed opioids are a proven pipeline to opioid dependence. Nearly 80 percent of heroin users report they started with prescription opioids. And, the benefits of long-term opioid therapy for chronic pain is not well supported by the evidence.

Prescribers of opioids for pain management should consider recommending alternatives to opioid medications, including non-opioid medications, exercise and physical therapy, behavioral therapy, and relaxation techniques. For patient and physician opioid fact sheets and links to new prescription regulations, visit Help is Here: www.helpisherede.com/Health-Care-Providers.

CONSIDERATIONS

Substance use disorder is a chronic disease. Similar to diabetes and other illnesses that can harm a mother or her baby during pregnancy, a potential substance use problem should be identified and addressed early through screening using a validated screening tool.

ACOG recommends that routine screening for substance use disorder be applied equally to all people, regardless of age, sex, race, ethnicity, or socioeconomic status.

You have an important role in educating women on the dangers of substance abuse during pregnancy, screening women for substance use disorder, and referring those with a potential substance use disorder. The goal is to help the mother and her baby. Education, screening, and referrals should be integrated seamlessly into regular prenatal visits.

Be nonjudgmental and reassuring. You are more likely to get honest responses if the patient feels comfortable and safe. When asking about substances, pregnant patients may naturally be concerned about admitting drug or alcohol use. They may fear stigma or that they will be reported to child protective services.

Pregnant women cannot be penalized for substance use during pregnancy under the law. Medical providers do not have a legal requirement or obligation to report substance use in pregnant women or to perform testing to confirm suspected use. In fact, child protective services will not take a report for behavior while pregnant as that is outside their legal authority.

Under federal law, pregnant women must receive priority substance abuse treatment. To learn more about what treatment services are available, visit www.HelpisHereDE.com.

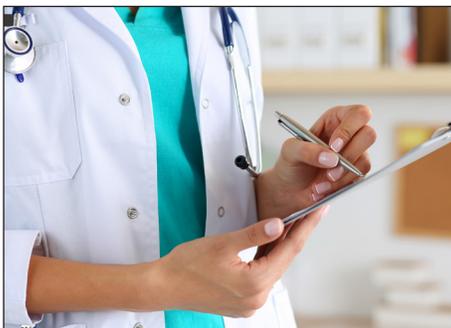


GENERAL SCREENING RECOMMENDATIONS

STEP ONE: START THE CONVERSATION

Following the SBIRT model (Screening, Brief Intervention and Referral to Treatment), start the conversation in a reassuring and compassionate matter. “Can I ask you about drug or alcohol use? This information is important to working with you to have a healthy pregnancy.”

Be reassuring. Be clear the information will not be used against the patient or impact her ability to keep custody of the child. Emphasize the importance of your commitment to help her have a healthy pregnancy.



STEP TWO: DO THE SCREENING

Use the screening tool that works best for your practice and your population. The next page includes three validated screening tools that can be used easily in a health care setting. All seek to identify potential issues that would require further dialogue with the patient and referrals to treatment providers for further assessment.

These screening tools are in the public domain and recognized by the Substance Abuse and Mental Health Services Administration (SAMHSA).

GENERAL SCREENING TOOLS

“Screening” means using a validated screening tool to ask questions aimed at understanding the patient’s potential substance use. There are several validated screening tools for pregnant women, including 4P’s, T-ACE, and CRAFFT for adolescents and young adults.

THE 4 P’S

4 P’s for Substance Abuse:

1. Have you ever used drugs or alcohol during **Pregnancy**?
2. Have you had a problem with drugs or alcohol in the **Past**?
3. Does your **Partner** have a problem with drugs or alcohol?
4. Do you consider one of your **Parents** to be an addict or alcoholic?

Scoring: Any “yes” should be used to trigger further discussion about drug or alcohol use. Any woman who answers “yes” to two or more questions should be referred for further assessment.

Source: Adapted from Ewing H Medical Director, Born Free Project, Contra Costa County, 111 Allen Street, Martinez, CA. Phone: 510-646-1165.

T-ACE

ACOG recommends the T-ACE screening tool for alcohol, specifically developed for use with pregnant women. Ask patients four questions:

- (T) Tolerance: How many drinks does it take to make you high?
- (A) Have people annoyed you by criticizing your drinking?
- (C) Have you ever felt you ought to cut down on your drinking?
- (E) Eye opener: Have you ever had a drink the first thing in the morning to steady your nerves or get rid of a hangover?

Scoring: Any woman who answers more than two drinks is scored two points. Each “yes” to the additional three questions scores one point. A score of two or more is considered a positive screen, and the woman should be referred for further assessment.

Source: Sokol RJ, Martier SS, Ager JW. 1989. The T-ACE questions: Practical prenatal detection of risk drinking, American Journal of Obstetrics and Gynecology 160 (4).

CRAFFT – SUBSTANCE ABUSE SCREEN FOR ADOLESCENTS AND YOUNG ADULTS

C - Have you ever ridden in a **CAR** driven by someone (including yourself) who was high or had been using drugs or alcohol?

R – Do you ever use alcohol or drugs to **RELAX**, feel better about yourself, or fit in?

A – Do you ever use alcohol or drugs while you are by yourself, **ALONE**?

F – Do you ever **FORGET** things you did while using drugs or alcohol?

F – Do your **FAMILY** or **FRIENDS** ever tell you that you should cut down on your drinking or drug use?

T – Have you ever gotten in **TROUBLE** while you were using alcohol or drugs?

Scoring: Two or more positive items indicate the need for further assessment.

Source: Center for Adolescent Substance Abuse Research, Children’s Hospital of Boston. The CRAFFT screening interview. Boston (MA) CeASAR; 2009.

TOBACCO

While this guidance focuses on alcohol, illegal substances, and prescription drug abuse, screening for tobacco is still recommended. The negative impact of tobacco use on birth outcomes is well documented. If a patient indicates they smoke, consider referrals to the Delaware Quitline for free cessation resources and tools at www.quitsupport.com or by calling **1-866-409-1858**.

STEP THREE: EDUCATE THE PATIENT AND PROVIDE REFERRALS

If the screening tool does not identify a potential problem:

- State law requires that all medical providers serving pregnant women counsel them on the dangers of any alcohol, marijuana, or other drug use during pregnancy. Recommend they cease use with the exception of opioids, which require special considerations and may need to involve Medication Assisted Treatment. For further information on the dangers of substance use during pregnancy, see the fact sheet provided in your packet.

If the screening tool does identify a risk for substance use disorder:

- Be clear that you know the mother wants to be as healthy as possible for her baby and herself, and that she can reduce the health risk to them both by stopping using alcohol and drugs.
- Discuss possible strategies for her to stop — individual or group counseling, 12-step program, or substance use disorder treatment. If she is struggling with opioid addiction, Medicated Assisted Treatment should be discussed.
- Recommend women visit www.HelpsHereDE.com or call 800-652-2929 in New Castle County and 800-345-6785 in Kent or Sussex counties to learn more about services for pregnant women.

MEDICATION ASSISTED TREATMENT

Medication Assisted Treatment (MAT) is an important part of the treatment regime for pregnant women and is proven to improve outcomes. According to ACOG, “the rationale for medication assisted treatment during pregnancy is to prevent complications from illicit opioid use and narcotic withdrawal, encourage prenatal care and drug treatment, reduce criminal activity, and avoid risks to the patient associated with a drug culture.” (ACOG Committee Opinion, *Opioid Abuse, Dependence and Addiction in Pregnancy*, Number 524, May 2012, page 2).

The two main medications involved in MAT for pregnant women are methadone and buprenorphine (without Naloxone). The decision regarding the most appropriate medication should be made jointly with the MAT provider, the obstetrician, and the woman.

| METHADONE | BUPRENORPHINE (WITHOUT NALOXONE) |
|--|--|
| <ul style="list-style-type: none">• May have better treatment retention• No risk precipitating withdrawal• Patients with more severe opioid use disorder | <ul style="list-style-type: none">• Probably less severe NAS; works best in patients needing less monitoring• Reduced risk of overdose during induction• Reduced risk of overdose if children are exposed to medication. |

Source: Substance Abuse and Mental Health Services Administration, <https://www.samhsa.gov/>.

