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This newsletter is provided by the Lorain County Crime/Drug Lab discussing technical and general information dedicated to local agencies within Lorain County. The information has been collected from various sources and journals.



Explosions of Vape Pens

An electronic cigarette, or Vape, is a battery powered device that uses a cartridge with flavored nicotine liquid. The device heats the liquid into a vapor that is inhaled by the user. Beyond the typical health problems of using nicotine products, users are at risk for burns, tooth loss, or death from explosion. There was an estimated 2,000 e-cigarette explosions and burns from 2015-2017.

A Nevada teen arrived at a pediatric hospital with a shattered jaw along with bleeding and broken teeth from an exploding vape. Two people have died from projectiles of e-cigarette explosions. Bystanders can be harmed, such as a 14 year-old that was blinded by an explosion of a vape at a mall and another teen was burned from an explosion of an e-cigarette in another person's pocket.

The FDA gives tips for avoiding vape battery explosion.

- Only use Vapes with safety features such as fire button locks, vent holes, or over-charging protection. Don't remove or disable safety features.
- Do not charge Vapes overnight. Always keep charging Vapes someplace easily seen. Charge your vape on a clean, flat surface.
- Replace wet or damaged batteries
- Make sure you read and understand the manufacturer's recommendations for use and care of your device.
- Only use batteries recommended for your device. Don't mix different brands of batteries, use batteries with different charge levels, or use old and new batteries together.
- Protect your vape from extreme temperatures by not leaving it in direct sunlight or in your car on a freezing cold night.

Sources:

<https://www.abc15.com/news/national/vape-explodes-in-teenagers-face-shatters-his-jaw>

<https://www.fda.gov/tobacco-products/products-ingredients-components/tips-help-avoid-vape-battery-explosions>



Fake Urine Could Be Banned

Lawmakers in Ohio are racing to find solutions towards solving Ohio's growing opioid epidemic. Senate Bill 156, introduced by Senator Theresa Gavarone, would prohibit the manufacturing, sale, or possession of synthetic urine – a substance which is becoming increasingly popular as a means to defeat drug tests. Ohio isn't the only state considering enacting legislation on a synthetic urine ban, as according to the National Conference of State Legislatures, at least 18 states have enacted similar legislation.

Concerns surrounding the use of fake urine go beyond just fooling drug tests, as drug use continues to put the lives of both the users and the public in danger. In 2017, Ohio alone had 4,293 reported deaths stemming from drug overdoses. By banning synthetic urines, senators such as Gavarone hope to combat the ever-growing drug epidemic facing the country.

Written and compiled by Nathan Dohanos

Sources:

<http://www.ohiosenate.gov/senators/gavarone/news/gavarone-introduces-bill-to-ban-synthetic-urine-in-effort-to-improve-public-safety>

<https://www.drugabuse.gov/opioid-summaries-by-state/ohio-opioid-summary>

Vinpocetine Warning

The FDA issued a warning about nutritional supplements containing Vinpocetine. *Taken during pregnancy, vinpocetine could cause fetal harm or miscarriage.* Other side effects are: flushing, nausea, dizziness, dry mouth, blood pressure problems, headache and heartburn. Vinpocetine is sold as a sports supplement, brain enhancer, and weight loss supplement. The benefits of vinpocetine have not been proven and are not recommended by legitimate medical sources. Supplements may be labeled vinca minor extract, lesser periwinkle extract, or common periwinkle extract.

Sources:

<https://www.fda.gov/news-events/press-announcements/statement-warning-women-childbearing-age-about-possible-safety-risks-dietary-supplements-containing>



Increased Use of Marijuana during Pregnancy

The National Survey on Drug Use and Health (NSDUH) is reporting that cannabis use has more than doubled during pregnancy between 2002-2017. Cannabis use was more common during the first trimester. Medicinal cannabis was relatively rare, but just as frequent among pregnant as non-pregnant people. **Cannabis use during pregnancy could cause low birth weight.** The NSDUH study emphasizes the need to screen and intervene for cannabis use among all pregnancies and underscores the need for additional research to assess fetal outcomes related to prenatal cannabis exposure.

Source:

<https://www.drugabuse.gov/news-events/news-releases/2019/06/study-finds-increased-cannabis-use-during-pregnancy>

Opioid Addiction Vaccination

Could a vaccination help people suffering from Opioid addiction? The National Institute of Allergy and Infectious Diseases (NIAID) is awarding grants for researchers developing vaccinations against heroin and fentanyl. The grants will be awarded summer 2020.

