

# Nonfatal Hospital-Treated Drug Overdose Surveillance and Epidemiology (DOSE) Summary

## 2019 HOSPITAL DISCHARGE DATA

### Key Findings

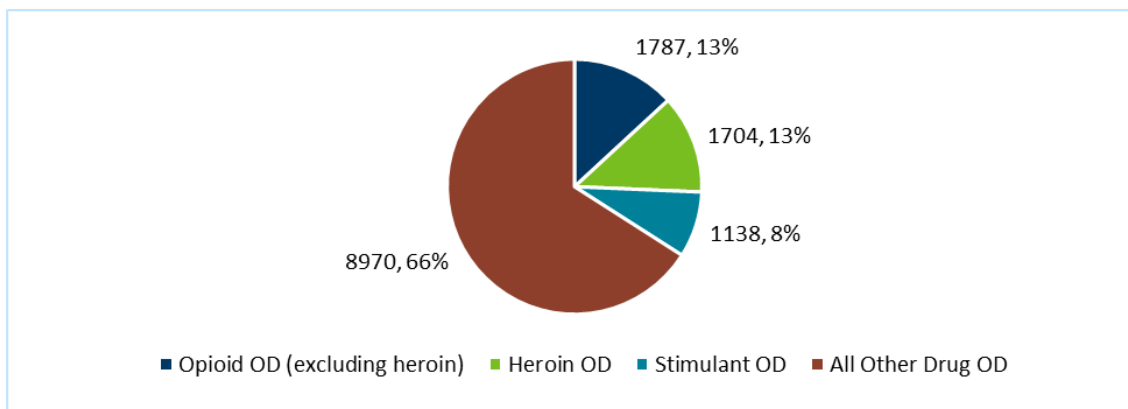
- Nonfatal drug overdoses in Minnesota in 2019 were primarily treated in the emergency room, rather than as inpatient hospitalizations, across most drug categories.
- Cases of unintentional nonfatal opioid, heroin, and stimulant overdoses, treated both in the emergency room and as inpatient hospitalizations, were higher than intentional.
- Unintentional nonfatal overdoses were more likely to be males, while intentional nonfatal overdoses were more likely to be females.
- A majority of hospital-treated nonfatal overdoses were among those 15-24 years old.

### Overview

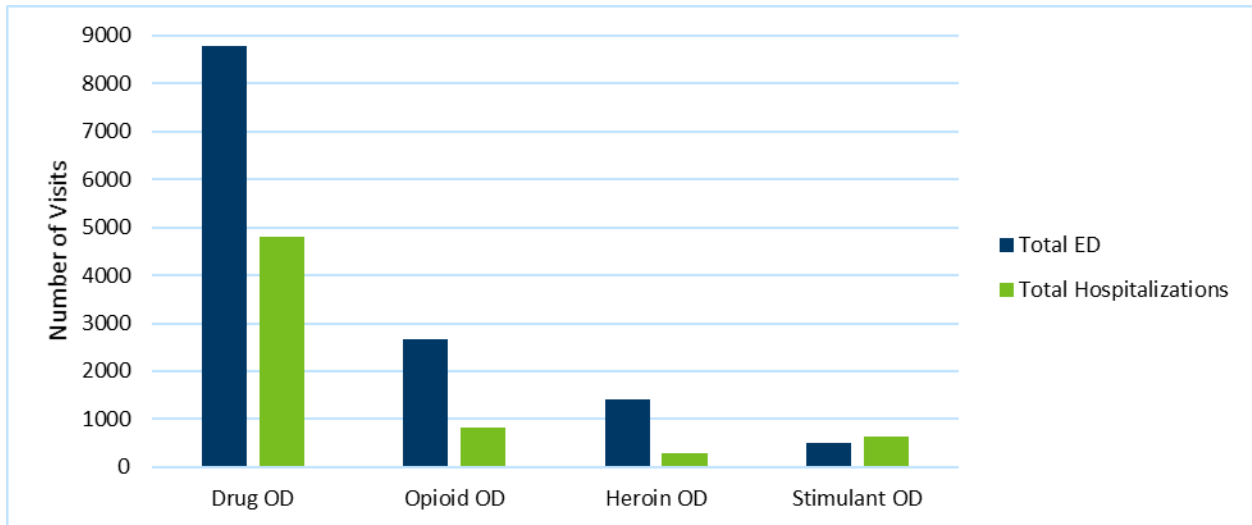
Nonfatal drug overdoses continue to affect the lives of many Minnesotans. In 2019, there were 13,599 nonfatal drug overdoses (across all drug categories) treated in Minnesota’s hospitals. While the number of emergency room-treated nonfatal opioid overdoses dropped from 2017 to 2018, they rose again in 2019. This report summarizes the 2019 nonfatal drug overdose hospital discharge data as it is reported to the CDC in quarterly Drug Overdose Surveillance and Epidemiology (DOSE) submissions.

