

Data dictionary

Term	Definition
Buprenorphine	Commonly known as Suboxone (brand name), buprenorphine is a medication used to treat Opioid Use Disorder (OUD). Unlike methadone, buprenorphine can be prescribed and taken at home. Qualified physicians are required to acquire and maintain certifications to legally dispense or prescribe it.
Catchment / Sampling site / Site / GLA	This refers to the geographic area upstream from the manhole that is being sampled. A Biobot catchment is defined to have: a maximum sewage travel time of 3hrs; a minimum population size of 4000 people; and 80%+ residential land use.
Codeine	Codeine is a prescription opioid, and is used in prescription cold medicines like Robitussin A-C, Tylenol-Codeine, Cosanyl, Cheracol, and Pediacof.
Detection frequency	Detection frequency refers to how many times a substance has been detected at a particular catchment over the sampling program (%). A substance is considered positively detected if the amount measured in sewage is greater than the Biobot limit of detection. The limit of detection depends both on our methodology and the natural prevalence of use of a particular substance.
Fentanyl	Potent opioid drug that can be prescribed for pain management, and it can also be cut into the heroin street supply. It is considered thousands of times more potent than morphine. Its deadly dose is 0.02 milligrams.
Heroin	Opioid drug sold on the street and usually administered by injection. Heroin is considered 10-times more potent than morphine.
High prescription opioids (>50 MME*):	Includes use of hydrocodone, oxycodone, codeine, tramadol, and oxymorphone. The CDC advises that > 50 MME is considered high opioid use.
Hydrocodone	Hydrocodone is a prescription opioid, usually in medications that include a combination of drugs. Brand names of drugs which contain hydrocodone include Anexsia, Dicodid, Hycodan, Hycomine, Lorcet, Lortab, Norco, Tussionex and Vicodin.
Illicit	Illicit consumption refers to consumption that is not legal, and includes consumption of illegal drugs (e.g. heroin) as well as abuse of prescription opioids without a prescription. The opposite of illicit is licit, which means legitimate legal consumption.
Methadone	Medication used to treat Opioid Use Disorder (OUD) taken once a day under the supervision of a physician. By law, methadone can only be dispensed through an opioid treatment program (OTP) certified by SAMHSA. In practice, this means patients travel every day to a methadone clinic to receive their treatment.
Morphine Milligram Equivalent (MME)	Converting opioid consumption to Milligram Morphine Equivalents (MME) standardizes opioids according to their potency. Opioids with high potencies have higher MME per gram consumed than opioids with lower potencies. One gram of morphine is equivalent to 1 MME, by definition.
MME per day per 1000 people	The MME measured in wastewater is converted to a per capita daily rate of consumption, reported in units of MME per day per 1000 people.

Appendix

Data Dictionary cont'd

Naloxone	Naloxone, more commonly known as Narcan, is an overdose reversal drug. It is typically administered by first responders, but given recent increases distribution, is also increasingly used by bystanders (e.g. friends and family). The presence of naloxone in sewage is a potential indicator of a non-fatal overdose.
Opioid use disorder (OUD)	Opioid use disorder (OUD) is the term used to refer to problematic non-medical opioid use.
Opioid overdose	Consuming large doses of opioids may result in an overdose. Signs of an opioid overdose include lack of breathing, and sometimes rigidity in the chest. Counting fatal overdoses is the standard metric to assess the extent of the opioid crisis in a geographical area. However, it is estimated that only 1% of people living with opioid use disorder (OUD) die every year from an overdose.
Oxycodone	Oxycodone is a prescription opioid. It is sold under many brand names, including OxyContin, Percocet, Endocet, Roxicodone, and Roxicet.
Oxymorphone	Oxymorphone is a prescription opioid. It can be found under brand names like Opana and Numorphan.
Parent drug	The consumption of drugs and other substances are determined by measuring the concentrations of their metabolites in sewage. Metabolites are the molecules that are excreted after the consumption and metabolism of a substance. Parent drug refer to the substance that was consumed.
Prescription opioids	Opioids are a class of drugs commonly prescribed for pain relief. Most opioids are very addictive and prone to abuse. Prescription opioids may be consumed legitimately for medical needs and with a prescription, or illicitly abused when acquired through non-medically necessary means. Prescription opioids include hydrocodone, oxycodone, codeine, tramadol, and oxymorphone. In this report, only hydrocodone, oxycodone, codeine, and tramadol are reported (hydromorphone, morphine, and oxymorphone not detected for technical reasons).
SAMHSA	The Substance Abuse and Mental Health Services Administration is a branch of the U.S. Department of Health and Human Services. It is the federal agency charged with improving treatment and rehabilitative services related to substance abuse and mental illness.
Sampling success	A sample is considered a success if it successfully operated for 4 out of 7 days, and collected at least two thirds of the expected total sampling volume.
Sampling start date	Biobot sampling devices aggregate sample semi-continuously for seven days, starting on the sampling start date.
Treatments	The Treatments category includes methadone and buprenorphine.