



Hallucinogen-Involved Hospitalization Trends in Philadelphia

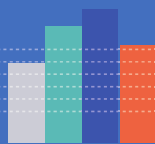
Over the last decade, attention has been primarily focused on the opioid crisis in Philadelphia. However, hallucinogen use has also increased substantially over the same time period. Hallucinogens are a class of drugs that include but are not limited to psilocybin (“magic mushrooms”), mescaline, MDMA (“Ecstasy”), PCP (Phencyclidine, “angel dust”), ketamine, and LSD (lysergic acid diethylamide). These drugs can alter a person’s perception of time, motion, color, and sound, and/or result in a dissociative state.¹ Historically, hallucinogens have been used in religious ceremonies, but in recent decades, people are using hallucinogens recreationally.¹ At high doses, these drugs can cause dehydration, changes to blood pressure, heart rate, body temperature (hyperthermia), and respiration.^{2,3} Long term effects associated with hallucinogen use include persistent psychosis and Hallucinogen Persisting Perception Disorder (HPPD).² Regular MDMA use has been associated with heart disease, impulsivity, and depression.³ If used in combination with other central nervous system depressants or alcohol, it can lead to adverse health outcomes such as respiratory arrest or coma.^{1,2} This issue of CHART summarizes and highlights the rise of hallucinogen-involved hospitalizations in Philadelphia. All data shown are from the Pennsylvania Healthcare Cost Containment Council.

KEY TAKEAWAYS

Hallucinogen-involved hospitalizations have increased 183% from 2015

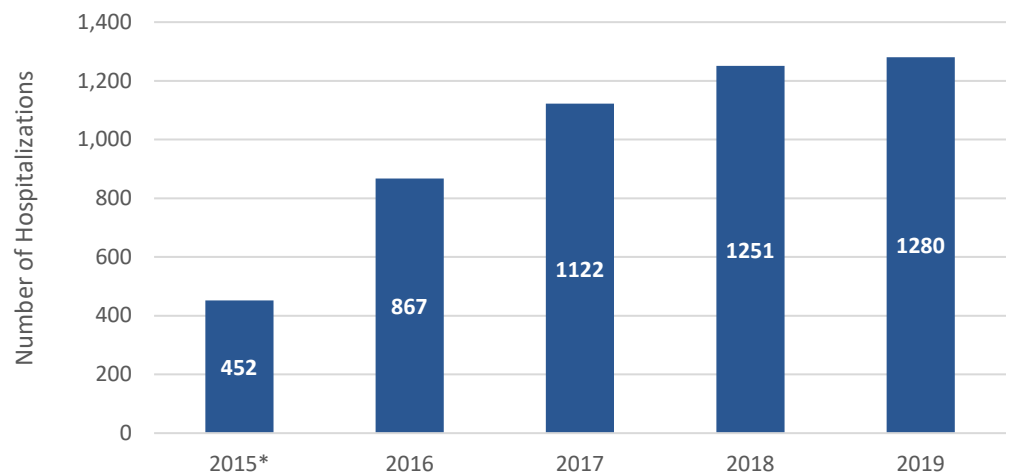
Hallucinogen-involved hospitalizations disproportionately affect non-Hispanic Black residents

The number of hallucinogen-involved hospitalizations with mentions of opioid use or poisoning remained consistent between 2015 and 2019



Hallucinogen-involved hospitalizations have increased 183% since 2015

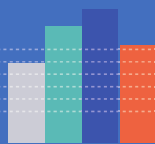
Hallucinogen-involved Hospitalizations, Philadelphia, PA 2015-2019



* The U.S. transitioned to International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) from International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) in the last quarter of 2015.

