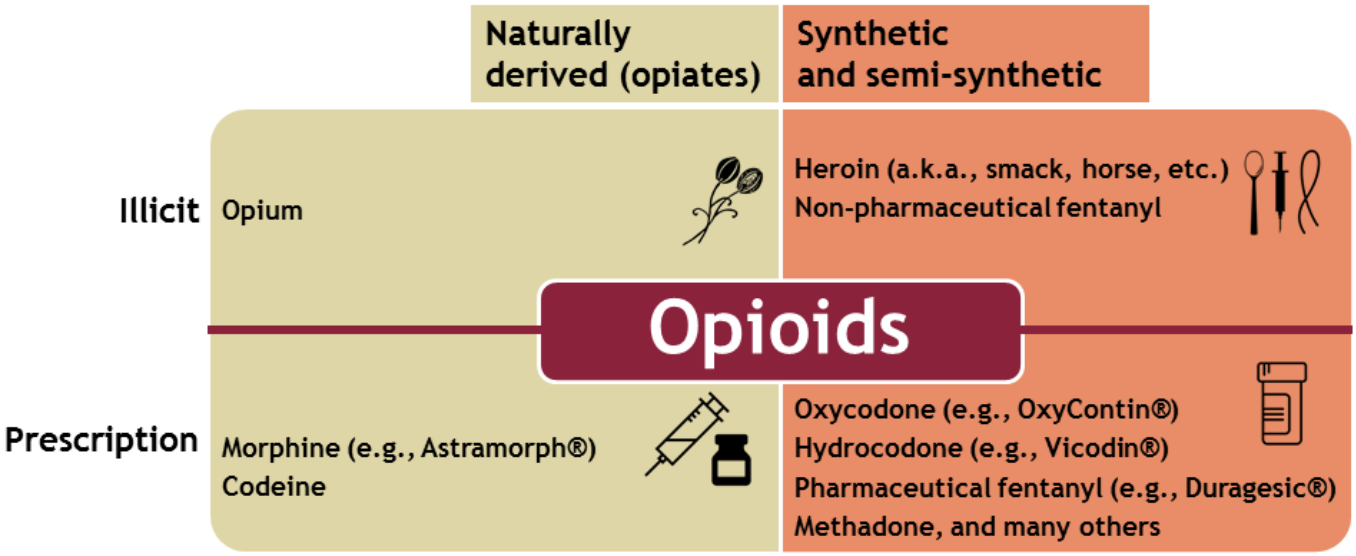
A GUIDE TO INTERPRETING OPIOID STATISTICS

WHAT ARE OPIOIDS?

Opioids are a class of drugs with opium-like properties that are used to reduce pain. They can be categorized as naturally derived or synthetic (man-made), as well as prescription or illegal.

Synthetic opioids, such as fentanyl, can be up to 100 times more potent than naturally derived opioids, such as morphine.

Possession and use of opioids are only legal when taken under the direction of a licensed medical professional (e.g., physician).



Note: All fentanyl-related hospitalizations and overdose deaths are included under the umbrella of "prescription opioids" in data and statistics produced by the Wisconsin Department of Health Services (DHS). Even though the illegal manufacture of fentanyl is contributing to the opioid epidemic, medical professionals cannot determine from blood tests if the drug was legally or illegally manufactured.

Non-opioid drugs, such as prescription **benzodiazepines** (sedatives used to treat anxiety and insomnia) and illicit **psychostimulant** drugs (e.g., cocaine, Ecstasy), are often taken at the same time as opioids and can increase the risk of overdose.

More detailed definitions of opioids and related drugs can be found on the DHS Opioids website.

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WHERE DO THE DATA COME FROM?

HOSPITAL DISCHARGE DATA

Hospital inpatient stays: All hospital inpatient stays where patients were admitted for confirmed opioid overdoses as at least one of the diagnoses in that stay.

Emergency department visits: All emergency department visits with confirmation of opioid overdoses at the end of the visit (different from inpatient stays because the patients were released from the emergency department and never admitted to the main hospital).

RAPID HOSPITAL SURVEILLANCE DATA

Often called syndromic surveillance, the data only include patient symptoms instead of confirmed overdoses.

These are rapid emergency department visits, suspected at the beginning of the visit to be related to opioid overdoses. This is similar to emergency department visits (see above); however, DHS receives this data on a nightly basis, and they are not confirmed overdoses.

AMBULANCE RUNS

All ambulance runs that are categorized as “emergencies” (excludes medical transports and other nonemergency runs) and are suspected to be due to opioid overdoses.

DEATHS

All deaths where opioid overdose is the assigned cause of death on the death certificate.

NALOXONE (NARCAN®) DISTRIBUTION

All ambulance runs where naloxone (i.e., Narcan®) was administered.

INTERPRET WITH CAUTION: Naloxone can be administered for non-opioid-related incidents, especially during the current epidemic. For example, emergency medical service staff can utilize naloxone if the patient is unconscious and the cause of the patient’s condition cannot be determined.

OPIOID PRESCRIPTIONS

All opioid prescriptions (including refills) filled at pharmacies.

WHAT DO THE DIFFERENT STATISTICS MEAN?

COUNTS

The number or quantity of people affected.

RATES

A rate is the fraction of the population affected within a certain time period, usually one year. Rates are better than counts for comparisons because rates take the size of the population into account. Rates provide a useful side-by-side comparison of the impact of the opioid epidemic for small towns and big cities.

The formula for calculating a rate is:

$$rate = \frac{number\ of\ cases}{total\ population} * 100{,}000\ people$$

Example: In Wisconsin, the 2016 opioid-related hospitalization rate of 73 per 100,000 means that out of every 100,000 people (e.g., the size of Eau Claire county), there were 73 hospitalizations due to opioid-related ailments.

MORTALITY RATES

This is a specific type of rate that only includes deaths. Instead of looking at the total number of opioid overdoses, mortality rates only consider deaths due to opioid overdoses.

Example: In 2016, there were 827 deaths from opioid overdoses in Wisconsin. By dividing this number by the entire population of Wisconsin, the mortality rate due to opioid overdose was 14.3 deaths per 100,000 people.

AGE-ADJUSTED RATES

Age-adjustment is a method used to compare rates of older populations with younger populations. It corrects for the fact that populations with more elderly people have more health issues and deaths than populations with more young people. Caution should be used when comparing crude (i.e., unadjusted) rates for two or more communities because each has a different share of elderly or young people. Comparing age-adjusted rates across populations removes this caution.

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WHAT DO THE DIFFERENT STATISTICS MEAN?

PERCENT CHANGE

Percent change is a method used to see if overall trends are increasing or decreasing. Trends can be stable (i.e., 0%), decreasing (i.e., -%), or increasing (i.e., +%).

Example: In 2015, there were 614 deaths due to opioid overdoses in Wisconsin. In 2016, the number increased to 827 deaths. This is a 35% increase in deaths due to opioid overdoses from 2015 to 2016 (or a percent change of +35%).

This is calculated by:

$$percent\ change = \frac{(827 - 614)}{614} * 100\ percent = 35\%$$

WHERE DO I FIND MORE OPIOID STATISTICS?

DHS OPIOID DATA WEBPAGE

The most up-to-date, reliable information on the opioid epidemic in Wisconsin can be found on the DHS Opioid Data webpage. To dive deeper into the data yourself, visit the Wisconsin Interactive Statistics on Health (WISH) opioid module where you can select the data you want for a given county, region, or demographic group.

WISH OPIOID CLASSIFICATIONS

When selecting data for a specific type of opioid on WISH, please refer to the figure below to understand which types of opioids are subsets of other types.