

# Opioid epidemic

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An **opioid epidemic** is when addictive opioid drugs become overused and misused with significant medical, social and economic consequences, including overdose deaths.

Opioids are a diverse class of moderately strong painkillers, including oxycodone (commonly sold under the trade names OxyContin and Percocet), hydrocodone (Vicodin, Norco) and a very strong painkiller, fentanyl, which is synthesized to resemble other opiates such as opium-derived morphine and heroin.<sup>[1]</sup> The potency and availability of these substances, despite their high risk of addiction and overdose, have made them popular both as medical treatments and as recreational drugs. Due to their sedative effects on the part of the brain which regulates breathing, the respiratory center of the medulla oblongata, opioids in high doses present the potential for respiratory depression and may cause respiratory failure and death.<sup>[2]</sup>

Opioids are effective for treating acute pain,<sup>[3]</sup> but are less useful for treating chronic (long term) pain,<sup>[4]</sup> as the risks often outweigh the benefits.<sup>[5]</sup>

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## United States

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What the U.S. Surgeon General dubbed "The Opioid Crisis" likely began with over-prescription of opioids in the 1990s, which led to them becoming the most prescribed class of medications in the United States. Opioids initiated for post surgery or pain management are one of the leading causes of opioid misuse, where approximately 6% of people continued opioid use after trauma or surgery.<sup>[6]</sup>

When people continue to use opioids beyond what a doctor prescribes, whether to minimize pain or induce euphoric feelings, it can mark the beginning stages of an opiate addiction, with a tolerance developing and eventually leading to dependence, when a person relies on the drug to prevent withdrawal symptoms.<sup>[7]</sup>

Writers have pointed to a widespread desire among the public to find a pill for any problem, even if a better solution might be a lifestyle change, such as exercise, improved diet, and stress reduction.<sup>[8][9][10]</sup> Opioids are relatively inexpensive, and alternative interventions, such as physical therapy, may not be affordable.<sup>[11]</sup>

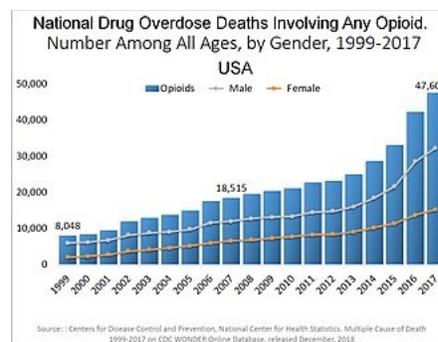
In the late 1990s, around 100 million people or a third of the U.S. population were estimated to be affected by chronic pain. This led to a push by drug companies and the federal government to expand the use of painkilling opioids.<sup>[12]</sup> In addition to this, organizations like the Joint Commission began to push for more attentive physician response to patient pain, referring to pain as the fifth vital sign. This exacerbated the already increasing number of opioids being prescribed by doctors to patients.<sup>[13]</sup> Between 1991 and 2011, painkiller prescriptions in the U.S. tripled from 76 million to 219 million per year, and as of 2016 more than 289 million prescriptions were written for opioid drugs per year.<sup>[14]:43</sup>

Mirroring the growth of opioid pain relievers prescribed is an increase in the admissions for substance abuse treatments and opioid-related deaths. This illustrates how legitimate clinical prescriptions of pain relievers are being diverted through an illegitimate market, leading to misuse, addiction, and death.<sup>[15]</sup> With the increase in volume, the potency of opioids also increased. By 2002, one in six drug users were being prescribed drugs more powerful than morphine; by 2012, the ratio had doubled to one-in-three.<sup>[12]</sup> The most commonly prescribed opioids have been oxycodone and hydrocodone.

