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ATLANTIC #1: (New York, New Jersey, Pennsylvania, Delaware)

The main drugs of abuse in Mid-Atlantic region are heroin, cocaine, marijuana, fentanyl, and methamphetamine. Heroin is a synthetic opioid that is processed from morphine in poppy plants. Its scientific name is Diacetylmorphine and slang terms are 'H', horse, brown, or china white. It is used as a recreational drug for its euphoric effects and is medically used to relieve pain. Cocaine is a stimulant drug that is obtained from the leaves of coca plants. Popular nicknames include coke, crack, and snow. Its effects include increased mental alertness, euphoria, and increased energy. Marijuana, the most commonly abused illegal drug worldwide, is a psychoactive drug that is often known as cannabis, weed, pot or joint. Tetrahydrocannabinol is the chemical responsible for most of its psychoactive effects such as euphoria, hallucinations and delusions. Fentanyl, under the common brand name Actiq, is a synthetic opioid used as a severe pain medication. It is used in the intravenous form as an anesthetic (Sublimaze), or as a highly potent analgesic in the transdermal patch (Duragesic) or the newer lollipop formulation. Its street names include apacite, and murder 8. Additionally, "According to the Drug Abuse Warning Network (DAWN), there were over 155 emergency department mentions associated with methamphetamine in the state of New Jersey" (New Jersey Interventions, 2016). It is a stimulant that speeds up the body's system and is available as pill or powder. It is also available in prescription as Desoxyn to treat obesity.

D. “Crystal meth resembles glass fragments and is an illegally altered version of the prescription drug that is cooked with other drugs in meth labs” (Get Smart About Drugs, 2017). Methamphetamine street names are Meth, Speed, Ice, Shards, B, Stove Top, Tweak, Yaba, Trash, Chalk, Crystal, Crank, and Shabu. In New York, New Jersey, Pennsylvania and Delaware, cocaine, marijuana and fentanyl are all illegal. Heroin and marijuana are Schedule I drugs. Cocaine, fentanyl and methamphetamine are schedule II drugs.

There are several routes of drug entry for the Mid-Atlantic states. Online anonymous marketplaces called the “Dark Web” allow customers to easily and conveniently purchase it on the website and it ships straight to the client’s doorstep. Pennsylvania is an extensively traveled I-95 corridor that is connected to many metropolitan areas such as New York, Boston, and Miami. This area is a major drug trafficking route that leads to distribution of illegal drugs throughout the state. Also, there are various entry points where drugs are delivered by direct street commerce, local distribution networks, or parcel services that are trafficked primarily by Hispanic men. Delaware has numerous highways that are used for the transportation of drugs to and from the state. Traffickers primarily use private vehicles to ship goods into and throughout the state using U.S. Highways 13 and 113. Most drugs are transported wholesale and retail quantities from New York and Pennsylvania. Drugs are also secretly produced within the region for pharmaceutical or recreational use.

There are often cultural stereotypes about socioeconomic status and drug use such that drug use primarily affects the poor as a means to cope with their stress and poverty. However, drug misuse affects people from all socioeconomic groups and without geographic or socioeconomic boundaries. Middle-class and higher-income neighborhoods are also likely to partake

se due to their financial resources and social activities. In regards to drug addiction, lower income individuals have a higher prevalence for abuse and overdose due to limited access to treatment programs and rehab facilities, and lack of education on the risks of drug abuse. The age demographic for Heroin is 18-25 years old, cocaine is 26 years old and older, marijuana is 18-25 years old and for fentanyl is 19-57 years old.

As for opioid prescribing, in 2016 Pennsylvania was the 26th highest in the country, where practitioners wrote an average of 80 opioid prescriptions per 100 persons (CDC, 2017). This is the most recent data available for Pennsylvania. In 2015, healthcare providers in Delaware wrote 80 prescriptions for every 100 persons, a total of 768,974 prescriptions for opioid pain relievers (NIH, 2018). In 2015, prescribers in NYS wrote 51.3 opioid prescriptions per 100 persons, which is less than the national rate of 71.3 prescriptions per 100 persons (NIH, 2018). As for New Jersey, providers wrote 55 prescriptions per 100 persons, which was also less than the national rate of 70 opioid prescriptions per 100 persons (NIH, 2018). Current data on oversight of local pharmacy opioid prescribing is not available.

