

# Opioid-Related Harms: Simplistic Solutions to the Crisis Ineffective and Cause Collateral Damage

Romayne Gallagher<sup>1,2,3</sup>

<sup>1</sup>St. Paul's Hospital, Hospice Palliative Care Program, Providence Health Care, Vancouver, BC, Canada.

<sup>2</sup>The University of British Columbia, Vancouver, BC, Canada. <sup>3</sup>Complex Pain Centre, BC, Canada.

Health Services Insights  
Volume 11: 1–3  
© The Author(s) 2018  
Article reuse guidelines:  
sagepub.com/journals-permissions  
DOI: 10.1177/1178632918813321



**ABSTRACT:** The narrative of the opioid crisis is that ill-informed and careless prescribing by physicians has led to increases in opioid-related harms including overdose deaths. Focusing on reducing the access to prescribed opioids without treating substance use disorder has led to increases in use of heroin and illicitly produced fentanyl. Overall prescribing of opioids has declined causing collateral damage to those who use opioids appropriately to reduce pain and improve function. The complexity of this issue requires a change in focus and broad changes in society's approach to substance abuse and mental health.

**KEYWORDS:** Opioid crisis, opioid-related harms, opioid prescribing, chronic non-cancer pain, substance use disorder

**RECEIVED:** October 18, 2018. **ACCEPTED:** October 24, 2018.

**TYPE:** Perspective

**FUNDING:** The author(s) received no financial support for the research, authorship, and/or publication of this article

**DECLARATION OF CONFLICTING INTERESTS:** The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: I accept honoraria for educational events from Purdue Pharma Canada.

**CORRESPONDING AUTHOR:** Romayne Gallagher, Complex Pain Centre, St. Paul's Hospital, Hospice Palliative Care Program, Providence Health Care, Vancouver, BC, Canada. Email: rgallagher@providencehealth.bc.ca

Opioids—in use as pain relievers for over 3500 years—remain the analgesic of choice for moderate to severe pain and shortness of breath from advanced disease of any kind. The American Geriatrics Society continues to recommend opioids over the use of Non-steroidal anti-inflammatories (NSAIDs) for persistent pain in older adults.<sup>1</sup> There are systematic reviews showing significant efficacy with opioids in chronic non-cancer pain.<sup>2,3</sup>

Over the past 20 years, increasing deaths from the use of opioids have occurred in North America. Multiple substances—prescription opioids, heroin, illicitly made fentanyl, alcohol, and/or other illicit drugs—are almost always present at the time of death, making the determination of the cause(s) of death challenging,<sup>4</sup> especially when national standards for certification of a drug-related death have only been published this year.<sup>5</sup> Opioids are definitely implicated, but the interaction of all these substances cannot be ignored and indicates a significant substance use disorder (SUD) is present.

In the United States and Canada, opioid prescribing had increased significantly from the mid-1990s up to 2010 in the United States and 2012 in Canada. There were a multitude of causes including an aging population with more chronic pain and deaths, but an over-reliance on opioids for the treatment of chronic non-cancer pain had also occurred. The narrative in medical literature and media is that doctors over-prescribing opioids for chronic pain has directly leads to these deaths.

In the United States, a 10-year quadrupling of opioid prescribing was associated with a quadrupling of overdose mortality<sup>6</sup> and multiple studies<sup>7,8</sup> show an association between prescribing and opioid harms. But when opioid prescribing in United States is compared with non-medical use of opioids (ie, abuse), there is an obvious mismatch.<sup>9</sup> This year the US Centre for Disease Control (CDC) admitted that they had been including deaths from illicitly made fentanyl as a prescription-opioid

harm, and that deaths from prescribed opioids have remained relatively stable from 2009 to 2016.<sup>10</sup> Prescribing of opioids also varies dramatically across Canada.<sup>11</sup> In contrast to other jurisdictions, British Columbia's (BC) mortality rate of 3.9 prescription opioid-associated deaths per 100 000 population has remained stable from 2004 to 2013.<sup>12</sup> This is strikingly different from Ontario's rate which increased from 2.7 to 4.2 per 100 000 population between 2004 and 2010.<sup>13</sup> Interestingly, United Kingdom had a similar rise in opioid prescribing over the same decade but did not see the same rise in opioid harms.<sup>14</sup> The data indicate that not all jurisdictions have experienced an increase in opioid prescribing that has led to increased prescription-related opioid deaths.