SOURCES

For a full list of sources, call the Division of Public Health at 302-744-4704.



FREE SUICIDE/MENTAL HEALTH SCREENING TOOL

The US Substance Abuse and Mental Health Services Administration (SAMHSA) has awarded a Garrett Lee Smith Suicide Prevention Grant to the Department of Services for Children, Youth and Their Families. A core goal of this grant, named Project SAFETY, is to support suicide and mental health screenings in the medical community and in schools and colleges. To achieve this goal, Project SAFETY has contracted with mdlogix to provide its Behavioral Health Screen (BHS) under the Behavioral Health-Works Program to practices in Delaware.



The BHS was developed by a team at the Children's Hospital of Philadelphia to be used in their Emergency Department. CHOP has screened more than 20,000 patients since implementing the screen. The BHS is a web based tool that has three versions for people under 24 and one version for those over 24 years old. An advantage of the BHS over other screens is that it samples a wider range of mental health domains (including depression, anxiety, trauma, eating disorders, substance use) than most screens which focus on depression and suicide. It can be done on tablets in the waiting room such that a summary can be available when the patient meets the clinician, and it is in a format that can be added to either a Practice's paper or electronic health record on the patient. The system also allows for DSCYF to get de-identified aggregate data on numbers screened and referred, while giving the practice an identified screen result that can be added to the patient record.

Project SAFETY can provide access at no cost to the BHS, including support on implementing it in one's practice and training on dealing with suicidal patients. While the focus of the grant is on patients 10 to 24, practices can use this on their adult patients in addition to their younger ones. If you want to learn more about this grant funded opportunity, please contact Dr. Harvey Doppelt at harvey.doppelt@state.de.us or [302-892-4507](tel:302-892-4507).



Prevention and Behavioral Health Services



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Questions? Contact us at Sarahfaye.F.Dolman@ChristianaCare.org or 302-733-5868.

Safe Medication Disposal—Remove the Risk



Walgreens staff and speakers took a minute to pose after the press conference, flanking one of the new medicine disposal boxes that customers can use in select stores. Delawareans are asked to clean out unused and expired medicines and take them to one of the 41 collection sites participating in the 13th Delaware Drug Take-Back Day, on Saturday, April 29, from 10:00 a.m. to 2:00 p.m. Disposal is free, anonymous, and no questions will be asked. Drugs must be in a container such as a pill bottle, blister pack, or zipped plastic bag, with personal information removed. Liquid medications must be in their original containers. Needles, aerosols, biohazard materials, medical equipment, and batteries will not be accepted. Learn more at www.dea.gov/take-back/takeback-news.shtml.

Walgreens



Pictured, from left: Tim Derose, Walgreens Delaware Healthcare Supervisor; Craig Clarke, Walgreens Delaware Director of Pharmacy & Retail Operations; Jessica Puckett-Beasley, Walgreens Regional Healthcare Director for DE, MD, DC, VA, WV, KY, IN; Shawn R. Ellerman, Assistant Special Agent in Charge, U.S. Drug Enforcement Administration (DEA), Philadelphia Field Division; Matt Denn, Delaware Attorney General; Karyl T. Rattay, M.D., M.S., director, Division of Public Health, Delaware; U.S. Senator Thomas Carper; Dr. Kara Odom Walker, M.D., M.P.H., secretary, Delaware Health and Social Services; Mark Gann, Walgreens Asset Protection Solutions Director for DE, MD, DC, VA, WV, KY, IN; and U.S. Senator Christopher Coons.

Addressing overdoses through legislation, policy, and action



There was significant media and stakeholder interest when Governor John C. Carney signed Senate Bill 48 in July. SB48 was sponsored by Sen. Bryan Townsend, Chair of the Senate Health and Social Services Committee; Rep. David Bentz, Chair of the House Health Committee; Rep. Paul Baumbach; and others. “Increasing our ability to prevent overdose deaths is vital to our response to the addiction epidemic,” Governor Carney said. “Naloxone can give people a second chance to get medical care and be connected to resources to treat their addiction. Signing this legislation empowers pharmacists to join the fight against opioid overdoses and save more lives.”



Division of Public Health Director Dr. Karyl Rattay said she will issue a revised standing order in September, following Medical Board approval, that allows pharmacists at participating pharmacies to dispense an additional form of the intranasal naloxone. It should be available in October 2017.

When the standing order is signed and elements are in place, people can visit a participating pharmacy for naloxone to help protect a loved one suffering from addiction. They won't have had to wait for a formal naloxone training class; a pharmacist can train them on the spot. Celebrating the signing of SB48 are, from left: DPH Director Dr. Karyl Rattay, Lt. Governor Bethany Hall-Long, DHSS Secretary Dr. Kara Odom Walker; Jeanne Keister, Don Keister, and Dave Humes of aTACK addiction, who lost sons to overdoses; Governor Carney; and Becky King, DPH Director of Nursing and also of aTACK addiction.

Dr. Kara Odom Walker said: *“Being able to save a life with naloxone, gives us another opportunity to connect that person to the treatment they need. And that will move us another step closer to reducing the toll of addiction in our state.”* DHSS will post pharmacies participating in the naloxone program on www.HelpIsHereDE.com, along with instructions on how to administer naloxone and fact sheets on how naloxone works.

Person in Recovery, the interview



For Brian Taylor, the sixth time's the charm. He had visited a withdrawal management center in Kent County for its five-day detox program a half a dozen times last year in his attempt to get clean from heroin.

"I never came in for the right reasons,"

Taylor said of his first five visits. "You know, I came in to stay on probation, or keep my kids, or whatever the problem was at that time. I was trying to put a Band-Aid on it. I never really got down to my core problems."

Taylor only came to the detox center after an outreach effort between the Department of Family Services and Connections Community Support Programs Director of Nursing Debbie Pringle. While they managed to get Taylor's fiancé and kids into a women and children's sober living home, Taylor couldn't be located until Pringle drove through the streets of Seaford to find him. In February of 2016, Pringle finally got Taylor into her agency's detox program.

When Taylor entered the Connections Withdrawal Management Center for the sixth time that December, he wasn't sure he would stay clean, but he was tired of the lifestyle he had been living for the last 18 years.

"I was sitting here, just thinking about all the chaos I was in," Taylor said. "[The Department of Family Services] told me I was going to come in here and do the detox or I wasn't going to see my kids, so that was my initiating factor in even coming here. But then I got in here and I started to take an honest look, asking myself, 'What are you doing?'"

That's when he finally began to use the center's resources to the fullest by connecting with peers, individuals in recovery from addiction who are hired to

share their advice with new clients. Their stories inspired Taylor and showed him that a fulfilling life during recovery is possible.

The 32-year-old had been using since he was 13, starting with alcohol and marijuana before progressing into cocaine, then Percocet and OxyContin, and eventually heroin. Leading up to his final time at the detox center, Brian said he was using more than 50 bags of heroin a day.

Now he has seven and a half months clean, and he hasn't looked back. After that final five-day stint at the Withdrawal Management Center in Harrington, he was referred to a residential treatment facility run by the Gateway Foundation. Then, he moved into a Connections sober living house, where he could attend a 30-day intensive outpatient treatment program at the Withdrawal Management Center.

After he successfully completed the program, Connections hired Taylor as a live-in peer at the sober living home — but he continued to visit the Withdrawal Management Center to volunteer his time there, sharing his story and eventually running group meetings for new clients.

"I got a real attachment to this place because this is where I started my journey," he said.

When he had five months clean, Taylor was hired as a peer at the center. Here, Taylor does everything from working security detail to running small groups. His main goal as a peer is to provide guidance to newcomers to the program.

Carolyn Faust started as a peer mentor at the same clinic. Now an outpatient counselor, she said Brian and other peers serve as positive examples for clients coming to the clinic to take their first step in the recovery process.

"Learning of lived experience provides [our clients] hope," Faust said. "And we can tell them literally what we individually did that worked, so we can provide them insights into success that aren't in a book."



