

Center for Public Safety Initiatives
Drug Overdose: What Is it and Why Does it Matter?
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What is an overdose?

What is an overdose? Do we actually know what this means?

Overview

Overdose deaths due to heroin and fentanyl are driving the current opioid crisis; but what exactly is a drug overdose? The term overdose is integral to understanding the current opioid crisis, yet a definition of the term is often left out. There seems to be an assumption that everyone understands the meaning in the same way. This paper covers the importance of defining terms, locating definitions, and where a complete drug overdose definition can be found.

A quick note about the term ‘overdose.’ In opioid-related material such as government and agency reports, news articles, and other media, the terms ‘overdose’ and ‘drug overdose’ are often used interchangeably. Throughout this paper, we use the more frequent term used to describe this phenomenon: ‘overdose.’

Why is a definition important?

Defining a term such as overdose is crucial for purposes of research and intervention. In Foppe van Mil and Henman’s (2016) piece on terminology, they write,

“Does a definition matter? Yes and no, it all depends on context. Amongst friends and colleagues, you intuitively feel what the other means with terms... But when presenting the findings of a study, it is necessary to be more precise, because the reader or listener does not have a direct chance to check the meaning and may come from a totally different background where the same term has another connotation” (p. 709-710).

This point applies to the opioid crisis in that a doctor, researcher, addict, first responder and treatment provider may all have different ways of defining an overdose. Assuming that this is the case, it will be more difficult to study the conditions of overdose, and propose intervention options without clarity.

For a researcher, data collection can be meaningless without a standard definition. Data and statistics from police or first responders may correspond to different events and can inhibit understanding, analysis, interpretations, and interventions. Understanding the term ‘overdose’ and its implications can allow us to better recognize treatment options such as Naloxone administration (see working paper on Narcan training for more information). Interventions to prevent overdose can be developed with more integrity as well.

A clear definition is the starting point for measurement, data collection, responses and interventions. One example of why a clear definition is necessary is looking at trends overtime; if a definition is not standardized, then there may seem to be a spike or drop in drug overdoses, when

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this is actually an artificial (i.e., false) increase or decrease. Shifting definitions over time have very real consequences in looking at and interpreting patterns over time.

Finding a Definition

Where we should find a definition? Foppe van Mil and Henman (2016) argue that an author should explain what terms mean when they are used, and thus what they have studied. With overdose being such an extensive problem within the opioid crisis, the explanation should be straightforward and easy to find whether you are a researcher or not.

Where do we find definitions?

All searches discussed below were conducted through website search bars, to get a quick scan of what is available by using the most common way to search for something on the internet. In searching the term ‘overdose’, the National Institute of Health [NIH] reroutes users to the National Institute on Drug Abuse [NIDA]. A simple definition is provided under the article *Heroin* but it takes some time to find it toward the end of the article; “A heroin overdose occurs when a person uses enough of the drug to produce a life-threatening reaction or death” (NIDA, 2018). The next reputable source that does provide a definition of an overdose is the Center for Disease Control [CDC] (2017). The site does require some unguided navigation, but an explanation can be found under ‘Commonly Used Terms’; “Injury to the body (poisoning) that happens when a drug is taken in excessive amounts. An overdose can be fatal or nonfatal.” (CDC, 2017).

In a more extensive internet search, the *Guide to Developing and Managing Overdose Prevention and Take-Home Naloxone Projects* provided some information on drug overdoses. The definition presented is twofold; “Overdose [OD] happens when a toxic amount of a drug, or combination of drugs overwhelms the body” (Wheeler et al., 2012, p. 9). Additionally, the guide explains “opioid overdose occurs when the level of opioids, or combination of opioids and other drugs, in the body render a person unresponsive to stimulation or cause their breathing to become inadequate.” (Wheeler et al., 2012, p. 9).

During the search process, there were a number of sites that did not define the term overdose; of those that did, most definitions were from less reliable sites. The main source of definitions for ‘overdose’ are less reliable dictionary sites such as *Dictionary.com* or *Google Dictionary*. Though they help in understanding, more reliable sources would be a better option for a term such as this. See Table 1 in the appendix for more definitions provided by internet dictionaries and other sources.

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Where is a definition *not* found?

There are few government or medical sites and journals that do not provide a clear definition of an overdose; rather, they provide a list of symptoms or other information on drug overdoses. For example, the New York State Office of Alcoholism and Substance Abuses Services [OASAS] will describe various overdose prevention programs, but there is no definition found on the website. Similarly, the Food and Drug Administration [FDA] offers information to prevent accidental overdose, as well as how Opioid Reversal medications can help in the case of an overdose. There is no description of what an overdose actually is, to better understand each of these topics. The Drug Enforcement Administration [DEA] also lacks a definition.

