


# BMJ Open Facilitators of and barriers to buprenorphine initiation for people with opioid use disorder in the emergency department: protocol for a scoping review

Nikki Bozinoff,<sup>1,2</sup> Charlene Soobiah,<sup>3</sup> Terri Rodak,<sup>4</sup> Christine Bucago,<sup>5</sup> Katie Kingston,<sup>6</sup> Michelle Klaiman,<sup>7</sup> Brittany Poynter,<sup>5</sup> Glenna Samuels,<sup>8</sup> Elizabeth Schoenfeld,<sup>9</sup> Dominick Shelton,<sup>10</sup> Csilla Kalocsai <sup>11,12</sup>

**To cite:** Bozinoff N, Soobiah C, Rodak T, *et al.* Facilitators of and barriers to buprenorphine initiation for people with opioid use disorder in the emergency department: protocol for a scoping review. *BMJ Open* 2021;**11**:e053207. doi:10.1136/bmjopen-2021-053207

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2021-053207>).

Received 12 May 2021

Accepted 13 September 2021



© Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

For numbered affiliations see end of article.

## Correspondence to

Dr Csilla Kalocsai;  
csilla.kalocsai@sunnybrook.ca

## ABSTRACT

**Introduction** Buprenorphine–naloxone is recommended as a first-line agent for the treatment of opioid use disorder. Although initiation of buprenorphine in the emergency department (ED) is evidence based, barriers to implementation persist. A comprehensive review and critical analysis of both facilitators of and barriers to buprenorphine initiation in ED has yet to be published. Our objectives are (1) to map the implementation of buprenorphine induction pathway literature and synthesise what we know about buprenorphine pathways in EDs and (2) to identify gaps in this literature with respect to barriers and facilitators of implementation.

**Methods and analysis** We will conduct a scoping review to comprehensively search the literature, map the evidence and identify gaps in knowledge. The review will adhere to the Preferred Reporting Items for Systematic Reviews and Meta-analyses Protocols Extension for Scoping Reviews and guidance from the Joanna Briggs Institution for conduct of scoping reviews. We will search Medline, APA, PsycINFO, CINAHL, Embase and IBSS from 1995 to present and the search will be restricted to English and French language publications. Citations will be screened in Covidence by two trained reviewers. Discrepancies will be mediated by consensus. Data will be synthesised using a hybrid, inductive–deductive approach, informed by the Consolidated Framework for Implementation Research as well as critical theory to guide further interpretation.

**Ethics and dissemination** This review does not require ethics approval. A group of primary knowledge users, including clinicians and people with lived experience, will be involved in the dissemination of findings including publication in peer-reviewed journals. Results will inform future research, current quality improvement efforts in affiliated hospitals, and aide the creation of a more robust ED response to the escalating overdose crisis.

## INTRODUCTION

The number of opioid-related overdose deaths across North America continues

## Strengths and limitations of this study

- The scoping review will adhere to the Preferred Reporting Items for Systematic Reviews and Meta-analyses Protocols Extension for Scoping Reviews and guidance from the Joanna Briggs Institution for conduct of scoping reviews.
- Key knowledge users including clinicians directly involved in care of this patient population and persons with lived experience have been engaged in all aspects of study design.
- Use of critical theory as well as Consolidated Framework for Implementation Research will inform the analysis and enable us to understand the complex web of barriers to buprenorphine implementation.
- We have excluded non-English/French language publications which may not reflect the full and global scope of the literature.
- As this is a scoping review, no attempt will be made to assess the quality of the included papers.

to rise, with the SARS-coV-2 (COVID-19) pandemic exposing and intensifying the devastating effects of opioid crisis. Across Canada, there were over 3800 opioid-overdose deaths in 2019, and over 49000 opioid-related overdose deaths in the USA in the same year.<sup>1 2</sup> Data from jurisdictions across North America have confirmed that in 2020, COVID-19 exacerbated the overdose crisis as services for people who use drugs shuttered or reduced in-person offerings.<sup>3–7</sup> Emergency departments (EDs) are at the frontlines of the crisis, caring for people with opioid use disorder (OUD) and opioid-related overdose.<sup>8</sup> In British Columbia, for example, 54% of individuals with a fatal or non-fatal overdose had an ED visit in the year

prior.<sup>9</sup> Data from Massachusetts indicates that 5.5% of individuals discharged from the ED with a diagnosis of opioid overdose died within a year, and 0.25% died within 2 days.<sup>10</sup> A substantial proportion of people who later overdose, however, leave the ED without being seen or against medical advice, suggesting missed opportunities for engagement in care.<sup>9 11</sup>

ED visits for people with OUD, therefore, represent a potential window of opportunity for engagement. EDs can lead innovative, evidence-based practices in harm reduction, treatment initiation and facilitation of continuity of care.<sup>12</sup> They can intervene prior to overdose, and specifically can be spaces where first-line treatment for OUD, namely opioid agonist therapy (OAT), is initiated. Buprenorphine–naloxone (Suboxone) is recommended as a first-line agent for the treatment of OUD due to its favourable safety profile and ease of titration.<sup>13</sup> Benefits include reduced overdose mortality,<sup>14 15</sup> lower risk of HIV and hepatitis C infections,<sup>16 17</sup> reduced social harms including crime<sup>18 19</sup> and reduced healthcare costs.<sup>20</sup> In 2015, a high-quality randomised controlled trial demonstrated the feasibility and efficacy of starting OAT in the ED compared with brief intervention and referral to outpatient treatment.<sup>21</sup> Specifically, ED initiation of buprenorphine resulted in improved retention in care at 30 days, reduced rates of self-reported illicit opioid use,<sup>21</sup> and was found to be cost-effective.<sup>20</sup> Since that time, many EDs across North America have implemented buprenorphine initiation in the ED for persons with OUD, often accompanied by order sets and ‘care pathways’ for referral to outpatient treatment, collectively known as ‘buprenorphine induction pathways’.<sup>22–24</sup>

Despite the substantial efforts to implement this evidence-based intervention, data from the office of the chief coroner of Ontario continues to suggest that 64% of opioid-overdose decedents had at least one ED visit in the 365 days prior to death and 20% had an ED visit in the last 30 days prior to death, many of them with psychiatric presentations.<sup>25</sup> In the USA, a recent study using administrative health data found that only 16.6% of people received medication-assisted treatment within 90 days of an ED visit for opioid-related overdose.<sup>26</sup> It is clear that barriers to implementation of this evidence-based intervention continue to exist in the high-stress, unpredictable clinical practice of the ED. There exists an evolving literature with respect to barriers to and facilitators of implementation of buprenorphine induction pathways in EDs across the world. A recent review highlighted best practices for buprenorphine initiation in ED and provided a summary table of barriers to buprenorphine initiation.<sup>27</sup> This review, however, was limited by its broad focus, the inclusion of barriers only, limitations on study type, and a lack of critical analysis in summarising the results. Similarly, Schoenfeld *et al*<sup>28</sup> mapped some barriers to ED-initiation of buprenorphine without conducting a comprehensive literature search, but calling for additional research in this area given the urgent opioid crisis. A comprehensive review and critical analysis of both

barriers and facilitators to buprenorphine initiation in the ED has yet to be published.