Taylor has had a similar impact on newcomers at his sober living home, said Andrew Schmidt, house manager.

According to Schmidt, these homes allow people in recovery to live with each other and help put their lives back together, from attending therapy and 12-step meetings to finding a job. Because residents stay anywhere from eight months to a year, people just entering the house benefit from hearing about the accomplishments of those who came before them.

“Brian’s success is amazing,” Schmidt said. “He’s come a long way in his eight months, and now there are people following in his footsteps.”

Taylor’s life has never been better, and he’s focused on the things that matter to him. He wants to go back to school to become a certified drug and alcohol counselor to further help others who are in the same position he was once in.

“I feel like I can reach a lot of people the way people reached me,” he said. “I almost feel obligated to give back.”

At home, Taylor’s recovery has helped his relationships with his fiancé, 6-year-old daughter, 4r-year-old son, and two step-daughters.

“I can be a father,” he said. “I can be a son. I can be a fiancé. I can be a lot of things I couldn’t be before because I was locked in that mentality.”

Rachel Rex, a student at Boston University majoring in public relations and political science, is a summer communications intern at Connections.

OPIOID LEXICON

OF TERMS

A

Abstinence – Refraining from drug use or from drinking alcoholic beverages

Abuse – A maladaptive pattern of use indicated by continued use of a substance, despite having knowledge of persistent or recurrent social, occupational, psychological, or physical problems caused or exacerbated by the use of that substance. Although abuse remains in wide use in the general population, this term is ambiguous, and medical societies prefer to use the term dependence or substance use disorder (when applicable).

Abuse of non-dependence-producing substances – Repeated and inappropriate use of a substance that has no dependence potential, but is accompanied by: harmful physical or psychological effects, involves unnecessary contact with health professionals, or both. These substances produce a psychological dependence, and there is no withdrawal syndrome after use. This can apply to certain prescription drugs, over-the-counter drugs, herbal, and folk remedies (especially antidepressants, neuroleptics, laxatives, analgesics, steroids, vitamins, and antacids).

Acetaldehyde – The principle breakdown product of ethanol. It is a toxic substance, and can lead to the alcohol flush reaction in some individuals.

Acute amnesia – See: blackout

Addiction – Addiction may refer to a substance dependence (drugs, alcohol, tobacco) or behavioral addiction (gambling, sex, exercise, internet use).

In the past, addiction has referred solely to psychoactive substances that cross the blood-brain barrier and temporarily alter the chemical balance of the brain. The repeated use of these substances can leave the user periodically or chronically intoxicated, and can lead to tolerance of the substance, and withdrawal symptoms if the substance is not consumed. Addiction is different from a habit, because there is a psychological and physical component: people are unable to control their addiction without help due to mental or physical conditions.

Addictions are not limited to drug use. Individuals may be addicted to:

Addiction Medicine – The preferred term for the branch of medicine dealing with alcohol and drug related conditions, begun in the USA in the 1980s.

Administration – The way in which a substance is introduced to the body, for example: oral ingestion; intravenous (IV), subcutaneous (under the skin), or intramuscular injection; inhalation (smoking); or absorption through skin or mucosal surfaces (ie: gums, rectum, genitalia)

Agonist – A substance that acts to produce effects similar to those of a reference drug at a neuron's receptor in the brain. Methadone is a morphine-like agonist at opioid receptors.

Al-Anon – see: Mutual Help Group; Twelve Step Group

Alcohol – A large group of organic compounds. Ethanol (C₂H₅OH, aka ethyl alcohol) is the main psychoactive ingredient in alcoholic beverages. Methanol (CH₃OH, aka methyl alcohol, wood alcohol) is used as an industrial solvent and is highly toxic. Depending on the amount consumed, it may produce blurry vision, blindness, coma, and death. Other non-beverage alcohols include isopropanol (rubbing alcohol) and ethylene glycol (antifreeze).

Ethanol is a sedative/hypnotic with effects similar to those of barbiturates. Alcohol intoxication may result in poisoning or death. Long term heavy use of alcohol may result in dependence, brain damage, cardiomyopathy, cirrhosis of the liver, delirium, fatty liver, fetal alcohol syndrome, gastritis, hepatitis, myopathy, neuropathy, pellagra, pancreatitis, scurvy, and Wernicke encephalopathy.

Alcohol Flush Reaction– Flushing of the face, neck, and shoulders after the ingestion of alcohol, often accompanied by nausea, dizziness, and palpitations. It is caused by an inherited deficiency of the enzyme *aldehyde dehydrogenase*, and seen in about half of some Asian genetic groups. It is also seen when alcohol is imbibed by people receiving treatment with alcohol sensitizing drugs like disulfiram (Antabuse).

Alcoholic – An individual who suffers from alcoholism, or is dependent on alcohol.

Alcoholics Anonymous (“AA”) – See Mutual Help Group

Alcoholism – A descriptive term generally taken to refer to chronic continual drinking or periodic consumptions of alcohol, characterized by impaired control over drinking, frequent episodes of intoxication, and preoccupation with alcohol and the use of alcohol despite adverse consequences.
See: dependence syndrome

Alcohol-Sensitizing Drug – A therapeutic agent prescribed to assist maintenance of abstinence from alcohol by producing unpleasant side effects if alcohol is consumed. Current drugs include disulfiram (Antabuse) and calcium carbamide, both of which inhibit alcohol dehydrogenase and cause acetaldehyde to build up in the body, leading to facial flushing, nausea and vomiting, palpitations, and dizziness.

Amethystic Agent – A substance taken with the objective of reversing or mitigating the intoxicating effects of alcohol. Not currently available for therapeutic purposes.

Amphetamines – A class of powerful central nervous system stimulants. Often called by street names like “speed,” intoxication with amphetamine can lead to racing heartbeat, dilated pupils, elevated blood pressure, sweating, chills, anorexia, nausea and vomiting, insomnia, and abnormal behavior (aggression, grandiosity, paranoia, and impaired judgment). Examples: amphetamine, dexamphetamine, metamphetamine.

Amnesia – Loss or disturbance of memory attributable to either organic or psychological causes, can be complete or partial, permanent or temporary.

Anterograde – loss of memories created *after* a causal incident

Retrograde – loss of memories created *before* the causal incident

Amnesic Syndrome – Chronic, prominent impairment of recent and remote memory associated with alcohol or drug use. Immediate recall is usually not affected, and

remote memory is less affected than recent. Common symptoms include impaired time sense, inability to order events, and impaired ability to learn new material. Alcohol-induced Korsakov psychosis/syndrome is often associated with Wernicke encephalopathy (see: Wernicke-Korsakov Syndrome).

Amyl Nitrite – A strong inhaled vasodilator.

Analgesic – A substance that reduces pain. Can include NSAIDs (ibuprofen, Advil, Tylenol, etc), opioids

Antagonist – A substance that counteracts the effects of another agent.

Aversion Therapy – A treatment that suppresses undesirable behavior by associating a painful or unpleasant experience with that behavior. Several forms of treatment for alcohol or drug dependence will attempt to establish a conditioned aversion to the sight, taste, smell, or thought of the misused substance. E.g. nauseant drug taken before imbibing alcohol, electric shock given in association with an unwanted behavior (drinking, looking at a needle, etc)

B

Bad Trip – Slang for an adverse effect of drug use, usually seen in hallucinogen use. Effects include: loss of control, distortions of body image, bizarre and frightening hallucinations, sweating, palpitations, nausea, etc. These may also be seen in amphetamine and sedative use.

Barbiturate – Central nervous system depressant. This type of prescription drug has a narrow therapeutic-to-toxic dosage ratio and is often toxic in overdose. Tolerance develops rapidly.

Benzodiazepine –Benzos. Prescription drugs used to treat anxiety, panic disorders, and seizures; sleep aids; muscle relaxers. Central nervous system depressants: dampen the “fight of flight” reflex. Abrupt discontinuation induces withdrawal syndrome in up to 50% of people treated for more than 6 months; frequently misused in conjunction with alcohol or in opioid dependence.