The epidemic has been described as a "uniquely American problem".<sup>[16]</sup> The structure of the US healthcare system, in which people not qualifying for government programs are required to obtain private insurance, favors prescribing drugs over more expensive therapies. According to Professor Judith Feinberg, "Most insurance, especially for poor people, won't pay for anything but a pill."<sup>[17]</sup> Prescription rates for opioids in the US are 40 percent higher than the rate in other developed countries such as Germany or Canada.<sup>[18]</sup> While the rates of opioid prescriptions increased between 2001 and 2010, the prescription of non-opioid pain relievers (aspirin, ibuprofen, etc.) decreased from 38% to 29% of ambulatory visits in the same time period,<sup>[19]</sup> and there has been no change in the amount of pain reported in the U.S.<sup>[20]</sup> This has led to differing medical opinions, with some noting that there is little evidence that opioids are effective for chronic pain not caused by cancer.<sup>[21]</sup>

## Canada

In 1993, an investigation by the chief coroner in British Columbia identified an "inordinately high number" of drug-related deaths, of which there were 330. By 2017 there were 1473 deaths in British Columbia and in 3996 deaths in Canada as a whole.<sup>[22]</sup>



Number of yearly U.S. opioid overdose deaths from all opioid drugs

Canada followed the United States as the second highest per capita user of prescription opioids in 2015.<sup>[23]</sup> In Alberta, emergency department visits as a result of opiate overdose rose 1,000% in the previous five years. The Canadian Institute for Health Information found that while a third of overdoses were intentional overall, among those ages 15–24 nearly half were intentional.<sup>[24]</sup> In 2017 there were 3,987 opioid-related deaths in Canada, 92% of these deaths being unintentional. The number of deaths involving fentanyl or fentanyl analogues increased by 17% compared to 2016.<sup>[25]</sup>

North America's first safe injection site, Insite, opened in the Downtown Eastside (DTES) neighborhood of Vancouver in 2003. Safe injection sites are legally sanctioned, medically supervised facilities in which individuals are able to consume illicit recreational drugs, as part of a harm reduction approach towards drug problems which also includes information about drugs and basic health care, counseling, sterile injection equipment, treatment referrals, and access to medical staff, for instance in the event of an overdose. Health Canada has licensed 16 safe injection sites in the country.<sup>[26]</sup> In Canada, about half of overdoses resulting in hospitalization were accidental, while a third were deliberate overdoses.<sup>[24]</sup>

OxyContin was removed from the Canadian drug formulary in 2012<sup>[27]</sup> and medical opioid prescription was reduced, but this led to an increase in the illicit supply of stronger and more dangerous opioids such as fentanyl and carfentanil. In 2018 there were around 1 million users at risk from these toxic opioid products. In Vancouver Dr. Jane Buxton of the British Columbia Centre for Disease Control joined the take home naloxone program Take-home\_naloxone\_program in 2012 to provide at risk individuals medication that quickly reverses the effects of an overdose from opioids.<sup>[28]</sup>

## Outside North America

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Approximately 80 percent of the global pharmaceutical opioid supply is consumed in the United States.<sup>[29]</sup> It has also become a serious problem outside the U.S., mostly among young adults.<sup>[30]</sup> The concern not only relates to the drugs themselves, but to the fact that in many countries doctors are less trained about drug addiction, both about its causes or treatment.<sup>[20]</sup> According to an epidemiologist at Columbia University: "Once pharmaceuticals start targeting other countries and make people feel like opioids are safe, we might see a spike [in opioid abuse]. It worked here. Why wouldn't it work elsewhere?"<sup>[20]</sup>

Most deaths worldwide from opioids and prescription drugs are from sexually transmitted infections passed through shared needles. This has led to a global initiative of needle exchange programs ([http://www.gmhc.org/files/editor/file/gmhc\\_intl\\_seps.pdf](http://www.gmhc.org/files/editor/file/gmhc_intl_seps.pdf)) and research into the varying needle types carrying STIs. In Europe, prescription opioids accounted for three-quarters of overdose deaths among those between ages 15 and 39.<sup>[30]</sup> Some worry that the epidemic could become a worldwide pandemic if not curtailed.<sup>[20]</sup> Prescription drug abuse among teenagers in Canada, Australia, and Europe were comparable to U.S. teenagers.<sup>[20]</sup> In Lebanon and Saudi Arabia, and in parts of China, surveys found that one in ten students had used prescription painkillers for non-medical purposes. Similar high rates of non-medical use were found among the young throughout Europe, including Spain and the United Kingdom.<sup>[20]</sup>