It is essential to fill this gap and map the emerging literature so that we can better understand the facilitators and barriers clinicians face in implementing buprenorphine initiation in the ED, and the facilitators and barriers service users face in accessing treatment initiation there. Such understanding is crucial for optimising this innovative intervention so it can achieve its intended positive patient outcome.

This paper outlines our protocol for a scoping review that aims to identify the barriers to and facilitators of the implementation of buprenorphine induction pathways in EDs. Our objectives are the following: (1) to map the implementation of buprenorphine induction pathway literature and synthesise what we know about the facilitators of and barriers to implementation of buprenorphine induction pathways in EDs and (2) to identify gaps in this literature with respect to barriers to and facilitators of the implementation of buprenorphine induction pathways in EDs.

## METHODS AND ANALYSIS

We will conduct a scoping review using a constructivist research paradigm to comprehensively search the literature, map the evidence and identify gaps in knowledge.<sup>29 30</sup> A scoping review approach was selected over a traditional systematic review, as it was more aligned with our research objective to identify gaps in the literature with respect to barriers and facilitators of buprenorphine initiation.<sup>31</sup> The study will be adherent to the Preferred Reporting Items for Systematic Reviews and Meta-analyses Protocols Extension for Scoping Reviews (PRISMA-ScR)<sup>32</sup> and will follow the guidance suggested by the Joanna Briggs Institute<sup>33</sup> and Arksey and O'Malley for conducting scoping reviews.<sup>34</sup> Our review is registered in Open Science Framework and available at <https://osfio/9zvc7/>. The review will be conducted beginning in March 2021, with an anticipated completion date of December 2021.

## Eligibility criteria

We will include publications reporting on barriers and facilitations to the initiation of buprenorphine–naloxone (Suboxone) for OUD in ED settings when it is used as medically assisted treatment, replacement therapy, or as a harm reduction strategy to support continuity of care. We will exclude studies that primarily focus on referral to outpatient care without the initiation of buprenorphine in the ED, as well as studies focusing on naloxone distribution. Recognising the value of scoping reviews in obtaining knowledge from a heterogeneous corpus of literature, no limitation will be based on study design, publication type or population characteristics to ensure relevant publications are not unintentionally excluded. Due to limited resources, we will only include studies reported in English or French. We will also include

conference abstracts and publicly available grey literature to ensure comprehensiveness.

### Information sources

A hospital research librarian (TR) developed the literature search strategy in consultation with the multidisciplinary research team, which included service users (defined as individuals with lived experience of opioid use and/or overdose and of buprenorphine treatment), clinicians, a qualitative research scientist and a methodologist. Prior to finalising the search strategy, three reviewers met to discuss 50 randomly selected articles from a preliminary Medline search in order to refine the search strategy. The search strategy was peer reviewed by a second hospital librarian using the PRESS<sup>35</sup> checklist to ensure the comprehensiveness of the search and the appropriateness of the search terms.

We will search the bibliographic databases Medline, APA PsycINFO, CINAHL, Embase and International Bibliography of the Social Sciences (IBSS), using database-specific subject headings, and collectively generated search terms in natural language. Our strategy employs a multistranded approach to ensure comprehensiveness. Our preliminary probing searches found that many articles discuss initiation of buprenorphine treatment in the ED but do not mention the specific treatment name, barriers or facilitators in the titles or abstracts, referring only generally to 'treatment of OUD'. For this reason, our strategy includes three independent clusters of OAT-related terms: (1) buprenorphine (includes buprenorphine subject headings and a list of brand names for buprenorphine-based prescription drugs), (2) OAT (includes subject headings for OAT and equivalent synonym search terms such as opioid replacement therapy, opioid substitution treatment and medically assisted therapy) and (3) opioid-related disorders (includes subject headings for OUDs and a list of opioids linked via adjacency operator to dependence-related words such as disorder, misuse, addiction, withdrawal and overdose AND treatment (represented by terms such as treatment pathway, acceptance or rejection of treatment, service delivery and barriers or facilitators to care). Each of these clusters is combined with the ED concept (represented by all relevant subject headings related to emergency medicine, and synonyms for the ED such as emergency room, emergency ward, casualty department, and 'accident and emergency') to produce our main pool of results. Two final lines use a frequency operator to capture, and ultimately exclude, abstracts that focus heavily on naloxone distribution or treatment but do not mention buprenorphine or OAT.

The search will be limited to items published from 1995 to present. This time period was chosen as physicians in France, arguably the earliest country to adopt widespread prescribing of this medication for OUD, began prescribing buprenorphine in 1995.<sup>36</sup> Thus, to ensure a focused review, we will not search the databases from

inception. Our full search strategy is detailed in online supplemental appendix 1.

We will employ several approaches to identify additional literature. We will handsearch reference lists of the included articles, use forward citation searching of these same articles, as well as all articles citing the precedent-setting 2015 randomised clinical trial<sup>21</sup> to identify relevant resources not found through databases. In addition, our research team will be encouraged to bring forth potentially relevant articles and resources known to them through networks and experience. Finally, we search for grey literature, defined as any literature not published through traditional means (eg, medical journals) and can include internal reports, working papers or conference proceedings. We will search the Internet for publicly available grey literature via Google using advanced operators and search terms such as 'buprenorphine', 'opioid use disorder', 'opioid overdose', and 'emergency department', and will screen the first 100 results of each search query. We will also perform targeted searches of relevant organisational websites such as those of Health Quality Ontario, HealthCareCAN, Canadian Research Initiative in Substance Misuse (CRISM), and the US-based Substance Abuse and Mental Health Services Administration (SAMHSA) to identify additional relevant reports or guidelines.