Short Acting: halazepam, triazolam; alprazolam, lorazepam; oxazepam

Long Acting: diazepam, flurazepam, prazepam

Binge – An extended period of time spent drinking alcohol, usually for a time period of more than one day. There are often intervening periods of abstinence.

Blackout – Acute anterograde amnesia resulting from the ingestion of alcohol or other substances. There is very little (if any) recall of activities during this time period.

Blood Alcohol Level (BAL) / Blood Alcohol Concentration (BAC) – The concentration of alcohol (ethanol) present in blood. It is usually expressed as mass per unit volume. A concentration of 8 parts per thousand is the “legal limit” in the United States, and is expressed as .08% (or “point oh-eight”). The BAL is extrapolated from measurements made on breath, urine, or other biological fluid. The amount of alcohol intake to reach a BAC/BAL of 0.08% may vary with the individual.

C

Caffeine – A mild central nervous system stimulant, vasodilator, and diuretic. Acute or chronic overuse (e.g. a daily intake of 500 mg or more) with resultant toxicity is called caffeinism. Symptoms include: restlessness, insomnia, flushed face, muscle twitching, tachycardia, abdominal pain, pressured or rambling thought and speech, and exacerbation of pre-existing conditions like anxiety, depression, or schizophrenia.

Cannabis – A generic term used to denote the several psychoactive forms of marijuana. Includes: marijuana leaf, forms derived from the resin of the head of the plant (bhong, ganja, or hashish), and hashish oil. See also: THC

The medicinal use of cannabis for treatment of glaucoma and to counteract nausea in cancer chemotherapy patients is documented, and its use in epilepsy disorders is currently being studied.

Carfentanyl – Carfentanyl (Carfentanil) is an analogue of fentanyl and is extremely toxic. Until very recently it was not considered an illicit substance, and is often added to or sold as heroin because it is less expensive, easier to acquire, and easier to make than genuine heroin. Because the toxic dose is so low, touching the substance, or breathing in the vicinity of the powdered form can be enough to overdose.

Cocaine – A powerful central nervous system stimulant. Was previously used as an anesthetic in dental, eye, ear,

nose, and throat surgery. Non-medically used to produce euphoria or wakefulness. Cocaine powder is sniffed/snorted, ingested orally, or injected. Repeated use of cocaine (a “run”) is typically followed by “the crash” when product use is discontinued.

Crack – Crack or rock cocaine is free base cocaine. When heated, the substance produces cracking sounds and gaseous vapor – inhaling this vapor produces an intense high 4-6 seconds later. Overdose is more frequent with this type of cocaine than any other.

Codependent – A relative, close friend, or colleague of an alcohol- or drug-dependent person, and whose actions tend to perpetuate or enable that person’s dependence and retard their recovery from abuse. The codependent person most likely also requires treatment or help in their own recovery.

Compulsion – A powerful urge – attributed to internal feelings rather than external influences – to take the substance(s) in question. The user may recognize the urge as detrimental and may consciously intend to refrain from that substance. This is less common of alcohol- and drug-dependence than of other addictive behaviors.

Controlled Substances – Psychoactive substances (and their precursors) whose distribution is forbidden by law, or limited to medical and/or pharmaceutical channels. This control is country based, but is often used to refer to drugs and precursors covered by international drug conventions. In the United States, controlled substances are classified according to schedule, the hierarchy of which reflects different degrees of restriction.

Convulsion – A seizure-like event occurring during withdrawal from or intoxication by alcohol or another drug. It is characterized by loss of consciousness, muscular rigidity, and temporary cessation of breathing, followed by random jerking of the limbs and trunk. AKA Alcohol- or drug-related fits, “rum fits”

Craving – Very strong desire for a psychoactive substance or for the intoxicating effects thereof. Thought by some to develop as a result of associations with withdrawal responses.

Cross-Dependence – The capacity of one substance or class of substances to suppress the withdrawal symptoms of another substance or class of substances and thereby maintain a physically dependent state.

Cross-Tolerance – Development of tolerance to a substance – to which the individual has not been exposed – due to acute or chronic intake of another substance. These substances usually have similar pharmacological effects. Apparent when a dose of the new substance fails to produce the expected effect.

D

Delirium – A cerebral syndrome characterized by concurrent disturbances of consciousness, attention, perception, orientation, thinking, memory, psychomotor behavior, emotion, and the sleep-wake cycle. Duration and severity are variable.

Delirium Tremens – An alcohol-induced withdrawal symptom; an acute psychotic state occurring during the withdrawal phase characterized by confusion, disorientation, paranoid ideation, delusions, illusions, hallucinations (typically visual or tactile), restlessness, distractibility, tremor, sweating, fast heart rate, and high blood pressure. Onset is usually 48 hours or more after cessation or reduction of alcohol consumption. AKA: the DTs, the horrors.

Dependence – The state of needing or depending on something or someone for support, to function, or to survive. As applied to alcohol and other drugs, it implies a need for repeated doses of the drug to feel good or to avoid feeling bad, and refers to both physical and psychological elements. It is more likely to develop if an individual is already dependent on a related substance (i.e.: you are more likely to become dependent on benzodiazepine if you are already dependent on a substance with sedating effects, like alcohol or barbiturates).

Dependence Syndrome – A cluster of behavioral, cognitive, and physiological phenomena that may develop after repeated substance abuse. Typically includes: a strong desire to take the drug, impaired control over its use, persistent use despite harmful consequences, a higher priority given to drug use than other activities/obligations, increased tolerance, and physical withdrawal reactions when drug use is discontinued.

Depressant – Any agent that suppresses, inhibits, or decreases some aspect of Central Nervous System activity. E.g.: sedatives/hypnotics, opioids, alcohol

Designer Drug – A structural or functional analog of a controlled substance that has been designed to mimic the pharmacological effects of the original drug, while avoiding classification as illegal and/or detection in standard drug tests.

Detoxification – The process by which an individual is withdrawn from the effects of a psychoactive substance. This can be a clinical procedure designed to supervise a patient during recovery, and to minimize withdrawal symptoms, while removing the patient from the drug safely and effectively: it may or may not involve administration of medication (this medication is typically a drug that shows cross-tolerance and cross-dependence to the substance taken by the patient). The dose is calculated to relieve the withdrawal symptoms without inducing intoxication, and is gradually tapered off. Self-detoxification (“going cold turkey”) denotes unassisted recovery.

Disability, alcohol- or drug-related – Any problem, illness, or other consequence of harmful use, acute intoxication, or dependence that inhibits an individual’s capacity to act normally in the context of social or economic activities. E.g.: decline in social functioning or physical activity that accompanies alcoholic cirrhosis, drug-related HIV infection, or alcohol-related traumatic injury.

Disinhibition – Release from internal constraints on an individual’s behavior. This may result from the administration of a psychoactive drug (e.g. alcohol). Also refers to the removal of an inhibitor on a neuron (rather than direct stimulation of the neuron): opioids depress the activity of dopamine-like neurons that normally inhibit the secretion of prolactin. This disinhibition leads to an increase in prolactin generation.

Disulfiram (Antabuse) – The alcohol-sensitizing drug, prescribed by a doctor to assist in maintaining abstinence from alcohol. Inhibits aldehyde dehydrogenase activity, and causes acetaldehyde to build up in the presence of alcohol, causing a facial flush, nausea, dizziness, and palpitations.

Diversion Program – Treatment or re-education for people referred from criminal court after being charged with driving under the influence (DUI) or driving while intoxicated (DWI). Individuals are assigned to diversion programs in lieu of prosecution, which is usually held as a fallback option pending successful completion of the program.

Doping – Defined by the International Olympic Committee and the International Amateur Athletic Federation as the use or distribution of substances that could artificially improve an athlete’s physical or mental condition, and thus his or her athletic performance. These substances include, but are not limited to: steroids, stimulants, beta blockers, antihistamines, and opioids.

Drunk Driving – The criminal activity of driving a motor vehicle with a blood alcohol level over a specified limit (in the United States, this limit is 8 parts alcohol per thousand units blood, or 0.08%). This legislation includes, but is not limited to: drunk driving, driving under the influence (DUI), and driving while intoxicated (DWI). These laws have been commonly extended to apply to drugged driving, generally forbidding driving with any trace of drug or alcohol in the bloodstream.