Heroin is known for its highly addictive nature and has a high potential for abuse. It acts by binding to opiate receptors in the brain and spinal cord, and sensory nerves to trigger the release of dopamine. This induces euphoria and reduces pain sensation. Adverse effects related to toxicity of heroin include slow heart rate and breathing, blue lips, seizures, muscle spasms, and death. Cocaine has a considerable potential for abuse. It acts by increasing the concentration of monoamines (dopamine, serotonin, norepinephrine) in the synaptic cleft by inhibiting the monoamine reuptake transporter function. This mechanism produces euphoria and mental alertness. Abuse of cocaine can cause adverse effects such as tachycardia, hallucinations, heart attack, or respiratory failure. Marijuana

ially addictive drug where the chemical THC is responsible for the psychoactive effects of the drug. When a person uses marijuana, THC is bound to the cannabinoid receptors located in the brain and activates the release of dopamine that relaxes the mind and produces euphoria. Adverse reactions include short-term memory impairment, alteration in sensory perception, reduced motor control, and anxiety. Fentanyl is a potent, addictive drug that has a high potential for abuse. It is an opioid agonist that binds tightly to opioid receptors (Mu, Kappa, Delta) found in the CNS, spinal cord, and GI tract. Effects of analgesia and alteration of pain are produced and adverse effects are reduced nervous system function, hallucinations, fever, and labored breathing. Amphetamine causes the release of the neurotransmitters dopamine, norepinephrine and serotonin and activates the sympathetic and central nervous systems. Common side effects may include headache, insomnia, dry mouth, weight loss, and irritability. According to the American Dental Association (ADA), meth abuse can cause distinctive patterns of decay on the buccal surfaces of the teeth and the inside edges of the incisors and canine teeth.

Drug overdose is now the leading cause of death for Americans under the age of 50. The New York Times describes it as ‘the drug overdose epidemic in American history.’ In 2015, more people died from drug overdose than from car accidents and suicides combined (NCHS, 2016). In 2016, all four states exceeded the national death rate from overdose of 13.3% per 100,000. In New York, number of deaths related from prescription opioid almost doubled to 1,100 deaths. The largest increase in heroin deaths occurred in New Jersey. It went up from 97 in 2010 to 850 in 2016. At the same time, the number of deaths from synthetic opioid increased from 35 to 689 between 2010 and 2016. In New York, heroin-related deaths doubled since 2012, while deaths related to synthetic opioid increased ten-fold during the same period. Similarly, Pennsylvania’s heroin overdose death rate

31 to 926; synthetic opioid overdose deaths have increased from 98 to 1309 and prescription opioid overdose death rates have increased from 411 to 729 deaths since 2010 (NIDA, 2018).

In response to the opioid crisis, the U.S. Department of Health and Human Services (HHS) is working to improve access to emergency services, promote the use of overdose reversing drugs, improve public service surveillance, and advance better practice management. The National Institutes of Health is the nation's medical research agency and is working on discovering more effective ways to prevent drug misuse, treat overdose, and manage pain. Research has shown that FDA-approved medication-assisted treatment such as buprenorphine is crucial in overcoming the nation's opioid crisis. The Comprehensive Addiction and Recovery Act (CARA) of 2016 allows more healthcare professionals to seek a federal waiver to prescribe buprenorphine for opioid use disorder. Extended prescribing privilege will allow access to more treatment options.

The Opioid Crisis Review Act (OCRA) of 2018 offers state and local resources to expand treatment and recovery options. Some of the interventions include law enforcement efforts against illegal drugs and reducing the overprescription of opioids. Through OCRA, there are "Comprehensive Opioid Recovery Centers," to serve communities that have lack of access to treatment centers. The bill provides approximately 500 million dollars a year to connect individuals to community-based treatment, increase the availability of naloxone (opioid antagonist), and aid the opioid crisis helpline.