The Minnesota Department of Health receives approximately 95% of hospital discharge data from the Minnesota Hospital Association (MHA). This includes emergency room visits and inpatient hospitalizations. These data cover all 87 Minnesota counties and can include reports from all 132 acute care hospitals in the state. The primary categories analyzed in the DOSE submission are opioid overdoses (OD), heroin OD, stimulant OD, and all other drug OD. Opioid OD, heroin OD and stimulant OD constitute about 34% of all drug overdoses and all other drugs make up the remaining 66%. The breakdown of these categories is depicted in the figure below.

### Number of nonfatal drug overdoses in 2019 by drug category

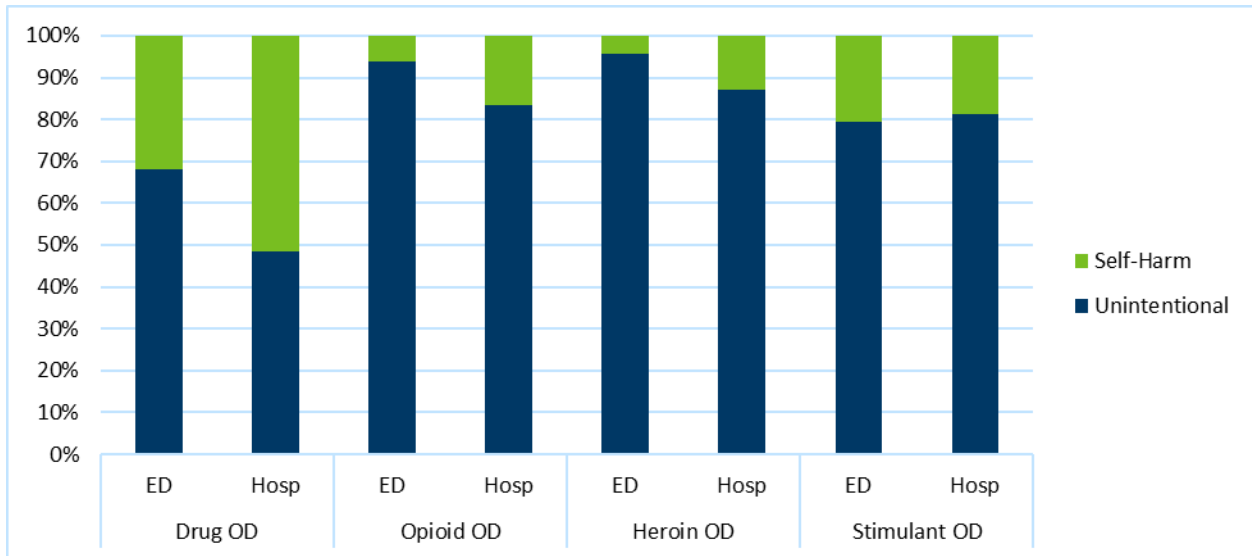


## The majority of nonfatal overdoses were emergency room visits



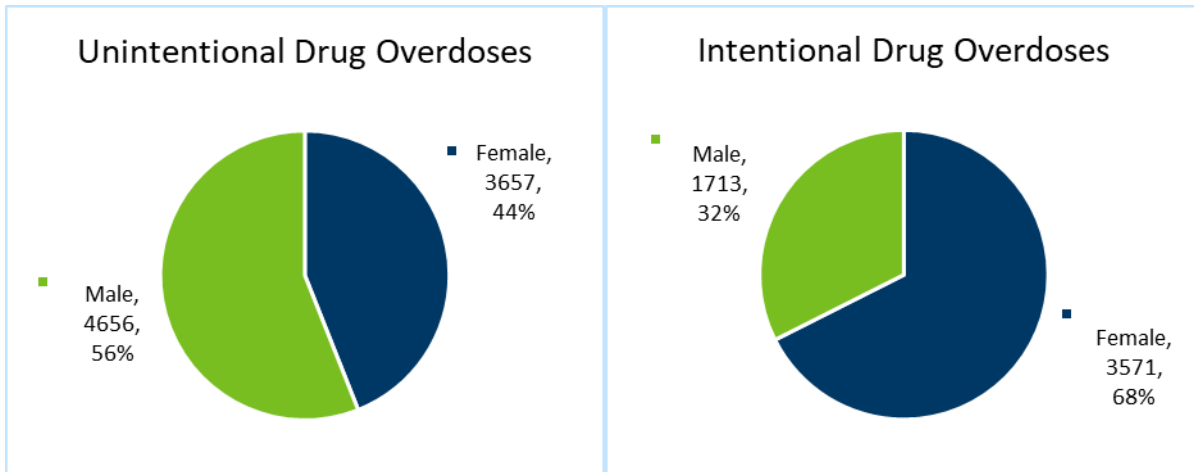
Overall, more nonfatal drug overdoses in 2019 were treated in the emergency room/emergency department (Total ED) than were treated as inpatient hospitalization (Total Hospitalizations), with the exception of stimulant overdoses. There were 8,797 total emergency room visits for all drug overdoses, compared to 4,802 visits treated as inpatient hospitalizations.