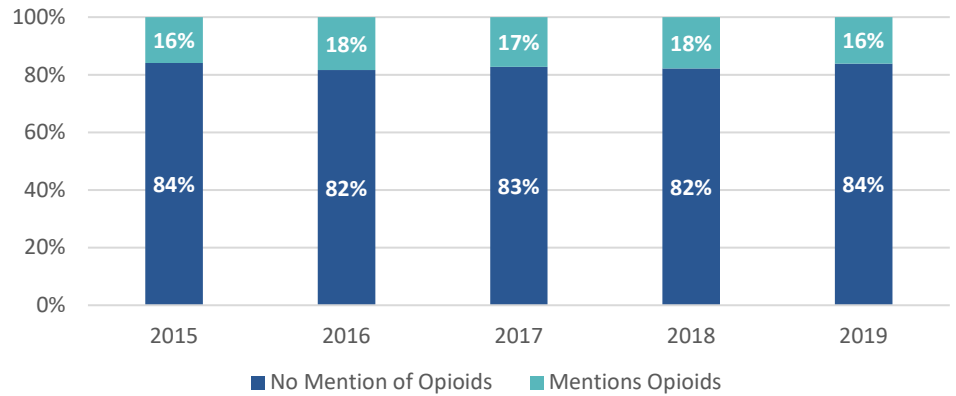
Source: Pennsylvania Healthcare Cost Containment Council

- The number of hospitalizations with a diagnosis of hallucinogen use or poisoning in any diagnosis field increased 183% from 452 in 2015 to 1,280 in 2019.
- Of the 4,972 hallucinogen-involved hospitalizations that occurred between 2015 and 2019, 12% had hallucinogen use or poisoning as the primary diagnosis (data not shown).
- Of the 4,334 hallucinogen-involved hospitalizations that did not have hallucinogen use or poisoning as the primary diagnosis, 46% had a primary diagnosis related to mental, behavioral, or neurodevelopmental disorders (data not shown).



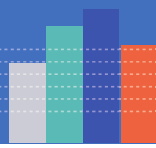
Most hallucinogen-involved hospitalizations did not mention opioid use or poisoning

Mention of Opioid Use or Poisoning among Hallucinogen-involved Hospitalization Records, Philadelphia, PA 2015-2019



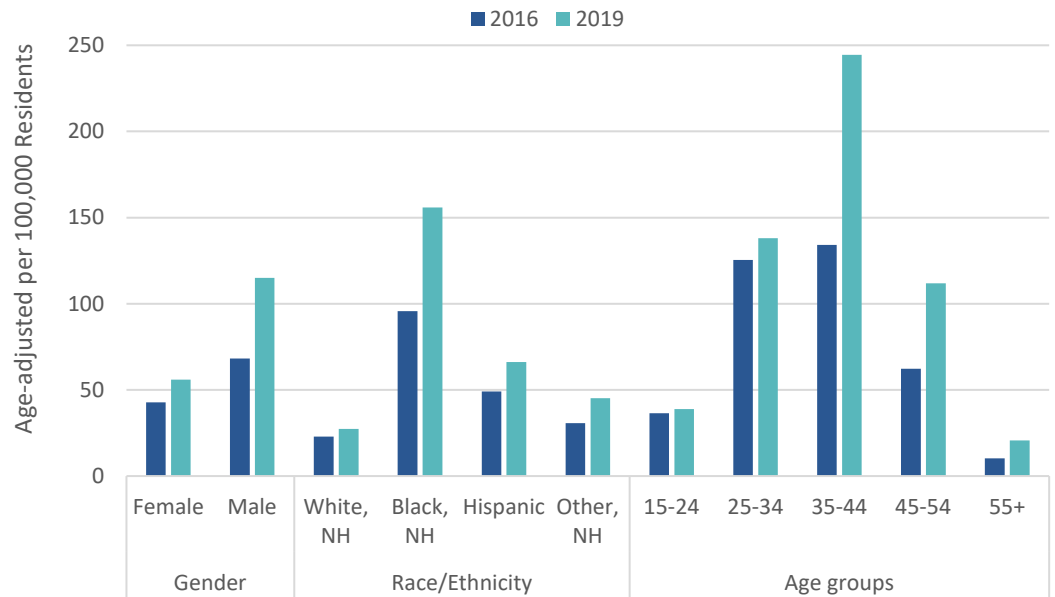
Source: Pennsylvania Healthcare Cost Containment Council

- The percentage of hallucinogen-involved hospitalization records with any mention of opioid use or poisoning has remained consistent between 2015 and 2019.
- Fentanyl (a potent synthetic opioid) contamination has been increasing in the non-opioid drug sources in recent years. Introduction of fentanyl to the hallucinogen drug supply could result in fatal overdoses among individuals with low opioid tolerance.
- A recent [report](#) indicates that the number of fatal overdoses involving hallucinogens, particularly PCP, increased 180% from 49 in 2019 to 137 in 2020. Of the 137 PCP-involved fatal overdoses that occurred in 2020, 75% had fentanyl present compared to 63% in 2019, which may suggest an increase in the amount of contamination.