### Eligibility screening process

Citations identified by the literature search will be uploaded to Covidence, a systematic review software program that facilitates the management of articles and enables screening of references by multiple reviewers. We will first assess titles and abstracts against our inclusion criteria (online supplemental appendix 2) and studies fulfilling the criteria will move to full-text review. Full-text articles will also be assessed against the inclusion criteria and studies that fulfil the criteria will be included in data abstraction. Two reviewers will independently assess titles and abstracts and full-text articles. Prior to independent screening, we will conduct a calibration exercise with 50 randomly selected citations among reviewers to ensure understanding of inclusion criteria. Discrepancies will be resolved through consensus, or if establishing consensus is difficult, we will follow a 'pause and reflect exercise' to understand diverging perspectives and include the papers that had been identified as relevant.<sup>30</sup> We will apply the same process for data abstraction.

### Data items and abstraction process

To capture facilitators and barriers in the literature, we will use data charting with a charting form developed by the research team in an iterative manner following full-text review. At a minimum, this will include author(s), year of publication, publication type, country of origin (where the study was published or conducted), aims/purpose, study population and sample size (if applicable), methodology, intervention type, comparator (if applicable) and details of these (eg, duration of the intervention) (if



applicable), outcomes related to barriers or facilitators to buprenorphine induction and details of these, authors' conclusions and/or recommendations.

### Methodological appraisal

We will not assess the methodological quality of included articles, as this is a scoping review, and our goal is to provide an overview of the documented barriers and facilitators to the implementation of buprenorphine induction pathways in EDs. This is consistent with guidance from the Joanna Briggs Institute.<sup>33</sup>

### Analysis

Data will be synthesised using a hybrid, inductive-deductive approach. First, we will rely on an iterative process of broad categorisation and thematic analysis, a common approach used in qualitative data analysis.<sup>37</sup> We will construct themes to connect and interpret elements of the data and look for themes where substantial consensus seem to exist and identify alternatives and contradictions. Then we will use the Consolidated Framework for Implementation Research (CFIR),<sup>38</sup> as well as critical theory<sup>39</sup> to guide further interpretation and understanding. CFIR is an implementation science framework that provides a guide for systematically assessing barriers and facilitators to implementing an innovation and has been used in substance use and mental health research.<sup>40 41</sup> The implementation of buprenorphine induction pathway entails a complex and multifaceted process, with many interactive components, which CFIR can uniquely address. Given that the overdose crisis has disproportionately affected marginalised people, we will join critical studies of harm reduction<sup>42–44</sup> in using critical theory to inform our analysis of how relations and structures of power might contribute to inequitable access to buprenorphine induction. NVivo 12 software will be used for data management and analysis. Results will be presented in a map diagram where possible and in narrative format.

### Patient and public involvement

To ensure relevance of our review, we will collaborate with service users and clinicians, acting as equal partners in the review and advising the work led by a clinical scientist (NB) and a qualitative research scientist (CK).<sup>30 45 46</sup> The involvement of service users/patients and the public involvement (PPI) in the conceptualisation and conduct of mental health and substance use research is rapidly gaining popularity, as it is in other areas of health and social services research. Advocates for PPI argue that disrupting conventional research structures by including real-world and lived expertise enhances health service delivery and governance<sup>47</sup> and makes research more transparent and accountable for service users and the public.<sup>48</sup> It is also argued that service users have the right to be involved in health research, and that such involvement improves the efficiency and value of research. Hence, this advisory panel consist of two service users with lived experience with opioid and buprenorphine

use, one nurse and four emergency doctors from three academic hospitals in Toronto, Ontario, and one based in the USA. The two service users were recruited through hospital-affiliated groups that coordinate service user engagement in research. The clinicians led the buprenorphine pathway implementation in their EDs, and therefore, were invited to our study team. The advisory panel will guide the creation of the search strategy, eligibility criteria, data abstraction elements and interpretation of findings to enrich and deepen our understanding of the implementation of buprenorphine pathway and co-produce our scoping review.

### ETHICS AND DISSEMINATION

This review is focused on published and unpublished reports of barriers and facilitators to buprenorphine induction and does not include primary data collection, as such, no formal ethics approval is required.

The primary knowledge user clinicians involved in the project (CB, MK, BP, ES, and DS) are extensively involved in quality improvement efforts for buprenorphine induction pathways in their respective EDs and results will directly inform those quality improvement efforts. Additionally, we plan to present the results at provincial, national and international meetings and to publish in a high-impact journal. As such, our results will inform efforts to increase access to buprenorphine and improve quality of care for people with OUD in North America and beyond. Finally, this work will inform this team's future work including a planned comparative ethnography on barriers and facilitators to buprenorphine initiation in two EDs with established buprenorphine induction pathways.

### DISCUSSION

Our scoping review is the first to examine the complex factors that facilitate and challenge buprenorphine initiation in EDs. This protocol was constructed using established methods for scoping reviews and informed by the expertise of service providers and service users to define the scope and ensure the relevance of our study. A social justice orientation also provides a broader framework for our collaboration with service users and for using a critical theory lens alongside CFIR to understand the complex web of factors that shape the implementation of this evidence-based pathway. Our review will extend the existing literature by synthesising both barriers and facilitators based on a comprehensive review of the literature and will identify gaps in the literature through the use of critical analysis.

We expect that our team may face challenges and tensions around the constructivist epistemological underpinning of our planned research activities. Elsewhere, differences in philosophical stances held by scholars and other stakeholders undertaking scoping reviews, including differences in their fundamental understanding of 'what

can be known' and 'what is evidence', have been identified as a challenge.<sup>30</sup> Aligned with the constructivist foundation of this scoping review, we recognise the value of our diverse expertise, backgrounds, and experiences and the multiple ways in which we understand knowledge. Having thus discussed the ontology and epistemology of this review extensively in advance, we feel equipped to manage these discussions as they arise, and have committed to open communication with team members, transparency in methods and documentation, as well as iteration and adaptation as needed.<sup>30</sup>

This project's feasibility is anchored in team members' shared interest in reviewing all pertinent literature and our shared commitment to making this evidence-based treatment accessible to people struggling with opioid use and their providers. Additional strengths of this protocol include adherence to PRISMA-ScR guidelines, engagement of people with lived experience, and an analysis that will draw on critical theory and CFIR. Possible limitations of this review include the lack of assessment of the quality of the included papers, inclusion of only English or French language papers, and no attempt to quantitatively summarise data.