Researchers have been looking for a way to stop drugs of abuse with antibodies since the 1990's. Antibodies attach to the drug and prevent it from reacting with the brain. After repeat use of a drug without the high, the desire for the drug will eventually diminish. A vaccination would be another tool for people in treatment for opioid abuse.

Source:

<https://www.genengnews.com/insights/nih-solicits-research-into-vaccines-to-protect-against-opioid-use/>

Second Hand Drinking

For decades the CDC has issued warning about the health problems and deaths associated with second hand smoking. A new study published in the Journal of Studies on Alcohol and Drugs estimates that in a year about 1 in 5 people in the United States have experienced harm from someone else's alcohol consumption.

Examples from the study: Women are more likely to be harmed by close partners, parents, and siblings. Men are more likely to experience physical acts of aggression by strangers.

The study recommends the need to not only give medical intervention for people who drink heavily, but also the people who live with heavy drinkers.

Source: <https://gizmodo.com/one-in-five-americans-get-hurt-by-someone-elses-drinkin-1836015431>



Ohio's Efforts in Combating Shifting Drug Crisis

As Ohio continues the fight against the Opioid Epidemic, a rise is seen in overdose deaths involving methamphetamine and other stimulants. Researchers report that the total of Ohio overdose deaths involving psychostimulants significantly grew from nine deaths in 2010 to 509 deaths in 2017. Dennis Lowe, commander of a multijurisdictional law enforcement task force in Ohio, reported that during that time frame “domestic, homemade meth labs transitioned to a purer, cheaper product from Mexican cartels into the local market”. Due to an outpouring of legislation specifically targeting the opioid crisis, accessible resources addressing other drugs are scarce. Lowe also reports that unfortunately, Federal grants are particular to the opiate crisis and cannot be utilized for “the treatment, rehab, prevention programs, or enforcement efforts on methamphetamine”.

States receive federal funds for opioids mainly through two grants; State Targeted Response and State Opioid Response. The sustainability of programs created by states is uncertain due to funding only being guaranteed a few years. Drug policy experts are also bringing to attention that opiate funding may not be sufficient in improving the mental health care system. The need to understand the underlying cause for why so many Americans are struggling with drug addiction is critical in the response to “patients living with an addiction of any kind”, as stressed by Leo Beletsky, an associate professor of law and health sciences at Northeastern University in Boston. According to Bertha Madras, a psychobiology professor at Harvard Medical School, as more individuals battling addictions are identified and the use of other substances rise in popularity, the “nation’s focus will need to change.”

In June of 2019, Ohio Republican Senator Rob Portman introduced legislation that would allow states to use federal grants aimed for the opioid epidemic to address the increase in deaths from other drugs. Additionally, “Sen. Portman’s bill would authorize the program for five years, providing \$500 million annually.” Sen. Portman urged the importance of providing flexibility in funding for treatment and prevention and recognized the necessity to battle addiction as a whole, not just specific to individual drugs.

Written and compiled by Marci Murphy.

Sources:

Newman, Katelyn (2018, Nov. 8). *In Ohio, Signs of a Shifting Drug Crisis*. Retrieved from www.usnews.com

Kaiser Health News (2019, June 17). *With Restricted Funding, States Struggle Against Meth*. Retrieved from

www.usnews.com

Easton, Sabrina (2019, June 20). *Sen. Rob Portman seeks funds to fight rising meth and cocaine deaths in Ohio*.

Retrieved from www.cleveland.com

Walton, Bruce (2019, June 27). *Mental Health and Alcohol and Drug Addiction Services boards merge Monday*.

Retrieved from www.chroniclet.com



What is Psilocybin?

Psilocybin is a drug found naturally in some types of mushrooms that grow in Mexico, South America, and parts of the United States. Fresh or dried mushrooms can be eaten or brewed into teas. Sometimes called Magic Mushroom, the side effects of use are

- Hallucinations and Flashbacks
- Altered time perception and memory problems
- Panic
- Muscle relaxation/weakness
- Nausea/Vomiting
- Drowsiness

Federally, the DEA has this drug classified as schedule I, meaning there is no medical use and there is a high potential for abuse. Two U.S. cities have decriminalized Psilocybin, and three states are considering decriminalization. Proponents of legalization of these mushrooms claim spiritual and health benefits. Some claim Psilocybin is an alternative treatment to opioid addiction. The FDA has not approved these mushrooms for treatment of any medical condition.