Drug – In medicine, the term refers to any substance with the potential to prevent or cure disease, or enhance physical or mental welfare. In pharmacology it refers to any chemical agent that alters the biochemical physiological processes of tissues or organisms. In common usage, it often specifically refers to psychoactive drugs, and – even more specifically – to illicit drugs for which there is non-medical in addition to medicinal uses.

Dual Diagnosis – The co-occurrence (or comorbidity) of a psychoactive substance use disorder and another psychiatric disorder in the same person. This term implies nothing pertaining to the association between the two conditions or to any etiological relationship between the two disorders.

E

Early Intervention – A therapeutic strategy that combines early detection of hazardous or harmful substance use and treatment of those involved. It is often offered before patients are aware that their substance use might cause problems, and is directed at patients who have not yet developed physical dependence or major psychosocial complications.

Employee Assistance Program (EAP) – An employment-based program allowing for treatment of an alcohol- or drug-related problem, or other mental disorder, detected on the basis of work performance or by drug screening. This is offered by some employers as an alternate to termination for a first and sometimes subsequent offence.

Enabler – Any person or social group whose actions or policies intentionally or unintentionally facilitate the continuing misuse of alcohol or other substance. See: co-dependent.

Euphoria – A sense of well-being.

Experimental Use – The first few instances of using a particular drug. This term also sometimes refers to extremely infrequent or non-persistent use.

F

Fentanyl – One of the strongest opioids on the market, it is often used for surgery recovery and breakthrough pain due to its rapid onset and short duration of action. Fentanyl (Fentanil) comes as a patch, a lollipop, a small film placed under the tongue, and a pill to be lodged in between the teeth and the cheek. The difference between a therapeutic dose and a toxic dose is very small, and fentanyl use outside of medical supervision can be deadly.

Fetal Alcohol Syndrome – A pattern of slowed growth and development – mental and physical – seen in some children of mothers whose alcohol consumption during pregnancy is classified as “hazardous.” Symptoms include cranial, limb, and cardiovascular defects; pre- and post-natal growth deficiency; microcephaly; and mental retardation or developmental delay.

Flashbacks – Post-hallucination perception disorder characterized by a spontaneous recurrence of the visual distortions, physical symptoms, or intense emotions that occurred when the individual ingested hallucinogens in the past. They may be due to fatigue, alcohol intake, or marijuana intoxication.

Freebasing – Increasing the potency of cocaine by extracting pure cocaine alkaloid (the free base) and inhaling the heated vapors through a cigarette or water pipe. The mixtures used to extract the pure alkaloid are explosive and highly flammable.

H

Habit-Forming – Having characteristics that encourage customary or regular use. When referring to drugs and alcohol, the term implies the substance has substantial dependence potential.

Halfway House – A place of residence that acts as an intermediate stage between an inpatient/residential therapeutic program and fully independent living in the community. There are halfway houses for people maintaining sobriety, those with psychiatric disorders, and those leaving prison.

Hallucinogen – A chemical that alters perception, thinking, and feeling without producing the memory and orientation impairment characteristic of functional psychoses. E.g.: lysergic acid diethylamide (LSD), mescaline, 3,4-methylenedioxymethamphetamine (MDMA/ecstasy), and phenicylidine (PCP).

Hangover – A post-intoxication state comprising the immediate after-effects of drinking alcoholic beverages in excess. Physical symptoms may include fatigue, headache, thirst, vertigo, nausea, vomiting, insomnia, hand tremors, and changes in blood pressure.

I

Idiosyncratic Reaction – An individual, unpredictable, and non-dose dependent response to any substance. Symptoms can include drowsiness, euphoria, flushing, spasms of the hands and/or feet, apnea, etc.

IDU – Injecting Drug User or Injecting Drug Use. Injections may be intramuscular, subcutaneous, intravenous (IV), etc.

Illicit Drug – A psychoactive substance, the production, sale or use of which is prohibited.

Inebriated – The state of being intoxicated.

International Drug Conventions – International treaties concerned with the control of production and distribution of psychoactive drugs.

Intoxication – A condition that follows the administration of a psychoactive substance and results in disturbances in the level of consciousness, cognition, perception, judgment, affect, behavior, or other psychophysiological functions and responses. The disturbances are related to the acute effects of and learned responses to the substance, and resolve with time (except where tissue damage or complications have arisen).

K

Kava – A drink prepared from the roots of the shrub *Piper methysticum*, widely used in the South Pacific both ceremonially and socially. It produces mild euphoria and sedation.

Khat – The leaves and buds of the East African plant *Catha edulis*, which are chewed or brewed. It is a stimulant with effects similar to those of amphetamine.

Korsakoff's Syndrome – A manifestation of Wernicke's encephalopathy observed in long-term abusers of alcohol. The disorder is caused by lack of thiamine (vitamin B1) in the brain.

M

Maintenance Therapy – Treatment of drug dependence by prescription of a substitute drug for which cross-dependence and cross-tolerance exist. The goals are to eliminate or reduce the use of a particular substance, especially if it is illegal and/or to reduce harm from a method of administration. Methadone is used in the treatment of heroin dependence, nicotine gum is used for smoking cessation.

Methadone – A synthetic opioid drug used in maintenance therapy for those dependent on opioids. It can be given orally once daily with supervision.

Misuse – Use of a substance for a purpose not consistent with legal or medical guidelines (i.e.: the non-medical use of prescription medications)

Multiple Drug Use – The use of more than one drug or type of drug by a person, often at the same time or sequentially, and usually with the intention of enhancing, potentiating, or counteracting the effects of another drug.

Mutual Help Group – A group in which participants support each other in their recovery efforts without professional therapy or guidelines. Groups exist for alcohol dependence (Alcoholics Anonymous, AA), opioids and other drugs (Narcotics Anonymous, NA), and Al-Anon (for members of alcoholic's families). These "12-step Groups" are based on a non-denominational, spiritual approach to addiction recovery.

N

Naloxone – An opioid receptor blocker that blocks the actions of opioid drugs. It reverses the features of opiate intoxication and is prescribed for the treatment of opioid overdose.

Narcotic – A chemical agent that induces stupor, coma, or insensibility to pain. The term often refers to opioids (“narcotic analgesics”). It is often used commonly to refer to any illicit drug, irrespective of their class.

Narcotics Anonymous (“NA”) – See: Mutual Help Group

Needle Sharing – The use of syringes or other injecting instruments by more than one person, especially as a method of drug administration (e.g.: heroin). This increases the risk of transmission of blood-borne viruses (e.g.: HIV, hepatitis B) and bacteria (e.g.: *Staphylococcus aureus*). Interventions like methadone maintenance and needle/syringe exchanges are designed to partly or wholly eliminate needle sharing.

Neuroadaptation – The changes in the brain seen with both tolerance to and withdrawal from a substance.

Neuroleptic – A class of drugs used for the treatment of acute and chronic psychoses. AKA major tranquilizers, antipsychotics.

Nicotine – A major psychoactive substance in tobacco. It has both stimulant and relaxing effects. It is used in the form of inhaled tobacco smoke, chewing tobacco, snuff, or nicotine gum. Considerable tolerance and dependence develop to nicotine. Sustained tobacco product use may result in lung, head, or neck cancers; heart disease; chronic bronchitis; and emphysema.

Nodding – A semi-stuporous state seen in heroin and high-dose methadone users after the euphoric effects of the drug have subsided. Symptoms include head bobbing, bowed head, and drooping eyelids.

O

Opiate – One of a group of alkaloids derived from the opium poppy (*Papaver somniferum*) with the ability to induce analgesia, euphoria, and – in higher doses – stupor, coma, and respiratory depression. This term does not include synthetic opioids.

Opioid – The generic term applied to alkaloids from the opium poppy (*Papaver somniferum*), their synthetic analogues, and compounds synthesized in the body, which interact with the same receptors in the brain (opioid receptors), have the capacity to relieve pain, and produce euphoria. These alkaloids also produce stupor, coma, and respiratory depression in high doses.

Over-The-Counter (OTC) – See: Pharmaceutical drug.