## More emergency room-treated nonfatal overdoses were unintentional than intentional (self-harm)



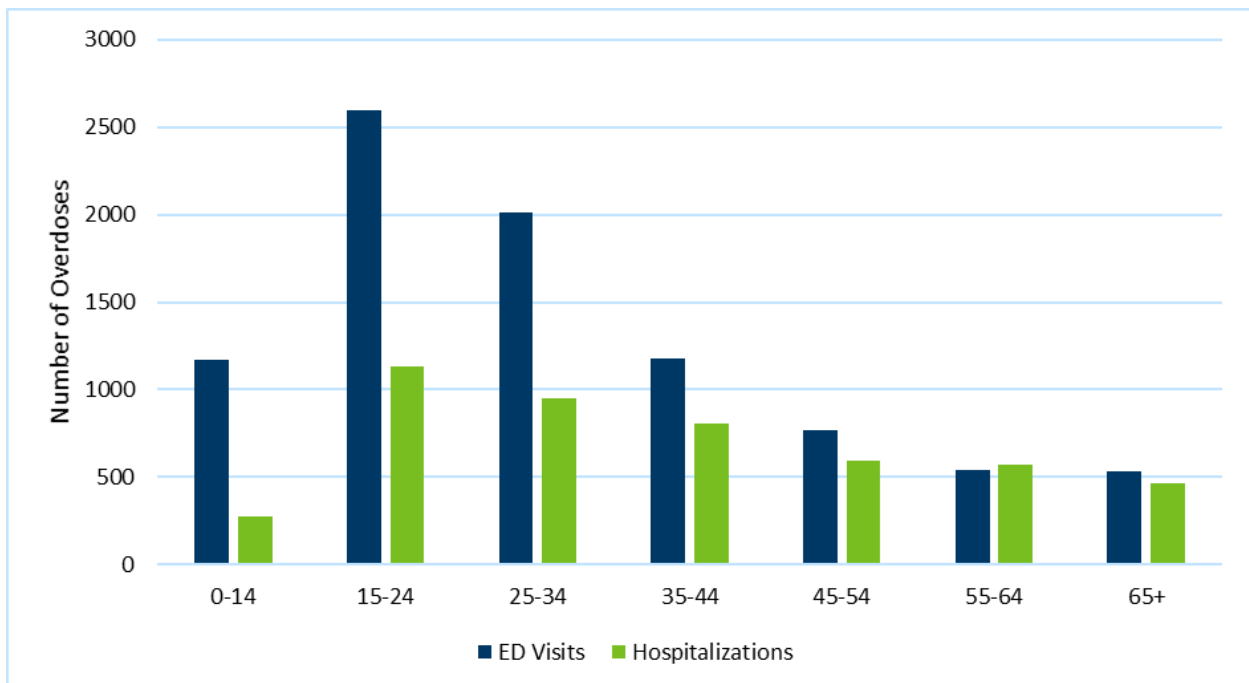
A majority of all emergency room-treated nonfatal drug overdoses in Minnesota in 2019 were unintentional, with only 61 out of the 1,423 heroin overdoses treated in the emergency room being cases of self-harm. Additionally, a majority of nonfatal opioid, heroin, and stimulant overdoses, treated both in the emergency room and as inpatient hospitalizations, were unintentional. The only category for which intentional overdoses was the majority was drug overdoses treated as inpatient hospitalization.

## Males are more likely to experience unintentional nonfatal overdoses, while females are more likely to experience intentional nonfatal overdoses



Among those treated in hospitals (including both emergency room visits and inpatient hospitalizations) for nonfatal drug overdoses in Minnesota, males made up the majority of unintentional overdoses, whereas females made up the majority of intentional overdoses. Males experienced 4,656 (56%) unintentional drug overdoses, while females experienced 3,657 (44%). Females experienced 3,571 (68%) of intentional drug overdoses, while males experienced 1,713 (32%).