Source:

<https://www.drugabuse.gov/drugs-abuse/commonly-abused-drugs-charts#psilocybin>
<https://www.usatoday.com/story/news/nation/2019/05/08/denver-decriminalizes-magic-mushrooms-historic-vote/1147857001/>

Drug Use Associated (DUA) Infections

Overdose is not the only health concern of drug abuse. An emerging health crisis is DUA infective endocarditic (IE). IE is an infection of the inner lining of the heart. If untreated by antibiotics or surgery, the infection can damage the heart leading to complications or death. People who use intravenous drugs are at a higher risk for IE.

A study of DUA IE hospitalizations in North Carolina showed a twelfold increase between 2007 and 2017. This appears to be tied to the introduction of fentanyl and its analogs, and the use of stimulants such as Methamphetamine. DUA IE patients tend to be younger than non DUA IE, needing more surgeries and incurring more costs, especially if the drug abuse is not treated.

Sources:

<https://www.oregonlive.com/health/2019/06/spike-in-multnomah-county-hiv-cases-tied-to-drug-use.html>
<https://www.mayoclinic.org/diseases-conditions/endocarditis/symptoms-causes/syc-20352576>

“The Latest Fissure in the Opioid Crisis” by Kristin Harper; Clinical Laboratory News, June 2019.



Your DNA Could Solve Crime

Breakthroughs in DNA-analyzing technology have enabled crime solvers to crack previously unsolved murders within the past year thanks to innovations in genetic genealogy. DNA, or deoxyribonucleic acid, is the hereditary material found in almost all organisms, including humans, which is found within every cell in the body. Advances within genetic genealogy, a process in which it is possible to determine how closely related two or more samples of DNA are, have allowed investigators to gather leads on unknown subjects and identify a potential perpetrator using the DNA of a relative.

One such example of a case solved by genetic genealogy was the murder of Susan Galvin, a 20-year-old who was found raped and strangled in a parking garage elevator in Seattle in 1967. During the investigations, dozens of people were questioned, but only one potential suspect was identified – a former clown who had retired from his job just a few days after the murder – but was never charged due to a lack of evidence. With the new technology, detectives were able to construct a family lineage using the public genealogy database GEDmatch, and found that the actual murder was not the clown, but instead was Frank Wypych, a man who had passed away in 1987 due to complications from diabetes. By analyzing the DNA found on Galvin’s clothing and comparing that to Wypych’s remains, the team confirmed that Wypych was indeed the murderer, clearing the clown of any wrongdoing.

Another case involved the murder of Anna Marie Hlavka, whose death in 1979 went cold for 40 years until detectives reached out to Parabon NanoLabs. The team cross-referenced the suspect’s DNA using public DNA profiles uploaded to GEDmatch, similar to the aforementioned Seattle case, and identified the killer as Jerry Walter McFadden, demonstrating just how effective the use of genetic genealogy has started to become.

Not everything with this process is necessarily great, however. With the rise of personal DNA testing kits provided by companies such as AncestryDNA and 23AndMe, there have been concerns about law enforcement and other government agencies having access to people’s genetic information without their consent. While the previously mentioned companies do not allow agencies direct access to this information, individuals who upload their raw data by going through third-party genealogy databases, such as GEDmatch, may unknowingly be giving access to their raw data to anyone who wants to search for such information. To address such concerns, GEDmatch has now allowed its users to opt in to allow law enforcement to access their information, though this may potentially limit how effective this new methodology is for tracing criminals who have slipped under the radar.

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Your DNA Could Solve Crime (cont.)

The balance between ethical detective work and potential abuse is a tricky one to uphold, with the line between serving justice and protecting privacy transforming into a potential battleground. Individuals should consider that their information may be used as a tool before getting a personal DNA test kit and judge for themselves whether they want to be a potential aid to law enforcement, or if the risk to their privacy is too great.

Written and compiled by Nathan Dohanos

[Source: <https://ghr.nlm.nih.gov/primer/basics/dna>, <https://snapshot.parabon-nanolabs.com/genealogy>, <https://www.foxnews.com/us/dna-family-tree-help-solve-52-year-old-seattle-murder-case>, <https://techcrunch.com/2019/01/31/hlavka-murder-gedmatch-dna/>, <https://abcnews.go.com/US/leave-murderer-running-streets-dna-databases-policy-changing/story?id=63150489>]

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