The results of this review will inform future optimisation efforts of the current implementation of buprenorphine induction pathway, including education for healthcare providers and accessibility to people struggling with opioid use, as well as aide the creation of a more robust and multifaceted ED response to the escalating overdose crisis in Canada and beyond.

#### Author affiliations

<sup>1</sup>Campbell Family Mental Health Research Institute, Centre for Addiction and Mental Health, Toronto, Ontario, Canada

<sup>2</sup>Department of Family and Community Medicine, University of Toronto, Toronto, Ontario, Canada

<sup>3</sup>Institute for Health Policy, Management and Evaluation, University of Toronto, Toronto, Ontario, Canada

<sup>4</sup>CAMH Library, Department of Education, Centre for Addiction and Mental Health, Toronto, Ontario, Canada

<sup>5</sup>Department of Emergency Medicine, Centre for Addiction and Mental Health, Toronto, Ontario, Canada

<sup>6</sup>Youth Advisory Group, Margaret and Wallace McCain Centre for Child, Youth & Family Mental Health and the Child, Youth and Emerging Adult Program, Centre for Addiction and Mental Health, Toronto, Ontario, Canada

<sup>7</sup>Department of Emergency Medicine, St. Michael's Hospital, Unity Health Toronto, Toronto, Ontario, Canada

<sup>8</sup>Patient/Family Research Advisory Network, Centre for Addiction and Mental Health, Toronto, Ontario, Canada

<sup>9</sup>Department of Emergency Medicine, University of Massachusetts Medical School - Baystate Campus, Springfield, Massachusetts, USA

<sup>10</sup>Department of Emergency Medicine, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

<sup>11</sup>Sunnybrook Research Institute, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada

<sup>12</sup>Department of Psychiatry, University of Toronto, Toronto, Ontario, Canada

**Twitter** Csilla Kalocsai @CsillaKalocsai

**Acknowledgements** ES is supported through K08 from AHRQ (Agency for Healthcare Research and Quality) 1K08HS025701-01A1.

**Contributors** NB and CK drafted the manuscript, obtained funding, conceived and developed the study protocol, reviewed, edited and approved the manuscript.

CS developed the study protocol, reviewed, edited and approved the manuscript. TR, CB, KK, MK and DS obtained funding, reviewed, edited and approved the manuscript. BP, GS and ES reviewed, edited and approved the manuscript.

**Funding** This work was supported by the Cass Family Grant for Catalyzing Access and Change, affiliated with the Department of Family and Community Medicine and the Department of Psychiatry at the University of Toronto.

**Competing interests** None declared.

**Patient consent for publication** Not applicable.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Supplemental material** This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

**Open access** This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

#### ORCID iD

Csilla Kalocsai <http://orcid.org/0000-0003-3639-2053>

#### REFERENCES

- Mattson CL, Tanz LJ, Quinn K, *et al.* Trends and Geographic Patterns in Drug and Synthetic Opioid Overdose Deaths - United States, 2013-2019. *MMWR Morb Mortal Wkly Rep* 2021;70:202-7.
- Government of Canada. Opioid- and stimulant-related harms in Canada, 2021. Available: <https://health-infobase.canada.ca/substance-related-harms/opioids-stimulants/>
- Holland KM, Jones C, Vivolo-Kantor AM, *et al.* Trends in US emergency department visits for mental health, overdose, and violence outcomes before and during the COVID-19 pandemic. *JAMA Psychiatry* 2021;78:372-9.
- Mason M, Arukumar P, Feinglass J. The pandemic stay-at-home order and opioid-involved overdose fatalities. *JAMA* 2021;325:2495-6.
- Gomes T, Kitchen SA, Murray R. Measuring the burden of opioid-related mortality in Ontario, Canada, during the COVID-19 pandemic. *JAMA Netw Open* 2021;4:e2112865.
- Gomes T, Murray R, Kolla G, *et al.* Changing circumstances surrounding Opioid-Related deaths in Ontario during the COVID-19 pandemic. Ontario: Ontario Drug Policy Research Network, 2021.
- Slavova S, Rock P, Bush HM, *et al.* Signal of increased opioid overdose during COVID-19 from emergency medical services data. *Drug Alcohol Depend* 2020;214:108176.
- Canadian Institute for Health Information CCoSA. Hospitalizations and emergency department visits due to opioid poisoning in Canada. Ottawa, ON: CIHI, 2016.
- Otterstatter MC, Crabtree A, Dobrer S, *et al.* Patterns of health care utilization among people who overdosed from illegal drugs: a descriptive analysis using the bc provincial overdose cohort. *Health Promot Chronic Dis Prev Can* 2018;38:328-33.
- Weiner SG, Baker O, Bernson D, *et al.* One-year mortality of patients after emergency department treatment for nonfatal opioid overdose. *Ann Emerg Med* 2020;75:13-17.
- Moe J, Chong M, Zhao B, *et al.* Death after emergency department visits for opioid overdose in British Columbia: a retrospective cohort analysis. *CMAJ Open* 2021;9:E242-51.
- Samuels EA, D'Onofrio G, Huntley K, *et al.* A quality framework for emergency department treatment of opioid use disorder. *Ann Emerg Med* 2019;73:237-47.
- Bruneau J, Ahamad K, Goyer Marie-Eve, *et al.* Management of opioid use disorders: a national clinical practice guideline. *CMAJ* 2018;190:E247-57.
- Cornish R, Macleod J, Strang J, *et al.* Risk of death during and after opiate substitution treatment in primary care: prospective