Overdose – The use of any substance in such an amount that acute, adverse physical or mental effects are produced. Deliberate overdose is a common means of suicide/attempted suicide. Overdoses (ODs) of pharmaceutical drugs are usually more common than those of illicit drugs. Overdose may produce transient or lasting effects, or death. The lethal dose varies with the individual, the type of drug, and with administration and circumstances.

P

Passive Smoking – The involuntary inhalation of smoke (usually tobacco smoke) from another person’s smoking. The term helped to draw attention to the detrimental effects of smoking on people in the smoker’s immediate environment. AKA Environmental Tobacco Smoke (ETS) exposure, Second Hand Smoke

Peripheral Neuropathy – Disorder and functional disturbance of the peripheral nerves. Symptoms include: numbness of the extremities, paraesthesia (“pins and needles”), limb weakness, muscle wasting, loss of deep tendon reflexes. Common causes include: poor nutrition, accompanied by hazardous consumption of alcohol.

Pharmaceutical Drugs – Drugs available from pharmaceutical sources (i.e. manufactured by the pharmaceutical industry or made up by a pharmacist). These drugs are available with a prescription, or sold as over-the-counter or proprietary drugs. The list of drugs requiring a prescription varies among countries, though most psychoactive pharmaceuticals require a prescription. Caffeine, antihistamines, codeine, and alcohol are the most common parts of OTC drugs.

Poisoning, alcohol or drug – A state of major disturbance of consciousness, vital functions, and/or behavior after administration of a psychoactive substance in excessive dosage.

Pseudo-Cushing Syndrome – An alcohol-induced endocrine disorder in which there is excessive production of corticosteroids by the adrenal glands. Symptoms include bloated and reddened face, obesity, and high blood pressure. It is distinguished from true Cushing Syndrome by the resolution of symptoms after (a) cessation of alcohol abuse or (b) the administration of dexamethasone.

Psychoactive Drug/Substance – A substance that, when ingested, affects mental processes (e.g. cognition or affect).

R

Recovery – Maintenance of abstinence from alcohol and/or other drug use by any means.

Recreational Use – Use of a drug – usually an illicit one – in sociable or relaxing circumstances, by implication without dependence or other problems.

Rehabilitation – The process by which an individual with a substance use disorder achieves an optimal state of health, psychological functioning, and social well-being. It encompasses a variety of approaches such as group therapy, behavior therapy, mutual help groups, inpatient therapy, vocational training, and work experience.

Reinstatement – Reversion to a pre-existing level of substance use and dependence in an individual who has resumed use following a period of abstinence.

Relapse – A return to drinking or other drug use after a period of abstinence.

Remission – Cessation of alcohol or drug misuse, dependence or problems without the benefit of therapy or a mutual help group.

Respiratory Depression – Inadequate ventilation/breathing. This causes an increased concentration of carbon dioxide in the blood and can lead to death if not treated.

Rush – An immediate, intense, pleasurable effect that follows the intravenous injection of certain drugs (e.g. heroin, morphine, amphetamine, cocaine)

S

Safety Window – A range of doses of a substance that optimize between efficacy and toxicity, achieving the greatest therapeutic benefit without resulting in unacceptable side-effects or toxicity.

Sedative/Hypnotic – A group of central nervous system depressants with the capacity of relieving anxiety and inducing calmness and sleep. Some may also induce amnesia and muscle relaxation, and/or have anticonvulsant properties. (E.g. benzodiazepines, barbituates)

Self-Help Group – See Mutual Help Group

Sobriety – Continued abstinence from alcohol and psychoactive drug use.

Steroid – One of a group of naturally occurring or synthetic hormones which affect the chemical processes in the body; growth; and sexual and other physiological functions. Anabolic steroids are related to male sex hormones, and are often misused by athletes with the aim of increasing muscle strength and performance.

Stimulant – Any agent that activates, enhances, or increases activity in the central nervous system. (E.g. amphetamines, cocaine, caffeine, nicotine, and appetite suppressants) Symptoms include increased heart rate, pupil dilation, high blood pressure, sweating, chills, nausea and vomiting, and abnormal behavior (impaired judgment, fighting, hyper-vigilance, agitation, etc).

Substance Use Disorder – Mental and behavioral disorders or conditions due to psychoactive substance use. These substances may or may not have been medically prescribed (I.E.: alcohol, opioids, cannabinoids, sedatives or hypnotics, cocaine, stimulants (including caffeine), hallucinogens, tobacco, and volatile solvents). The following checklist is used to determine the severity of the disorder (mild substance use disorder requires a minimum of 2-3 positive criteria, moderate needs 4-5, and a diagnosis of a severe disorder requires 6-7):

1. Taking the substance in larger amounts and for longer than needed
2. Wanting to cut down or quit but not being able to do it
3. Spending a lot of time obtaining the substance

4. Craving or a strong desire to use the substance
5. Repeatedly unable to carry out major obligations at work, school, or home due to use of the substance
6. Continued use despite persistent or recurring social interpersonal problems caused or made worse by use of the substance
7. Stopping or reducing important social, occupational, or recreational activities due to use of the substance
8. Recurrent use of the substance in physically hazardous situations
9. Consistent use of the substance despite acknowledgment of persistent or recurrent physical or psychological difficulties from using the substance
10. Tolerance (defined by either a need for markedly increased amounts of the substance to achieve intoxication/desired effect OR markedly diminished effect with continued use of the same amount)
11. Withdrawal manifesting as either characteristic syndrome or the substance is used to avoid withdrawal

T

THC – 9-Tetrahydrocannabinol. The most active cannabinoid of cannabis. THC and its metabolites can be detected in urine for several weeks after use.

Therapeutic Index – The ratio of the dose of drug that causes adverse effects to the dose that leads to the desired pharmacological effect.

Tobacco – Any preparation of the leaves of *Nicotiana tabacum*, a plant of the nightshade family. The main psychoactive ingredient is nicotine.

Tolerance – Requiring more and more of a substance or activity to get the same feeling or result.

Tranquilizer – A calming agent, a general term for several classes of drug employed in the symptomatic management of various mental disorders.

Twelve Step Group – See Mutual Help Group.

U

Unsanctioned Use – The use of a substance that is not approved by a society or by a group within that society. The implication is that the disapproval is accepted as a fact in its own right, without the need to determine or justify the basis of the disapproval.

W

Wernicke-Korsakov Syndrome – The combined presence of Wernicke's Encephalopathy (WE) and Korsakoff's Syndrome.

Wernicke's Encephalopathy – The presence of neurological symptoms caused by biochemical lesions of the central nervous system due to vitamin B deficiency, particularly B1 (thiamine). It is traditionally characterized by the triad of ophthalmoplegia (eye disturbances), ataxia (gait disturbances), and confusion.

Withdrawal – A syndrome of painful physical and psychological symptoms that follows discontinuance of an addicting drug. The symptoms and length of withdrawal vary depending on the substance, method of abuse, length of addiction, family history, and medical/mental health factors. In general:

Heroin and prescription painkillers: flu-like symptoms,
24-48 hours

Benzodiazepines: anxiety and/or seizures lasting weeks
or months

Cocaine: depression and restlessness, 7-10 days

Alcohol: tremors and/or seizures, 3 days to several
weeks

Wood Alcohol – Methanol

Zoopsia – Seeing animals (e.g. snakes, insects), typically as part of delirium tremens or other substance-induced confusion or hallucinatory states.