Addiction research reveals genetic, environmental, socioeconomic, psychiatric, early childhood abuse and neglect, and early exposure to drugs<sup>15–17</sup> as risk factors for the disorder. While the neurobiology of addiction is still under study, The American Society of Addiction Medicine, in its definition of addiction, sets out the current understanding of the complexity of addiction and is well worth reading.<sup>18</sup> While a number of studies have focused on the dose and length of the prescription of opioid as risk factors for harm, there are many more genetic, socioeconomic, personal history characteristics that are in play when a person receives a prescription for an opioid.

It has been challenging for the media, and healthcare providers, to understand and translate this complex issue. The limitations of large database studies are poorly understood and the association of increasing prescribing with increasing harms has been misinterpreted as causal. Healthcare database studies are attractive as huge sources of data taken from actual practice rather than research studies that are exclusive and often not reflective of reality. Unfortunately, demonizing doctors prescribing has persisted despite known difficulties of healthcare databases such as accuracy of data,<sup>19</sup> selection bias of



databases,<sup>20</sup> and in some studies, a lack of patient-related outcome measures such as pain, function, and quality of life.<sup>21</sup>

Prescribing guidelines, emphasizing the increase risk of opioid harms and death with dosage prescribed,<sup>22</sup> combined with regulatory pressure resulted in significant declines in opioid dose and dispensing since 2011 in the United States<sup>23</sup> and 2012 in Canada.<sup>24</sup> However, without policy, funding, and action to identify and treat addiction, opioid deaths have continued to climb in most areas, sustained by illicitly made fentanyl and a return to heroin.<sup>25</sup> Placing the focus on the drugs, rather than what compels some to misuse substances, has merely driven people to find alternate sources.

From my viewpoint as a clinician, the “opioid crisis” narrative fails to separate several overlapping populations of people that use opioids for different reasons—consciously or unconsciously. It is not definitively known from healthcare databases why the person is taking the opioid. There are those who have chronic pain or advanced illness, without a SUD, who take their medications for pain as directed. These are the majority of pain patients. There are those who have SUD without pain who are likely at the highest risk of opioid overdose death (pain provides a physiologic drive to the respiratory system)<sup>26</sup> and these likely account for most of the opioid overdose deaths as suggested by a detailed review of 615 opioid-related deaths in BC in which 80% were regular illicit substance users<sup>27</sup> with a high percentage of polysubstance use. There is a population of patients who have SUD and chronic pain, who need specialized treatment for both conditions. It remains difficult to quantify the size of this population but a systematic review from 2015<sup>28</sup> put the rate at 8%–12% of the those on long-term opioid therapy for pain, although the CDC guideline reports the highest rate at 6.1%.<sup>29</sup> Complicating all of these populations is mental illness which can coexist with both chronic pain and SUD and can be a factor in opioid use and harms. Stigma prevents people with SUD and mental illness from identifying themselves and seeking treatment. For those who do self-identify, there are inadequate resources for those with low income. Applying a guideline to these three to four different populations may result in reduced harm to some but also may cause collateral damage to others.

There is anecdotal information (media stories) of patients, unable to tolerate tapering of their opioid dose, or cut off opioids by their physician, purchasing opioids on the street and dying from an overdose. In an anonymous survey of 198 family physicians in BC (unpublished data from author), 79% of physicians felt their patients were in more pain, and 56% felt they had reduced function after tapering opioids. Four deaths of patients from street-purchased opioids, either cut off opioids or not tolerating the reduction in dose, were reported. I have personally witnessed older adults with ongoing poor pain management, multiple morbidities, and declining function who have sought physician assisted death.<sup>30</sup>

History has shown that reducing supply of opioids, as the Chinese emperor did in 1729,<sup>31</sup> does not reduce addiction but,

like the whack-a-mole game, the problem shifts to another substance. Harm reduction measures such as naloxone and safe injection sites are a start but much more is needed.<sup>32</sup> Recognizing that opioid prescribing is only one factor in a complex puzzle means devising guidelines that avoid harm to opioids users who are taking them under medical supervision to control symptoms and improve function. To reduce over-reliance on opioids for chronic pain, patients need to have access to funded, or affordable, non-opioid and non-pharmacological therapies that focus on a multidimensional approach to pain.<sup>33</sup> Reduction in the stigma of substance abuse and mental illness, as well as access to timely therapy and psychosocial supports, is key to reducing the prevalence of substance abuse. To reduce the incidence of substance abuse, we need to make serious long-term changes in the determinants of health—a long-term project of culture change.