- observational study in UK general practice research database. *BMJ* 2010;341:c5475.
- 15 Degenhardt L, Bucello C, Mathers B, *et al.* Mortality among regular or dependent users of heroin and other opioids: a systematic review and meta-analysis of cohort studies. *Addiction* 2011;106:32–51.
  - 16 MacArthur GJ, Minozzi S, Martin N, *et al.* Opiate substitution treatment and HIV transmission in people who inject drugs: systematic review and meta-analysis. *BMJ* 2012;345:e5945.
  - 17 Nolan S, Dias Lima V, Fairbairn N, *et al.* The impact of methadone maintenance therapy on hepatitis C incidence among illicit drug users. *Addiction* 2014;109:2053–9.
  - 18 Lawrinson P, Ali R, Buavirat A, *et al.* Key findings from the WHO collaborative study on substitution therapy for opioid dependence and HIV/AIDS. *Addiction* 2008;103:1484–92.
  - 19 Connock M, Juarez-Garcia A, Jowett S, *et al.* Methadone and buprenorphine for the management of opioid dependence: a systematic review and economic evaluation. *Health Technol Assess* 2007;11:1–171.
  - 20 Busch SH, Fiellin DA, Chawarski MC, *et al.* Cost-effectiveness of emergency department-initiated treatment for opioid dependence. *Addiction* 2017;112:2002–10.
  - 21 D'Onofrio G, O'Connor PG, Pantalon MV, *et al.* Emergency department-initiated buprenorphine/naloxone treatment for opioid dependence: a randomized clinical trial. *JAMA* 2015;313:1636–44.
  - 22 McLane P, Scott K, Suleman Z, *et al.* Multi-site intervention to improve emergency department care for patients who live with opioid use disorder: a quantitative evaluation. *CJEM* 2020;22:784–92.
  - 23 Bogan C, Jennings L, Haynes L, *et al.* Implementation of emergency department-initiated buprenorphine for opioid use disorder in a rural southern state. *J Subst Abuse Treat* 2020;112S:73–8.
  - 24 Fox L, Nelson LS. Emergency department initiation of buprenorphine for opioid use disorder: current status, and future potential. *CNS Drugs* 2019;33:1147–54.
  - 25 Oot C. *Opioid surveillance data for Ontario: overview and discussion for ESC.* [PowerPoint presentation at the meeting of the Chief Medical Officer of Health as a part of the Ministry of Health and Long-term Care, Toronto, ON], 2019.
  - 26 Kilari AS, Xiong A, Lowenstein M, *et al.* Incidence of treatment for opioid use disorder following nonfatal overdose in commercially insured patients. *JAMA Netw Open* 2020;3:e205852.
  - 27 Cao SS, Dunham SI, Simpson SA. Prescribing buprenorphine for opioid use disorders in the ED: a review of best practices, barriers, and future directions. *Open Access Emerg Med* 2020;12:261–74.
  - 28 Schoenfeld EM, Westafer LM, Soares WE. Missed opportunities to save Lives-Treatments for opioid use disorder after overdose. *JAMA Netw Open* 2020;3:e206369.
  - 29 Rees CE, Crampton PES, Monrouxe LV. Re-visioning academic medicine through a constructionist lens. *Acad Med* 2020;95:846–50.
  - 30 Thomas A, Lubarsky S, Varpio L, *et al.* Scoping reviews in health professions education: challenges, considerations and lessons learned about epistemology and methodology. *Adv Health Sci Educ Theory Pract* 2020;25:989–1002.
  - 31 Munn Z, Peters MDJ, Stern C, *et al.* Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Med Res Methodol* 2018;18:143.
  - 32 Tricco AC, Lillie E, Zarin W, *et al.* PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;169:467–73.
  - 33 Peters MDJ, Marnie C, Tricco AC, *et al.* Updated methodological guidance for the conduct of scoping reviews. *JBI Evid Synth* 2020;18:2119–26.
  - 34 Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol* 2005;8:19–32.
  - 35 McGowan J, Sampson M, Salzwedel DM, *et al.* PRESS peer review of electronic search strategies: 2015 guideline statement. *J Clin Epidemiol* 2016;75:40–6.
  - 36 Auriacombe M, Fatséas M, Dubernet J, *et al.* French field experience with buprenorphine. *Am J Addict* 2004;13:S17–28.
  - 37 Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:77–101.
  - 38 Damschroder LJ, Aron DC, Keith RE, *et al.* Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implement Sci* 2009;4:50.
  - 39 Paradis E, Nimmon L, Wondimagegn D, *et al.* Critical theory: broadening our thinking to explore the structural factors at play in health professions education. *Acad Med* 2020;95:842–5.
  - 40 Serhal E, Arena A, Sockalingam S, *et al.* Adapting the consolidated framework for implementation research to create organizational readiness and implementation tools for project echo. *J Contin Educ Health Prof* 2018;38:145–51.
  - 41 Van Deirse TB, Burger A, Burgin S, *et al.* Using the consolidated framework for implementation research to examine implementation determinants of specialty mental health probation. *Health Justice* 2019;7:17.
  - 42 Pauly B. Harm reduction through a social justice lens. *Int J Drug Policy* 2008;19:4–10.
  - 43 Strike C, Watson TM. Losing the uphill battle? Emergent harm reduction interventions and barriers during the opioid overdose crisis in Canada. *Int J Drug Policy* 2019;71:178–82.
  - 44 Watson TM, Kolla G, van der Meulen E, *et al.* Critical studies of harm reduction: overdose response in uncertain political times. *Int J Drug Policy* 2020;76:102615.
  - 45 Greenhalgh T, Jackson C, Shaw S, *et al.* Achieving research impact through co-creation in community-based health services: literature review and case study. *Milbank Q* 2016;94:392–429.
  - 46 Madden M, Speed E. Beware zombies and unicorns: toward critical patient and public involvement in health research in a neoliberal context. *Front Sociol* 2017;2:7.
  - 47 Bombard Y, Baker GR, Orlando E, *et al.* Engaging patients to improve quality of care: a systematic review. *Implement Sci* 2018;13:98.
  - 48 Greenhalgh T, Hinton L, Finlay T, *et al.* Frameworks for supporting patient and public involvement in research: systematic review and co-design pilot. *Health Expect* 2019;22:785–801.