Prescription Drug Abuse

| Drug Name <i>Street Name</i> | Type and Traditional Use | Symptoms | Withdrawal |
|--|---|---|---|
| Amphetamine Dexamphetamine Metamphetamine <i>Speed</i> | Central nervous system stimulant traditionally used for treatment of narcolepsy, ADHD | Racing heartbeat, dilated pupils, high blood pressure, sweating, chills, nausea/vomiting, insomnia, abnormal behavior | Depressed mood, fatigue, extreme eating, sleep disturbance, increased dreaming |
| Amyl Nitrite <i>Poppers</i> | Inhaled vasodilator traditionally used to relieve the pain of angina pectoris and biliary colic. | | |
| Barbituate <i>Pentobarbital, phenobarbital</i> | Central nervous system depressant traditionally used in the treatment of epilepsy, pain management, sedation, and anxiety | Impaired concentration, memory, and coordination, loss of control over impulses. | Nausea, vomiting, weakness, sweating, high blood pressure, insomnia, tremor in hands and/or tongue, Grand Mal convulsions, delirium |
| Benzodiazepine <i>“-azepam” Valium</i> | Increases GABA (neurotransmitter), often used as sedatives/hypnotics, muscle relaxants, and anti-epileptics | Anterograde mnesia, paranoia, rebound insomnia, anxiety, motor impairment | |
| Caffeine | Mild central nervous system stimulant, vasodilator, and diuretic. | Restlessness, insomnia, flushed face, muscle twitching, abdominal pain, rambling thought and speech | |
| Opioid <i>Morphine, Codeine, Oxycodone, Methadone, fentanyl</i> | Interact with opioid receptors in the brain to relieve pain and produce euphoria | Analgesia, mood changes, respiratory depression, drowsiness, slurred speech, impaired concentration, memory, and judgment | Craving, anxiety, mood changes, sweating, gooseflesh, anxiety, tear production, insomnia, nausea and vomiting, diarrhea, craps, muscle aches, fever |

Information from the National Center on Addiction and Substance Abuse
(<https://www.centeronaddiction.org>)

| Cannabinoids | Street Name | Administration |
|---|---|-----------------------|
| Marijuana | Blunt, dope, ganja, grass, herb, joint, bud, Mary Jane, pot, reefer, green, trees, smoke, sinsemilla, skunk, weed | Smoked, Swallowed |
| Hashish | Boom, gangster, hash, hash oil, hemp | Smoked, Swallowed |
| Acute Effects | | |
| Euphoria, relaxation, slowed reaction time, distorted sensory perception, impaired balance and coordination, increased heart rate and appetite, impaired learning & memory, anxiety, panic attacks, psychosis | | |
| Health Risks | | |
| Cough, frequent respiratory infections, possible mental health decline, addiction | | |

| Opioids | Street Name | Administration |
|---|---|---------------------------|
| Heroin (Diacetylmorphine) | Smack, horse, brown sugar, dope, H, junk, skag, skunk, white horse, China white; cheese (when added to OTC cold medicine and antihistamine) | Injected, Smoked, Snorted |
| Opium | Laudanum, big O, black stuff, block, gum, hop | Swallowed, Smoked |
| Acute Effects | | |
| Euphoria, drowsiness, impaired coordination, dizziness, confusion, nausea, sedation, feeling of heaviness in the body, slowed or arrested breathing | | |
| Health Risks | | |
| Constipation, endocarditis, hepatitis, HIV, addiction, fatal overdose | | |

| Stimulants | Street Name | Administration |
|--|---|--------------------------------------|
| Cocaine (Cocaine hydrochloride) | Blow, bump, C, candy, Charlie, coke, crack, flake, rock, snow, toot | Snorted, Smoked, Injected |
| Amphetamines (Biphphetamine, Dexedrine) | Bennies, black beauties, crosses, hearts, LA turnaround, speed, truck drivers, uppers | Swallowed, snorted, smoked, injected |
| Methamphetamine (Desoxyn) | Meth, ice, crank, chalk, crystal, fire, glass, go fast, speed | Swallowed, snorted, smoked, injected |
| Acute Effects | | |
| Increased heart rate, blood pressure, body temperature, metabolism; feelings of exhilaration; increased energy, mental alertness; tremors; reduced appetite; irritability; anxiety; panic; paranoia; violent behavior; psychosis | | |
| Health Effects | | |
| Weight loss, insomnia, cardiac or cardiovascular complications, stroke, seizures, addiction, also: <i>Cocaine</i> - nasal damage from snorting, "snow lights" (hallucinations), birth defects in fetuses of users <i>Methamphetamine</i> - dental problems | | |

| Club Drugs | Street Names | Administration |
|--|--|------------------------------|
| MDMA (Methylenedioxy Methamphetamine) | Ecstasy, Adam, clarity, Eve, lovers' speed, Molly, peace, uppers | Swallowed, snorted, injected |
| Flunitrazepam (Rohypnol) | Date Rape Drug, forget-me pill, Mexican Valium, R2, roach, roche, roofies, roofinol, rope, rophies | Swallowed, snorted |
| GHB (Gamma-hydroxybutyrate) | G, Georgia home boy, grievous bodily harm, liquid ecstasy, soap, scoop, goop, liquid X | Swallowed |
| Acute Effects | | |
| <p><i>MDMA</i> - mild hallucinogenic effects, increased tactile sensitivity & empathic feelings, lowered inhibition, anxiety, chills, sweating, teeth clenching, muscle cramping</p> <p><i>Flunitrazepam</i> – sedation, muscle relaxation, confusion, memory loss, dizziness, impaired coordination</p> <p><i>GHB</i> – drowsiness, nausea, headache, disorientation, loss of coordination, memory loss</p> | | |
| Health Risks | | |
| <p><i>MDMA</i> - sleep disturbances, depression, impaired memory, hyperthermia, addiction</p> <p><i>Flunitrazepam</i> - addiction</p> <p><i>GHB</i> – unconsciousness, seizures, coma</p> | | |

| Dissociative Drugs | Street Names | Administration |
|---|--|-----------------------------|
| Ketamine Ketalar SV | Cat Valium, K, Special K, vitamin K | Injected, snorted, smoked |
| PCP Phencyclidine | Angel dust, boat, hog, love boat, peace pill | Swallowed, smoked, injected |
| Salvia Divinorum | Salvia, Shepherdess's Herb, Maria Pastora, magic mint, Sally-D | Chewed, swallowed, smoked |
| Dextromethorphan (DXM) Found in some cough/cold medicine | Robotripping, Robo, Triple C | Swallowed |
| Acute Effects | | |
| <p>Feelings of being separate from one's body and environment, impaired motor function, also:</p> <p><i>Ketamine</i> – analgesia, impaired memory, delirium, respiratory depression and arrest, death</p> <p><i>PCP</i> – analgesia, psychosis, aggression, violence, slurred speech, loss of coordination, hallucinations</p> <p><i>DXM</i> – euphoria, slurred speech, confusion, dizziness, distorted visual perceptions</p> | | |
| Health Risks | | |
| Anxiety, tremors, numbness, memory loss, nausea | | |

| Hallucinogens | Street Names | Administration |
|---|---|--|
| LSD (Lysergic acid diethylamide) | Acid, blotter, cubes, microdot, yellow sunshine, blue heaven | Swallowed, absorbed through gums & cheeks |
| Mescaline | Buttons, cactus, mesc, peyote | Swallowed, smoked |
| Psilocybin | Magic Mushrooms, purple passion, shrooms, little smoke | Swallowed |
| Acute Effects | | |
| <p>Altered states of perception and feeling, hallucinations, nausea. Also: <i>LSD and mescaline</i> - increased body temperature, heart rate, & blood pressure; loss of appetite; sweating; sleeplessness; numbness; dizziness; weakness; tremors; impulsive behavior; rapid shifts in emotion <i>Psilocybin</i> - nervousness, paranoia, panic</p> | | |
| Health Risks | | |
| <p><i>LSD</i> - flashbacks, hallucinogen persisting perception disorder</p> | | |

| Other Compounds | Street Names | Administration |
|---|--|---|
| Anabolic Steroids Anadrol, Oxandrin, Durabolin, Depo- Testosterone, Equipoise | Roids, juice, gym candy, pumpers | Injected, swallowed, applied to skin |
| Inhalants Solvents (paint thinners, gasoline, glues) Gases (butane, propane, aerosol propel- lants, nitrous oxide) Nitrites (isoamyl, isobutyl, cyclohexyl) | Laughing gas, poppers, snappers, whippets | Inhalation (nose or mouth) |
| Acute Effects | | |
| <p><i>Steroids</i> - no intoxication effects, high blood pressure, blood clotting and cholesterol changes, liver cysts, hostility and aggression, acne in adolescents—premature stoppage of growth in males—prostate cancer, reduced sperm production, shrunken testicles, breast enlargement in females—menstrual irregularities, development of beard and other masculine characteristics <i>Inhalants</i> - (varies by chemical) stimulation, loss of inhibition, headache, nausea or vomiting, slurred speech, loss of motor coordination, wheezing</p> | | |
| Health Risks | | |
| <p><i>Steroids</i> - high blood pressure, blood clotting and cholesterol changes, liver cysts, hostility and aggression, acne in adolescents - premature stoppage of growth in males—prostate cancer, reduced sperm production, shrunken testicles, breast enlargement in females—menstrual irregularities, development of beard and other masculine characteristics <i>Inhalants</i> - cramps, muscle weakness, depression, memory impairment, damage to cardiovascular and nervous systems, unconsciousness, sudden death</p> | | |