Few medical journals came up in an initial search for overdose definition or description, and any that were found did not actually define an overdose. Being that an overdose directly affects the body, medical journals would be a source to define the phenomenon. Individuals who are interested in a definition should be able to find a definition easily.

Providing a definition or explanation of an overdose can allow individuals to better comprehend and utilize the various services that these agencies offer. Not everyone using these sites will be seeking treatment or assistance for themselves, so it is important to include baseline information and an overarching description of the problems at hand.

Is this a sufficient definition?

In searching for a definition of overdose, a wide assortment of terms were provided. A Word Cloud was created to give a visual display of this variety (see Image 1). A Word Cloud is an image generated from the user's text; the largest words are mentioned most frequently, and as the number of occurrences decreases the word size gets smaller. For example, the words drug, amount, and body were used with highest frequency, and lethal, injury, and abuse were used with much less frequency.

In the definitions that were found, there is so much variety in language that it is somewhat inconsistent and even confusing (see Image 1). For example, one definition explains a drug overdose as an excessive or dangerous dose of a drug (dictionary.com); while Addiction Resource defines a drug overdose an intentional or accidental consumption of illicit or prescription drugs over the amount that the body is able to detoxify. This inconsistency and wide range of terms also

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shows the complexity of the term overdose. Some descriptions found were unclear, but again provide a list of symptoms. Both a definition and symptoms are very important, but quite different. It is necessary to understand both when planning interventions, treatment and prevention methods, but they cannot and should not be used interchangeably.

So, what is an overdose?

The *Guide to Developing and Managing Overdose Prevention and Take-Home Naloxone Kits* provides the most complete definition of any site in this search. The definition given is lengthy, and in several parts. The key pieces include,

“Overdose (OD) happens when a toxic amount of a drug, or combination of drugs overwhelms the body. Mixing heroin, prescription opioids and other downers such as alcohol and benzodiazepines are a particularly dangerous combo, since they all affect the body’s central nervous system, which slows breathing, blood pressure, and heart rate, and in turn reduces body temperature... Opioid overdose occurs when the level of opioids, or combination of opioids and other drugs, in the body render a person unresponsive to stimulation or cause their breathing to become inadequate. This happens because opioids fit into the same receptors in the brain that signal the body to breathe” (Wheeler, et al., 2012, p. 9).

This definition is the most complete, and is therefore the best result from this search. The definition above can be operationalized by researchers, meaning, it can be broken down into variables that can be measured and used in different stages of implementation.

Conclusion

With the death toll continuing to rise, defining an overdose can be very important in prevention, awareness, and developing interventions. In our preliminary search, we found few dictionaries or medical journal that provide sound definitions. In light of the opioid epidemic faced by the nation, an overdose description should be very easy to find and understand, all-encompassing and offer a definition and symptoms.

Appendix

Table 1

Source	Definition Provided
Google Dictionary	An excessive and dangerous dose of a drug
Dictionary.com	To take an excessive dose or give an excessive dose to (v); an excessive dose (n)
Merriam Webster	Too great a dose; a lethal or toxic amount (as of a drug); an excessive quantity or amount
Wikipedia	The ingestion or application of a drug or other substance in quantities greater than are recommended or generally practiced
WebMD	When a person takes more than the medically recommended dose
The Free Dictionary	The accidental or intentional use of a drug or medicine in an amount that is higher than is normally used; the result of misuse of prescription medicines or commonly used medications
Addiction Resource	An intentional or accidental consumption of illicit or prescription drugs over the amount that the body is able to detoxify quickly enough to avoid the most dangerous side effects
Healthline	Taking too much of a substance, whether it's prescription, over-the-counter, legal, or illegal
Cambridge Dictionary	Too much of a drug taken or given at one time, either intentionally or by accident
Medline Plus	When you take more than the normal or recommended amount of something, often a drug
Better Health Channel	When a toxic (poisonous) amount of a drug or medicine is taken
12 Keys Rehab	If you take drugs in large amounts, your metabolism will be unable to detoxify quickly enough
Overdoseday.com	Having too much of a drug(or combination of drugs) for your body to be able to cope with
Destinations for Teens	When you consume too much of one particular drug, or when you mix one or more drugs together; also happens quite easily when using street drugs, because you can't be sure of the exact dosage
American Addiction Centers	Taking a regular dosage after tolerance has lowered, taking a stronger dose than the body is accustomed to, or combining substances of abuse; a medical emergency

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