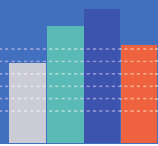
Hallucinogen-involved hospitalization rates have increased in every demographic group since 2016

Hallucinogen-involved Hospitalization Rates by Gender, Race/Ethnicity, and Age Group, 2016-2019



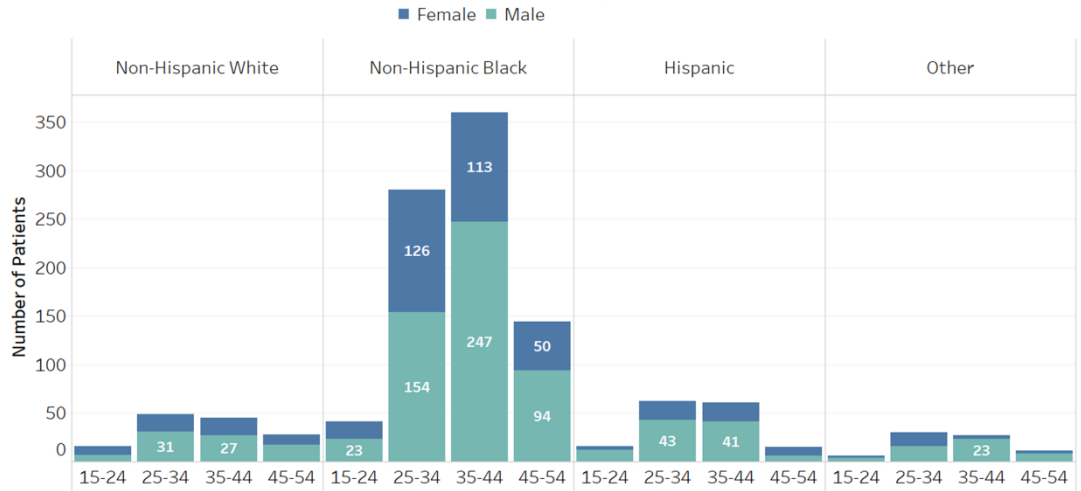
Source: Pennsylvania Healthcare Cost Containment Council

- From 2016 to 2019, the hallucinogen-involved hospitalization rate increased 63% for non-Hispanic Black residents and 35% for Hispanic residents.
- Hallucinogen-involved hospitalizations among individuals aged 35-44 years increased 82% during the same time period



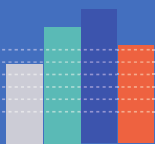
Most hallucinogen-involved hospitalizations occurred among younger non-Hispanic Black males in 2019

Number of Hallucinogen-Involved Hospitalizations by Race/Ethnicity, Age Group, and Patient Sex, Philadelphia, 2019



Source: Pennsylvania Healthcare Cost Containment Council

- Non-Hispanic Black residents accounted for 69% of the 1,280 hallucinogen-involved hospitalizations occurring in 2019.
- Non-Hispanic Black males between the ages of 35 and 44 years old had more hallucinogen-involved hospitalizations than any other demographic.
- Most of the non-Hispanic Black patients who had a hallucinogen-involved hospitalization resided in West and North Philadelphia while most patients of other race/ethnicities resided in Kensington and adjacent neighborhoods (data not shown).



WHAT CAN BE DONE

The Health Department is:

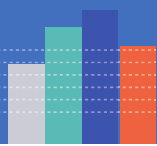
- Targeting and engaging with populations that are at risk of using hallucinogens by conducting community pop-ups focusing on safer drug use in neighborhoods where hallucinogen use is more prevalent.
 - Increasing harm reduction by
 - Distributing palm cards to raise awareness about potential fentanyl contamination in non-opioid illicit drug sources, including hallucinogens.
 - Distributing fentanyl test strips in locations such as bars and night clubs where hallucinogens are most commonly used.
 - Offering naloxone to people who use hallucinogens and other drugs.
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Health care providers should:

- Educate patients on
 - The risks of using hallucinogens including severe dehydration and changes in body temperature.
 - Drug interactions, including use of hallucinogens with central nervous system depressants and/or alcohol.
 - Long term effects such as Hallucinogen Persisting Perception Disorder (HPPD) and heart disease associated with MDMA.
 - Refer patients who are looking to start their recovery process to substance use programs.
 - Prescribe and educate patients on naloxone and fentanyl test strips.
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People can:

- Avoid using hallucinogens with other drugs and alcohol.
 - Test hallucinogens for the presence of fentanyl using fentanyl test strips.
 - If experiencing psychosis, such as seeing and/or hearing things that do not exist, call the Department of Behavioral Health and Intellectual disAbility Service's crisis line at 215-686-4420.
 - Obtain naloxone at pharmacies in Pennsylvania without a prescription under a "standing order" signed by the Pennsylvania Physician General.
 - Begin drug treatment if you are dependent on hallucinogens or other drugs. Call 888-545-2600 for help finding a treatment program.
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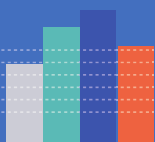


Technical Notes

1. Receipt of Pennsylvania Healthcare Cost Containment Council (PHC4) data by PDPH is delayed and the most recent data available at the time of analysis was through 2019.
2. Hallucinogen-involved hospitalizations were defined as any mention of ICD-9-CM codes (304.50–304.53: Hallucinogen dependence, 305.30–305.33: Nondependent hallucinogen abuse, 969.6: Poisoning by hallucinogens [psychodysleptics], E854.1: Accidental poisoning by hallucinogens [psychodysleptics], E939.6: Hallucinogens, adverse effects) and ICD-10-CM codes (F16: Hallucinogen related disorders, T40.8: Poisoning by and adverse effect of lysergide [LSD], T40.9: Poisoning by, adverse effect of and underdosing of other and unspecified psychodysleptics [hallucinogens], T43.63: Poisoning by ecstasy) in any diagnosis field
3. Opioids are a class of drugs that are synthetic or naturally derived from the opium poppy plant. Opioids include oxycodone, morphine, codeine, and fentanyl. Fentanyl is a synthetic opioid that is 50–100 times more powerful than morphine.
4. Records with opioid use were defined as having any mention of ICD-9-CM codes (304.0x: Opioid type dependence) and ICD-10-CM codes (F11: Opioid related disorders) in any diagnosis field.
5. Records with opioid poisoning were defined as having any mention of ICD-9-CM codes (965.0x: Poisoning by opiates and related narcotics, E850.0: Accidental poisoning by heroin, E850.1: Accidental poisoning by methadone, E850.2: Accidental poisoning by other opiates and related narcotics) and ICD-10-CM codes (T40.0: Poisoning by, adverse effect of and underdosing of opium, T40.1: Poisoning by and adverse effect of heroin, T40.2: Poisoning by, adverse effect of and underdosing of other opioids, T40.3: Poisoning by, adverse effect of and underdosing of methadone) in any diagnosis field.

REFERENCES

1. NIDA. Hallucinogens and Dissociative Drugs Research Report. National Institute on Drug Abuse website. <https://www.drugabuse.gov/publications/research-reports/hallucinogens-dissociative-drugs/director>. April 9, 2020 Accessed May 4, 2021.
2. NIDA. Hallucinogens DrugFacts. National Institute on Drug Abuse website. <https://www.drugabuse.gov/publications/drugfacts/hallucinogens>. April 22, 2019 Accessed June 16, 2021.
3. NIDA. What are the effects of MDMA? National Institute on Drug Abuse website. <https://www.drugabuse.gov/publications/research-reports/mdma-ecstasy-abuse/what-are-effects-mdma>. April 13, 2021 Accessed June 22, 2021.



RESOURCES

Drug treatment referrals and education:

888-545-2600

<http://dbhids.org/addiction-services/>

DBHIDS 24/7 crisis line:

215-686-4420

Harm reduction resources and education, including syringe exchange and infectious disease screening:

Prevention Point of Philadelphia
215-634-5272

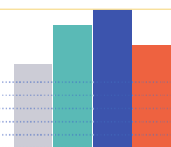
www.ppponline.org

For resources for safer substance use during COVID-19:

<https://www.phila.gov/2020-04-16-resources-for-safer-substance-use-during-covid-19/>

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All PDPH charts are available at
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