Opioid/Addiction Resource Guide

Delaware

PREVENTION

Addiction No More: The Heroin Addiction Help Line For Delaware

1-800-819-9973

<http://addictionnomore.com/heroin-addiction-treatment-programs-delaware>

Delaware Adolescent Substance Abuse Facts

www.hhs.gov/ash/oah/facts-and-stats/national-and-state-data-sheets/adolescents-and-substance-abuse/delaware/index.html

Department of Services for Children, Youth and Their Families

Statewide – 302-633-2600

<https://kids.delaware.gov/pbhs/pbhs.shtml>

Help is Here DE

<http://www.helpisherede.com/>

Heroin Alert Program

(302) 395-8062

www.heroinalert.org

Office of Adolescent Health, U.S. Department of Health & Human Services

855-DRUGFREE (378-4373)

www.hhs.gov/ash/oah/

ParentsStepUp.org

<http://parentstepup.org/>

Partnership for Drug-Free Kids

www.drugfree.org/

Prescription Drug Action Committee

<http://dhss.delaware.gov/dhss/dph/pdachome.html>

Red Clay School Nurses

<http://www.smartmovessmartchoices.org/resources>

Resources for talking with teens

www.hhs.gov/ash/oah/ersources-and-publications/info/parents/just-facts/

Strategic Prevention Framework

<http://dhss.delaware.gov/dhss/dsamh/prevention.html>

Substance Abuse and Mental Health Services Hotline

800-662-HELP (4357)

ARS New Castle

302-323-9400

<https://arshealth.com/>

Brandywine Counseling

Wilmington, Newark, Claymont, Georgetown, Ellendale

302-656-2348

<http://www.brandywinecounseling.org/>

Brandywine Counseling RISE Program

Wilmington – 302-302-5915, 302-346-5080

<http://www.brandywinecounseling.org/>

Catholic Charities

Wilmington, Dover, Georgetown

302-655-9624, 302-674-1600, 302-856-9578

Claymont Clinic

Claymont – 302-792-0700, 410-620-6077

<http://www.claymontclinic.com/>

Connections Community Support

Statewide – 866-477-5345

<http://www.connectionsensp.org/>

Division of Substance Abuse and Mental Health

Wilmington, Ellendale

302-300-3105, 302-424-5680

<http://dhss.delaware.gov/dhss/dsamh/>

Dover Behavioral Health

Dover, Georgetown

302-741-0140, 855-609-9711

<http://www.doverbehavioral.com/>

Fellowship Health Resources

Georgetown, Seaford, Millsboro

302-856-1066, 302-507-3561, 302-934-1861

<https://www.fhr.net/>

Gaudenzia Fresh Start of Delaware

Wilmington – 302-737-4100

<http://www.gaudenzia.org/>

Gateway Foundation

Smyrna – 877-505-4673

<http://recovergateway.org/drug-rehab-centers/delaware/>

Kent Sussex Community Services

Dover, Georgetown, Laurel

302-735-7790

<http://www.kscs.org/>

Mid-Atlantic Behavioral Health

Newark – 302-224-1400

<https://www.midatlanticbh.com/>

Narcotics Anonymous

Statewide – 1-800-317-3222

<https://www.smallwonderarea.org/>

Open Door

Wilmington, Claymont, Newark, Seaford, Dover

302-731-1504, 302-731-1504, 302-798-9555, 302-731-1504, 302-678-4911

PACE

Wilmington – 302-999-9812

<http://paceinonline.com/>

Psychotherapeutic Services

Dover – 302-674-3366

<http://www.psychotherapeuticservices.com/>

Project ENGAGE

Newark

<https://christianacare.org/services/behavioralhealth/project-engage/>

Recovery Centers of America

Wilmington – 1-800 RECOVERY

<https://recoverycentersofamerica.com/locations/outpatient-locations/delaware/>

Recovery Innovations

Wilmington, Ellendale

302-300-3111, 302-300-3105, 302-424-5680

<https://riinternational.com/>

Resources for Human Development

Wilmington, Dover, Seaford

302-998-3624, 302-735-4750, 302-536-7090

<https://www.rhd.org/>

Salvation Army Rehabilitation Program

Wilmington – 302-654-8808

<http://www.salvationarmyusa.org/usn/adult-rehabilitation>

SODAT Delaware

Wilmington – 302-656-4044

Sojourners Place

Wilmington – 302-764-4713

<http://www.sojournersplace.org/index.html>

Thresholds

Milford, Georgetown, Lewes

302-856-1835

<http://thresholdsinc.com/>

EDUCATION

Delaware Adolescent Substance Abuse Facts

<https://www.hhs.gov/ash/oah/facts-and-stats/national-and-state-data-sheets/adolescents-and-substance-abuse/delaware/index.html>

AtTacK Addiction

<http://www.attackaddiction.org/>

Community Anti-Drug Coalition

<http://www.cadca.org/>

Get Smart About Drugs

<https://www.getsmartaboutdrugs.gov/>

High Intensity Drug Trafficking Areas Program

<https://www.whitehouse.gov/ondcp/high-intensity-drug-trafficking-areas-program>

Hope Street DE

<http://www.hopestreetde.com/>

University of Delaware Center for Drug and Health Studies

<https://www.cdhs.udel.edu/>

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CCHS 1100 Kara Odom Walker, MD, MPH, MSHS, Delaware Department of Health and Social Services
- Aug 25 @ 12** [Updates in Christiana Care Trauma Research](#)
CCHS 1100 Mark Cipolle, MD, PhD, FACS, FCCM, Christiana Care Health System
- Sep 7 @ 12** [Variable Selection Methods for Predictive Models](#)
Ammon 14 Paul Kolm, PhD, Value Institute, Christiana Care Health System
- Sep 8 @ 12** [Ethical Challenges of Mental Health Care in Jails and Prisons](#)
CCHS 1100 Dominic A. Sisti, PhD, Medical Ethics & Health Policy, University of Pennsylvania
- Sep 22 @ 12** [Nutrition and its Impact on Medical Inpatients](#)
CCHS 1100 Michael T. Vest, DO, Pulmonary and Critical Care Medicine, Christiana Care Health System
- Sep 29 @ 12** [Public Health, Medicine and Policing](#)
CCHS 1100 Evan D. Anderson, JD, PhD, Biobehavioral Health Sciences, University of Pennsylvania
- Oct 5 @ 12** [Developing a Risk Scoring Tool for Elective Surgeries](#)
CCHS 1E80 Richard Caplan, PhD, Value Institute, Christiana Care Health System
- Oct 13 @ 12** [Improving Care in the NICU: Research That Matters](#)
CCHS 1100 David Paul, MD, Christiana Care Health System

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From the history and archives collection

Although our understanding of opioid addiction has expanded considerably over the past decades, archival evidence indicates historical awareness of the habit-forming capabilities of opioid-derived drugs. The fourth edition of Gould's *30000 Medical Words Pronounced and Defined* (1907) recognizes the dangers of "morphin," defining the terms "morphinomania," as "a morbid desire for morphin," and "morphinism" as "the morbid state produced by the excessive use of morphin." A similar acknowledgment appears in an emergency drug kit manufactured by Wyeth during the mid-20th century. The emergency vials containing morphine and meperidine both bear labels cautioning, "Warning - May be Habit-Forming."