While strong opiates are heavily regulated within the European Union, there is a "hidden addiction" with codeine. Codeine, though a mild painkiller, is converted into morphine in the liver<sup>[31]</sup>. "‘It’s a hidden addiction,’ said Dr Michael Bergin of Waterford Institute of Technology, Ireland. ‘Codeine abuse affects people with diverse profiles, from children to older people across all social classes.’"<sup>[31]</sup>

## United Kingdom

From January to August 2017, there were 60 fatal overdoses of fentanyl in the UK.<sup>[32]</sup> Opioid prescribing in English general practice mirrors general geographical health inequalities.<sup>[33]</sup> In July 2019 two Surrey GPs working for a Farnham-based online pharmacy were suspended by the General Medical Council for prescribing opioids online without appropriate safeguards.<sup>[34]</sup> Scotland has a drug mortality rate of 175 per million population aged 15 to 64, by far the worst in Europe.<sup>[35]</sup> Public Health England reported in September 2019 that half the patients using strong painkillers, antidepressants and sleeping tablets had been on them for more than a year, which was generally longer than was "clinically" appropriate and where the risks could outweigh the benefits. They found that problems in the UK were less than in most comparable countries,<sup>[36]</sup> but there were 4,359 deaths related to drug poisoning, largely opioids, in England and Wales in 2018 the highest number recorded since 1993.<sup>[37]</sup>

Public Health England reported in September 2019 that 11.5 million adults in England had been prescribed benzodiazepines, Z-drugs, gabapentinoids, opioids or antidepressants in the year ending March 2018. Half of these had been prescribed for at least a year. About 540,000 had been prescribed opioids continuously for 3 years or more. Prescribing of opioids and Z-drugs had decreased, but antidepressants and gabapentinoids had increased, gabapentinoids by 19% between 2015 and 2018 to around 1.5 million.<sup>[38]</sup>

## Accessibility of prescribed opioids

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The worry surrounding the potential of a worldwide pandemic has affected opioid accessibility in countries around the world. Approximately 25.5 million people per year, including 2.5 million children, die without pain relief worldwide, with many of these cases occurring in low and middle-income countries. The current disparity in accessibility to pain relief in various countries is significant. The U.S. produces or imports 30 times as much pain relief medication as it needs while low-income countries such as Nigeria receive less than 0.2% of what they need, and 90% of all the morphine in the world is used by the world's richest 10%.<sup>[39]</sup>

America's opioid epidemic has resulted in an "opiophobia" that is stirring conversations among some Western legislators and philanthropists about adopting a "war on drugs rhetoric" to oppose the idea of increasing opioid accessibility in other countries, in fear of starting similar opioid epidemics abroad.<sup>[40]</sup> The International Narcotics Control Board (INCB), a monitoring agency established by the U.N. to prevent addiction and ensure appropriate opioid availability for medical use, has written model laws limiting opioid accessibility that it encourages countries to enact. Many of these laws more significantly impact low-income countries; for instance, one model law ruled that only doctors could supply opioids, which limited opioid accessibility in poorer countries that had a scarce number of doctors.<sup>[41]</sup>

In 2018, deputy head of China's National Narcotics Commission Liu Yuejin criticized the U.S. market's role in driving opioid demand.<sup>[42]</sup>

In 2016, the medical news site *STAT* reported that while Mexican cartels are the main source of heroin smuggled into the U.S., Chinese suppliers provide both raw fentanyl and the machinery necessary for its production.<sup>[43]</sup> In British Columbia, police discovered a lab making 100,000 fentanyl pills each month, which they were shipping to Calgary, Alberta. 90 people in Calgary overdosed on the drug in 2015.<sup>[43]</sup> In Southern California, a home-operated drug lab with six pill presses was uncovered by federal agents; each machine was capable of producing thousands of pills an hour.<sup>[43]</sup>

In 2018 a woman died in London after getting a prescription for tramadol from an online doctor based in Prague who had not considered her medical history. Regulators in the UK admitted that there was nothing they could do to stop this happening again.<sup>[44]</sup>

## See also

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- Diseases of despair – including opioid overdose

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