## Appendix 1. search strategies for scoping review

**Medline (including Epub Ahead of Print, In-Process & Other Non-Indexed Citations)**

- 1 Buprenorphine/
- 2 Buprenorphine, Naloxone Drug Combination/
- 3 (buprenorphine or burprex or suboxone or brixadi or bunavail or buprenex or butrans or buvidal or cizdol or norspan or prefin or probuphine or sublocade or subutex or temgesic or zubsolv).ti,ab,kf.
- 4 or/1-3
- 5 Opiate Substitution Treatment/
- 6 ((opioid\* or opiate\*) adj3 (replacement or substitution or maintenance)).ti,ab,kf.
- 7 ((opioid\* or opiate\*) adj3 (maintenance or substitution or replacement) adj3 (treatment or therap\*)).ti,ab,kf.
- 8 (Opioid agonist\* adj3 (treatment\* or therap\*)).ti,ab,kf.
- 9 ((medica\* assisted or opioid assisted) adj3 (treatment\* or therap\*)).ti,ab,kf. (910)
- 10 or/5-9
- 11 exp Opioid-Related Disorders/
- 12 ((opioid\* or opiate\* or abstral or atasol or avinza or buprenorphine or butorphanol or butrans or coactifed or codeine or cotridin or covan or demerol or dextropropoxyphene or dihydrocodeine or dilaudid or diphenoxylate or doloral or duragesic or durela or empracet or emtec or endocet or endodan or fentanil or fentanyl or fentora or fiorinal or heroin or hycodan or hydrocodone or hydromorph\* or jurnista or kadian or lenoltec or levorphanol or lomotil or lorcet or lortab or meperidine or "m-eslon" or metadol or methado or methadone or morphine or "ms contin" or "ms-ir" or nalbuphine or novahist or nubain or nucynta or opana or "oxy.ir" or oxyco or oxycodone or oxycontin or "oxy-ir" or oxymorphone or oxyneo or pentazocine or percocet or percodan or pethidine or procet or propoxyphene or ralivia or rivacocet or sepeudol or stadol or statex or suboxone or talwin or tapentadol or targin or tecnal or tramacet or tramadol or tridural or tussionex or ultram or vicodin or zytram) adj3 (depend\* or disorder\* or "use" or user\* or using or misus\* or abuse\* or abusi\* or addict\* or withdraw\* or overdos\* or postoverdos\*)).ti,ab,kf,hw.
- 13 ((overdos\* or postoverdos\*) and (opioid\* or opiate\*)).ti,ab,kf,hw.
- 14 ((initiat\* or pathway\* or enroll\* or start\* or accept\* or reject\* or refus\* or consider\* or link\* or facilitat\* or access\* or connect\* or discuss\* or conversation\* or present\* or admit\* or admission\* or administer\* or deliver\*) adj5 (care or treat\* or therap\* or service\* or intervention\* or program\*)).ti,ab,kf,hw.
- 15 ((implement\* or initiat\* or induction) adj3 pathway\*).ti,ab,kf,hw.
- 16 ((barrier\* or facilitat\*) adj3 (care or treat\* or therap\* or pathway\* or service\* or intervention\* or program\*)).ti,ab,kf,hw.



- 17 harm reduction.ti,ab,kf,hw.
- 18 ((patient\* or user\*) adj3 (experience\* or perspective\* or opinion\* or view\* or attitude\* or voice\* or feedback)).ti,ab,kf.
- 19 (11 or 12 or 13) and (14 or 15 or 16 or 17 or 18)
- 20 ((opioid\* or opiate\*) adj3 (disorder\* or depend\* or withdraw\* or overdos\* or postoverdos\*) adj5 treat\*).ti,ab,kf.
- 21 Emergency medical services/
- 22 exp Emergency Service, Hospital/
- 23 emergency medicine/
- 24 emergency nursing/
- 25 emergency adj3 (department\* or ward\* or unit\* or room\* or service\* or medicine or center\* or centre\* or clinic or clinics or hospital\* or care or visit\* or patient\*).ti,ab,kf,hw.
- 26 (casualty adj1 (department\* or ward\* or unit\* or room\* or service\* or medicine or center\* or centre\* or clinic or clinics or hospital\* or visit\* or patient\*).ti,ab,kf.
- 27 "a&e".ti,ab,kf.
- 28 or/21-27
- 29 4 or 10 or 19 or 20
- 30 28 and 29
- 31 limit 30 to yr="1995 -Current"
- 32 naloxone.ab. /freq=4 not (buprenorphine or suboxone or ((replacement or substitution or maintenance or assisted) adj1 (treatment\* or therap\*))).ab.
- 33 31 not 32

## Embase

- 1 Buprenorphine/ (19176)
- 2 buprenorphine plus naloxone/ (2024)
- 3 (buprenorphine or burprex or suboxone or brixadi or bunavail or buprenex or butrans or buvidal or cizdol or norspan or prefin or probuphine or sublocade or subutex or temgesic or zubsolv).ti,ab,kw. (11061)
- 4 or/1-3 (20923)
- 5 Opiate Substitution Treatment/ (2606)
- 6 ((opioid\* or opiate\*) adj3 (replacement or substitution or maintenance)).ti,ab,kw. (3878)
- 7 ((opioid\* or opiate\*) adj3 (maintenance or substitution or replacement) adj3 (treatment or therap\*)).ti,ab,kw. (3006)
- 8 (Opioid agonist\* adj3 (treatment\* or therap\*)).ti,ab,kw. (1121)
- 9 ((medica\* assisted or opioid assisted) adj3 (treatment\* or therap\*)).ti,ab,kw. (1306)



- 10 or/5-9 (7092)
- 11 exp Opioid-Related Disorders/ (22335)
- 12 ((opiod\* or opiate\* or abstral or atasol or avinza or buprenorphine or butorphanol or butrans or coactifed or codeine or cotridin or covan or demerol or dextropropoxyphene or dihydrocodeine or dilaudid or diphenoxylate or doloral or duragesic or durela or empracet or emtec or endocet or endodan or fentanil or fentanyl or fentora or fiorinal or heroin or hycodan or hydrocodone or hydromorph\* or jurnista or kadian or lenoltec or levorphanol or lomotil or lorcet or lortab or meperidine or "m-eslon" or metadol or methado or methadone or morphine or "ms contin" or "ms-ir" or nalbuphine or novahist or nubain or nucynta or opana or "oxy.ir" or oxyco or oxycodone or oxycontin or "oxy-ir" or oxymorphone or oxyneo or pentazocine or percocet or percodan or pethidine or procet or propoxyphene or ralivia or rivacocet or sepeudol or stadol or statex or suboxone or talwin or tapentadol or targin or tecnal or tramacet or tramadol or tridural or tussionex or ultram or vicodin or zytram) adj3 (depend\* or disorder\* or "use" or user\* or using or misus\* or abuse\* or abusi\* or addict\* or withdraw\* or overdos\* or postoverdos\*)).ti,ab,kw,hw. (85627)
- 13 ((overdos\* or postoverdos\*) and (opiod\* or opiate\*)).ti,ab,kw,hw. (9993)
- 14 ((initiat\* or pathway\* or enroll\* or start\* or accept\* or reject\* or refus\* or consider\* or link\* or facilitat\* or access\* or connect\* or discuss\* or conversation\* or present\* or admit\* or admission\* or administer\* or deliver\*) adj5 (care or treat\* or therap\* or service\* or intervention\* or program\*)).ti,ab,kw,hw. (1926168)
- 15 ((implement\* or initiat\* or induction) adj3 pathway\*).ti,ab,kw,hw. (14049)
- 16 ((barrier\* or facilitat\*) adj3 (care or treat\* or therap\* or pathway\* or service\* or intervention\* or program\*)).ti,ab,kw,hw. (67390)
- 17 harm reduction.ti,ab,kw,hw. (10217)
- 18 ((patient\* or user\*) adj3 (experience\* or perspective\* or opinion\* or view\* or attitude\* or voice\* or feedback)).ti,ab,kw. (299347)
- 19 (11 or 12 or 13) and (14 or 15 or 16 or 17 or 18) (15800)
- 20 ((opiod\* or opiate\*) adj3 (disorder\* or depend\* or withdraw\* or overdos\* or postoverdos\*) adj5 treat\*).ti,ab,kw. (5977)
- 21 emergency health service/ (105637)
- 22 Hospital emergency service/ (6034)
- 23 Emergency ward/ (159716)
- 24 emergency medicine/ (42355)
- 25 emergency nursing/ (6700)
- 26 (emergency adj3 (department\* or ward\* or unit\* or room\* or service\* or medicine or center\* or centre\* or clinic or clinics or hospital\* or care or visit\* or patient\*)).ti,ab,kw,hw. (408745)
- 27 (casualty adj1 (department\* or ward\* or unit\* or room\* or service\* or medicine or center\* or centre\* or clinic or clinics or hospital\* or visit\* or patient\*)).ti,ab,kw. (1337)
- 28 "a&e".ti,ab,kw. (49718)