The ongoing U.S. opioid crisis is affecting many individuals, newborns, families, and communities. Opioids were meant to treat chronic pain but is now widely misused and highly addictive for other purposes such as for its euphoric and calming

ies. Local health departments are playing critical roles in their communities to respond to this growing opioid crisis. There education, surveillance, and improvement in treatment and recovery services for those who are affected. State legislatures king measures on regulating pain clinics and researching new drugs for pain management that will not be addictive. The n king together to put an end to this crisis that causes approximately 115 Americans to die each day due to overdose.

The news article “How fentanyl, The Deadly Synthetic Opioid, Took Over Pennsylvania” by Aubrey Whelan tells of a 38-y man from Kensington, Pennsylvania who had overdosed on Fentanyl the first time she tried it. She had been an heroine addic ars but due to the high accessibility of Fentanyl, she and other longtime heroine users was forced to adapt to the more potent d ason for the high popularity of Fentanyl is because it is significantly cheaper, addictive, powerful, and draws a larger profit th e. The article states “it's pretty much largely — but not completely — replaced most of the heroin supply in Philadelphia” (W There has been a shift from fear of the deadly synthetic opioid to more of an acceptance in the community. The community is that most of the city’s heroin supply contains fentanyl and does not try to avoid using it. More people are attracted to it for the iced high” even if they know that it can be deadly and dangerous. Fentanyl-users in the community report that the withdrawal oms are increasingly severe that the only thing that relieves it is the drug. This type of story is common for this community bec popularity of the use of Fentanyl; it is responsible for 84% of the fatal overdoses in Pennsylvania in 2017. There is a high dem: uch stronger drug than heroin and Fentanyl is exactly what the community wants. Not only is it easily smuggled through drug

king organizations, but also Fentanyl can be produced in labs at homes. Fentanyl's convenience of access, dangerously addictive and cheap costs are what makes it so popular in Pennsylvania.

www2.philly.com/philly/health/fentanyl-synthetic-opioid-drug-overdoses-philadelphia-pennsylvania-20181024.html

As a dental hygienist who practices in a region where drug-abuse is common, I believe it is my role to educate my patient on the effects of drugs on the oral cavity but also on the body. An active role for a hygienist is to prevent oral diseases before the point of having to treat them by a doctor. I would cautiously review the medical history as well as the current active drugs the patient is taking and interview the patient in regards to the drug abuse. I would document what the patient reports and all conditions that the patient clinically presents with. I believe it is important to build a relationship with the patient in order for them to speak openly about their condition and so that the patient will be motivated to stop their addiction as well as obtain the necessary dental care. Each patient struggling with drug addiction should be treated carefully, sensitively, and effectively. A thorough extraoral and intraoral examination should be performed in order to see if the patient presents with anything that isn't within normal limits. This allows the hygienist to see if there are any cancerous lesions and to detect it at an early or pre-malignant stage when it is confined to the epithelial layers. Early detection and treatment leads to less complications and less extensive treatments over time.

Patients who have a history of drug-abuse may present with poor oral hygiene, decayed and missing teeth, and may experience side effects with certain anesthetics. Introducing appropriate aids for proper oral hygiene, full mouth debridement with

ropriate pain management, and referrals to another healthcare professional are amongst the many treatments we can provide to our patients. I believe hygienists should be knowledgeable of the effects of drugs on the oral cavity so we can clinically detect certain conditions. Motivating a patient to quit certain drugs due to the negative effects on the oral cavity and body is also an important role. Especially if a hygienist is practicing in a region where drug-abuse is common, I believe the hygienist should remain current on the latest research. In order for a rapport relationship to form between the hygienist and the patient, the hygienist needs to be informed and knowledgeable. I believe it is the hygienist's duty to educate the patient on so he/she can make the most effective treatment plan for the patient.

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