To me the most destructive force in this complex issue is the politics of pain, substance use and opioids. It has been present throughout the history of their regulation<sup>34,35</sup> and has massive influence on the pendulum swing. Is it the nature of pain—a subjective experience of the body, mind, and spirit—that leads one to use their own personal or family experience to take a side in this issue and find the evidence to fit their belief? One is surely influenced—like blind people feeling an elephant—by the nature of opioid use witnessed; as effective medications to improve pain and function or a menace that drives people to personal ruin and early death. More than ever we need balance, as each time the pendulum swings people are hurt—one way or another.

## Author Contributions

RG generated this report in concept, interpretation of literature, and in writing and revision of the manuscript.

## REFERENCES

1. American Geriatrics Society Panel on Pharmacological Management of Persistent Pain in Older Persons. Pharmacological management of persistent pain in older persons. *J Am Geriatr Soc.* 2009;57:1331–1346. doi:10.1111/j.1532-5415.2009.02376.x.
2. Meske D, Lawal O, Elder H, Langberg V, Paillard F, Katz N. Efficacy of opioids versus placebo in chronic pain: a systematic review and meta-analysis of enriched enrollment randomized withdrawal trials. *J Pain Res.* 2018;11:923–934.
3. Furlan A, Chaparro L, Irvin E, Mailis-Gagnon A. A comparison between enriched and nonenriched enrollment randomized withdrawal trials of opioids for chronic noncancer pain. *Pain Res Manag.* 2011;16:337–351.
4. Warner M, Trinidad JP, Bastian BA, et al. Drugs most frequently involved in drug overdose deaths: United States, 2010–2014. *Natl Vital Stat Rep.* 2016;65:1–15.
5. OSAC Medicolegal Death Investigation Subcommittee: Recommendations for medical examiner/coroner drug-related death investigations. [https://www.nist.gov/sites/default/files/documents/2018/02/14/osac\\_mdi\\_drug\\_related\\_investigation\\_recommendations\\_final\\_2-14-18.pdf](https://www.nist.gov/sites/default/files/documents/2018/02/14/osac_mdi_drug_related_investigation_recommendations_final_2-14-18.pdf). Published February 14, 2018. Accessed July 20, 2018.
6. Paulozzi LJ, Jones CM, Mack KA, Rudd RA. Vital signs: overdoses of prescription opioid pain relievers—United States, 1999–2008. *MMWR Morb Mortal Wkly Rep.* 2011;60:1487–1492.
7. Paulozzi L, Ryan G. Opioid analgesics and the rates of fatal drug poisoning in the United States. *Am J Prev Med.* 2006;31:506–511.
8. Dunn KM, Saunders KW, Rutter CM, et al. Overdose and prescribed opioids: associations among chronic non-cancer pain patients. *Ann Intern Med.* 2010;152:85–92. doi:10.1059/0003-4819-152-2-201001190-00006.