- 29 or/21-28 (460398)
- 30 4 or 10 or 19 or 20 (38258)
- 31 29 and 30 (2140)
- 32 limit 31 to yr="1995 -Current" (2106)
- 33 naloxone.ab. /freq=4 not (buprenorphine or suboxone or ((replacement or substitution or maintenance or assisted) adj1 (treatment\* or therap\*))).ab. (4626)
- 34 32 not 33 (1951)

### APA PsycInfo

- 1 Buprenorphine/ (1933)
- 2 (buprenorphine or burprex or suboxone or brixadi or bunavail or buprenex or butrans or buvidal or cizdol or norspan or prefin or probuphine or sublocade or subutex or temgesic or zubsolv).ti,ab,id. (3104)
- 3 1 or 2 (3108)
- 4 Medication-Assisted Treatment/ (200)
- 5 ((opioid\* or opiate\*) adj3 (replacement or substitution or maintenance)).ti,ab,id. (1544)
- 6 ((opioid\* or opiate\*) adj3 (maintenance or substitution or replacement) adj3 (treatment or therap\*)).ti,ab,id. (1176)
- 7 (Opioid agonist\* adj3 (treatment\* or therap\*)).ti,ab,id. (455)
- 8 ((medica\* assisted or opioid assisted) adj3 (treatment\* or therap\*)).ti,ab,id. (554)
- 9 or/4-8 (2441)
- 10 exp "Opioid use Disorder"/ (3685)
- 11 ((opioid\* or opiate\* or abstral or atasol or avinza or buprenorphine or butorphanol or butrans or coactifed or codeine or cotridin or covan or demerol or dextropropoxyphene or dihydrocodeine or dilaudid or diphenoxylate or doloral or duragesic or durela or empracet or emtec or endocet or endodan or fentanil or fentanyl or fentora or fiorinal or heroin or hycodan or hydrocodone or hydromorph\* or jurnista or kadian or lenoltec or levorphanol or lomotil or lorcet or lortab or meperidine or "m-eslon" or metadol or methado or methadone or morphine or "ms contin" or "ms-ir" or nalbuphine or novahist or nubain or nucynta or opana or "oxy.ir" or oxyco or oxycodone or oxycontin or "oxy-ir" or oxymorphone or oxyneo or pentazocine or percocet or percodan or pethidine or procet or propoxyphene or ralivia or rivacocet or sepeudol or stadol or statex or suboxone or talwin or tapentadol or targin or tecnal or tramacet or tramadol or tridural or tussionex or ultram or vicodin or zytram) adj3 (depend\* or disorder\* or "use" or user\* or using or misus\* or abuse\* or abusi\* or addict\* or withdraw\* or overdos\* or postoverdos\*)).ti,ab,id,hw. (21980)
- 12 ((overdos\* or postoverdos\*) and (opioid\* or opiate\*)).ti,ab,id,hw. (2228)

- 13 ((initiat\* or pathway\* or enroll\* or start\* or accept\* or reject\* or refus\* or consider\* or link\* or facilitat\* or access\* or connect\* or discuss\* or conversation\* or present\* or admit\* or admission\* or administer\* or deliver\*) adj5 (care or treat\* or therap\* or service\* or intervention\* or program\*)).ti,ab,id,hw. (331164)
- 14 ((implement\* or initiat\* or induction) adj3 pathway\*).ti,ab,id,hw. (505)
- 15 ((barrier\* or facilitat\*) adj3 (care or treat\* or therap\* or pathway\* or service\* or intervention\* or program\*)).ti,ab,id,hw. (24780)
- 16 harm reduction.ti,ab,id,hw. (5519)
- 17 ((patient\* or user\*) adj3 (experience\* or perspective\* or opinion\* or view\* or attitude\* or voice\* or feedback)).ti,ab,id,hw. (43129)
- 18 (10 or 11 or 12) and (13 or 14 or 15 or 16 or 17) (4879)
- 19 ((opioid\* or opiate\*) adj3 (disorder\* or depend\* or withdraw\* or overdos\* or postoverdos\*) adj5 treat\*).ti,ab,id. (2736)
- 20 Emergency services/ (8805)
- 21 emergency medicine/ (354)
- 22 (emergency adj3 (department\* or ward\* or unit\* or room\* or service\* or medicine or center\* or centre\* or clinic or clinics or hospital\* or care or visit\* or patient\*)).ti,ab,id,hw. (20101)
- 23 (casualty adj1 (department\* or ward\* or unit\* or room\* or service\* or medicine or center\* or centre\* or clinic or clinics or hospital\* or visit\* or patient\*)).ti,ab,id. (68)
- 24 "a&e".ti,ab,id. (1749)
- 25 or/20-24 (21776)
- 26 3 or 9 or 18 or 19 (9049)
- 27 25 and 26 (242)
- 28 limit 27 to yr="2010 -Current" (204)
- 29 naloxone.ab. /freq=4 not (buprenorphine or suboxone or ((replacement or substitution or maintenance or assisted) adj1 (treatment\* or therap\*))).ab. (816)
- 30 28 not 29 (183)