## Ages 15-24 had the greatest number of hospital-treated nonfatal overdoses



In 2019, among those treated in Minnesota for nonfatal drug overdose, those aged 15-24 had the greatest number of emergency room visits and hospitalizations, followed by those aged 25-34. Across all age groups except for those aged 55-64, there were more emergency room-treated nonfatal overdoses than inpatient hospitalizations.

## Conclusions

Nonfatal drug overdoses occur much more frequently than fatal drug overdoses; in 2019, for every one drug overdose death, there were 18 nonfatal hospital-treated drug overdoses. Additionally, many individuals who experience one overdose are more likely to experience another<sup>1</sup>. Data collection and analysis from hospital-treated, nonfatal drug overdoses allows for more effective tracking of overdose trends. This information in turn aids the continued improvement of intervention and response efforts. Further information about Minnesota nonfatal drug overdoses, including county-level information and breakdown by type of drug, can be found at the Minnesota Injury Data Access System (MIDAS) on the [Minnesota Department of Health website](https://www.health.state.mn.us/communities/injury/midas/index.html) (<https://www.health.state.mn.us/communities/injury/midas/index.html>).

## References

1. Suffoletto B, Zeigler A. Risk and protective factors for repeated overdose after opioid overdose survival. *Drug Alcohol Depend* 2020 Feb 5; 209:107890. DOI: 10.1016/j.drugalcdep.2020.107890

## Suggested Citation

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## Appendix

Within this summary, the data consist of individuals treated for nonfatal drug overdoses in Minnesota hospitals, including residents of any state. A limitation of the data source is the drug(s) suspected to be involved in emergency room visits are often self-reported by the patient or determined by presenting symptoms at the hospital. Often, toxicology tests are not run for these patients to determine the specific substances involved. These are limitations for this data source and necessitate caution in interpreting drug category-specific findings. All drug overdoses referenced in this summary are suspected drug overdoses. The data also treat suspected opioid overdoses, suspected heroin overdoses, and suspected stimulant overdoses as subsets of suspected drug overdoses. Furthermore, suspected heroin overdoses are also a subset of suspected opioid overdoses. The International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) codes, used to classify these categories, are shown in the following table.

NONFATAL HOSPITAL-TREATED DOSE SUMMARY

ICD-10-CM

DRUG	Any Mention of Diagnosis	AND a 5 <sup>th</sup> /6 <sup>th</sup> character of:	AND a 7 <sup>th</sup> character of:
All Drug	<b>T36-T50:</b> Poisoning by drugs, medicaments and biological substances	For T36.9, T37.9, T39.9, T41.4, T42.7, T43.9, T45.9, T47.9, and T49.9, a  5th character; for all others, a 6th character 1: Accidental (unintentional) 2: Intentional self-harm [note: this is analyzed separately] 4: Undetermined intent  <i>Does not include:</i> 3: Assault 5: Adverse effect 6: Underdosing	A: Initial encounter  <i>Does not include:</i> D: Subsequent encounter S: Sequela
All Opioids	<b>T40.0X:</b> Poisoning by opium <b>T40.1X:</b> Poisoning by heroin <b>T40.2X:</b> Poisoning by other opioids <b>T40.3X:</b> Poisoning by methadone <b>T40.4X:</b> Poisoning by synthetic narcotics  <b>T40.60:</b> Poisoning by unspecified narcotics <b>T40.69:</b> Poisoning by other narcotics		
Heroin	<b>T40.1X:</b> Poisoning by heroin		
Stimulants	<b>T40.5X:</b> Poisoning by cocaine  <b>T43.60:</b> Poisoning by unspecified psychostimulants <b>T43.61:</b> Poisoning by caffeine <b>T43.62:</b> Poisoning by amphetamines, accidental (unintentional), initial encounter <b>T43.63:</b> Poisoning by methylphenidate <b>T43.64:</b> Poisoning by ecstasy  <b>T43.69:</b> Poisoning by other psychostimulants		

[Minnesota Department of Health \(health.state.mn.us\)](http://health.state.mn.us)

Injury and Violence Prevention Section

PO Box 64822

Saint Paul, MN, 55164-0882

651-201-5484

[health.drugODepi@state.mn.us](mailto:health.drugODepi@state.mn.us)

To obtain this information in a different format, call: 651-201-5484.