9. Martin SA, Potee RA, Lazris A. Neat, plausible, and generally wrong: a response to the CDC recommendations for chronic opioid use. *medium.com*. <https://medium.com/@stmartin/neat-plausible-and-generally-wrong-a-response-to-the-cdc-recommendations-for-chronic-opioid-use-5c9d9d319f71>. Published September 7, 2016. Accessed July 20, 2018.
10. Seth P, Rudd R, Noonan R, Haegerich T. Quantifying the epidemic of prescription opioid overdose deaths. *Am J Public Health*. 2018;108:500–502.
11. Canadian Institute for Health Information. Amount of opioids prescribed dropping in Canada: prescriptions on the rise. <https://www.cihi.ca/en/amount-of-opioids-prescribed-dropping-in-canada-prescriptions-on-the-rise>. Published 2018. Accessed July 20, 2018.
12. BC Coroner's Service and BC Ministry of Health. Preventing pharmaceutical opioid-associated mortality in British Columbia: a review of prescribed opioid overdose deaths, 2009–2013. <https://www2.gov.bc.ca/assets/gov/health/about-bc-s-health-care-system/office-of-the-provincial-health-officer/reports-publications/special-reports/pharmaceutical-opioid-associated-mortality-in-bc-july-17-2017.pdf>. Accessed July 20, 2018.
13. Gomes T, Greaves S, Martins D, et al. *Latest Trends in Opioid-Related Deaths in Ontario: 1991 to 2015*. Toronto, ON, Canada: Ontario Drug Policy Research Network; 2017. <http://odprn.ca/research/publications/latest-trends-in-opioid-related-deaths-in-ontario-1991-to-2015/>. Accessed July 20, 2018.
14. Weisberg DF, Becker WC, Fiellin WA, Stannard C. Prescription opioid misuse in the United States and the United Kingdom: cautionary lessons. *Int J Drug Policy*. 2014;25:1124–10130. doi:10.1016/j.drugpo.2014.07.009.
15. Camí J, Farré M. Drug addiction. *N Engl J Med*. 2003;349:975–986.
16. Volkow N, Koob G, McLellan AT. Neurobiologic advances from the brain disease model of addiction. *N Engl J Med*. 2016;374:363–371.
17. Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. *Am J Prev Med*. 1998;14:245–258.
18. American Society of Addiction Medicine. <https://www.asam.org/resources/definition-of-addiction>. Accessed September 11, 2018.
19. Balas EA, Vernon M, Magrabi F, Gordon LT, Sexton J. Big Data clinical research: validity, ethics, and regulation. In: Sarkar IN, Georgiou A, De Azevedo Marques PM, eds. *MEDINFO 2015: eHealth-enabled Health*. IMIA and IOS Press, 2015:448–452.
20. Docherty A, Lone N. Exploiting big data for critical care research. *Curr Opin Crit Care*. 2015;21:467–472.
21. Ehrenstein V, Nielsen H, Pedersen A, Johnsen S, Pedersen L. Clinical epidemiology in the era of big data: new opportunities, familiar challenges. *Clin Epidemiol*. 2017;9:245–250.
22. Gomes T, Mamdani MM, Dhalla IA, Paterson JM, Juurlink DN. Opioid dose and drug-related mortality in patients with nonmalignant pain. *Arch Intern Med*. 2011;171:686–691. doi:10.1001/archinternmed.2011.117.
23. Guy G, Zhang K, Bohm M, et al.; U.S. Department of Health and Human Services/Centers for Disease Control and Prevention. Vital signs: changes in opioid prescribing in the United States, 2006–2015. *MMWR*. 2017;66:697–704.
24. Canadian Institute for Health Information (CIHI). *Pan-Canadian Trends in the Prescribing of Opioids, 2012 to 2016*. Ottawa, ON, Canada: CIHI; 2017.
25. Gomes T, Greaves S, Martins D, et al. *Latest Trends in Opioid-Related Deaths in Ontario: 1991 to 2015*. Toronto, ON, Canada: Ontario Drug Policy Research Network; 2017.
26. Kyle B, McNeil D. Autonomic arousal and experimentally induced pain: a critical review of the literature. *Pain Res Manag*. 2014;19:159–167.
27. BC Coroners Service Death Review Panel: a review of illicit drug overdoses. [https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/death-review-panel/bccs\\_illicit\\_drug\\_overdose\\_drp\\_report.pdf](https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/death-review-panel/bccs_illicit_drug_overdose_drp_report.pdf). Published April 5, 2018. Accessed July 20, 2018.
28. Vowles KE, McEntee ML, Julnes PS, et al. Rates of opioid misuse, abuse, and addiction in chronic pain: a systematic review and data synthesis. *Pain*. 2015;156:569–576.
29. Dowell D, Haegerich TM, Chou R. CDC guideline for prescribing opioids for chronic pain—United States, 2016. *MMWR Recomm Rep*. 2016;65:1–49.
30. Gallagher R. New category of opioid-related death. *Can Fam Physician*. 2018;64:95–96.
31. Hoffman J. The historical shift in the perception of opiates: from medicine to social menace. *J Psychoact Drugs*. 1990;22:53–62.
32. Kertesz SG. Turning the tide or riptide? the changing opioid epidemic. *Subst Abuse*. 2016;38:3–8.
33. Manhapra A, Becker W. Pain and addiction: an integrative therapeutic approach. *Med Clin N Am*. 2018;102:745–763. doi:10.1016/j.mcna.2018.02.013.
34. Musto D. *The American Disease: Origins of Narcotic Control*. 3rd ed. New York, NY: Oxford University Press; 1999.
35. Wailoo K. *Pain: A Political History*. Baltimore, MD: John Hopkins University Press; 2014.