## CINAHL

|   |  |      |
|---|--|------|
| 1 | MH Buprenorphine   | 3549 |
| 2 | (buprenorphine or burprex or suboxone or brixadi or bunavail or buprenex or butrans or buvidal or cizdol or norspan or prefinor probuphine or sublocade or subutex or temgesic or zubsolv) | 4694 |
| 3 | S1 OR S2   | 4694 |
| 4 | ((opioid* or opiate*) n3 (replacement or substitution or maintenance))   | 1364 |
| 5 | ((opioid* or opiate*) n3 (maintenance or substitution or replacement) n3 (treatment or therap*))   | 1106 |

|    |   |         |
|----|---|---------|
| 6  | (Opioid agonist* n3 (treatment* or therap*))  | 509     |
| 7  | ((medica* assisted or opioid assisted) n3 (treatment* or therap*))  | 778     |
| 8  | S4 OR S5 OR S6 OR S7  | 2,571   |
| 9  | ((opioid* or opiate* or abstral or atasol or avinza or buprenorphine or butorphanol or butrans or coactifed or codeine or cotridin or covan or demerol or dextropropoxyphene or dihydrocodeine or dilaudid or diphenoxylate or doloral or duragesic or durela or empracet or emtec or endocet or endodan or fentanil or fentanyl or fentora or fiorinal or heroin or hycodan or hydrocodone or hydromorph* or jurnista or kadian or lenoltec or levorphanol or lomotil or lorcet or lortab or meperidine or "m-eslon" or metadol or methado or methadone or morphine or "ms contin" or "ms-ir" or nalbuphine or novahist or nubain or nucynta or opana or "oxy-ir" or oxyco or oxycodone or oxycontin or "oxy-ir" or oxymorphone or oxyneo or pentazocine or percocet or percodan or pethidine or procet or propoxyphene or ralivia or rivacocet or sepeudol or stadol or statex or suboxone or talwin or tapentadol or targin or tecnal or tramacet or tramadol or tridural or tussionex or ultram or vicodin or zytram) n3 (depend* or disorder* or "use" or user* or using or misus* or abuse* or abusi* or addict* or withdraw* or overdos* or postoverdos*)) | 31,498  |
| 10 | ((overdos* or postoverdos*) and (opioid* or opiate*))   | 4,552   |
| 11 | ((initiat* or pathway* or enroll* or start* or accept* or reject* or refus* or consider* or link* or facilitat* or access* or connect* or discuss* or conversation* or present* or admit* or admission* or administer* or deliver*) n5 (care or treat* or therap* or service* or intervention* or program*))  | 565,906 |
| 12 | ((implement* or initiat* or induction) n3 pathway*)   | 1,632   |
| 13 | ((barrier* or facilitat*) n3 (care or treat* or therap* or pathway* or service* or intervention* or program*))  | 32,361  |
| 14 | harm reduction  | 6,054   |
| 15 | ((patient* or user*) n3 (experience* or perspective* or opinion* or view* or attitude* or voice* or feedback))  | 126,038 |
| 16 | (S9 or S10) and (s11 or s12 or s13 or s14 or s15)   | 7,061   |
| 17 | ((opioid* or opiate*) n3 (disorder* or depend* or withdraw* or overdos* or postoverdos*) n5 treat*)   | 2,967   |
| 18 | (MH "Emergency Service+")   | 63,344  |
| 19 | (MH "Emergency Medicine")   | 12,788  |
| 20 | (MH "Emergency Nursing")  | 14,530  |
| 21 | (emergency n3 (department* or ward* or unit* or room* or service* or medicine or center* or centre* or clinic or clinics or hospital* or care or visit* or patient*))   | 159,798 |
| 22 | (casualty n1 (department* or ward* or unit* or room* or service* or medicine or center* or centre* or clinic or clinics or hospital* or visit* or patient*))  | 289     |
| 23 | S18 OR S19 OR S20 OR S21 OR S22   | 17,121  |



|    |  |       |
|----|--|-------|
| 24 | S3 OR S8 OR S16 OR S17                                     | 12359 |
| 25 | S23 AND S24  | 714   |
| 26 | S23 AND S24 (Limiters - Published Date: 20100101-20211231) | 643   |

**IBSS**

1. noft((buprenorphine or burprex or suboxone or brixadi or bunavail or buprenex or butrans or buvidal or cizdol or norspan or prefin or probuphine or sublocade or subutex or temgesic or zubsolv)) 347
2. noft(((opioid\* or opiate\*) NEAR/3 (replacement or substitution or maintenance))) 391
3. noft(((opioid\* or opiate\*) NEAR/3 (maintenance or substitution or replacement) NEAR/3 (treatment or therap\*))) 353
4. noft(Opioid agonist\* NEAR/3 (treatment\* or therap\*)) 115
5. noft(("medically assisted" OR "opioid assisted") NEAR/3 (treatment\* OR therap\*)) 8
6. noft(((opioid\* or opiate\* or abstral or atasol or avinza or buprenorphine or butorphanol or butrans or coactifed or codeine or cotridin or covan or demerol or dextropropoxyphene or dihydrocodeine or dilaudid or diphenoxylate or doloral or duragesic or durela or empracet or emtec or endocet or endodan or fentanil or fentanyl or fentora or fiorinal or heroin or hycodan or hydrocodone or hydromorph\* or jurnista or kadian or lenoltec or levorphanol or lomotil or lorcet or lortab or meperidine or "m-eslon" or metadol or methado or methadone or morphine or "ms contin" or "ms-ir" or nalbuphine or novahist or nubain or nucynta or opana or "oxy-ir" or oxyco or oxycodone or oxycontin or "oxy-ir" or oxymorphone or oxyneo or pentazocine or percocet or percodan or pethidine or procet or propoxyphene or ralivia or rivacocet or sepeudol or stadol or statex or suboxone or talwin or tapentadol or targin or tecnal or tramacet or tramadol or tridural or tussionex or ultram or vicodin or zytram) NEAR/3 (depend\* or disorder\* or "use" or user\* or using or misuse\* or abuse\* or abusi\* or addict\* or withdraw\* or overdos\* or postoverdos\*)) ) 2,317
7. noft(((overdos\* or postoverdos\*) and (opioid\* or opiate\*)) ) 442
8. noft(((initiat\* or pathway\* or enroll\* or start\* or accept\* or reject\* or refus\* or consider\* or link\* or facilitat\* or access\* or connect\* or discuss\* or conversation\* or present\* or admit\* or admission\* or administer\* or deliver\*) NEAR/5 (care or treat\* or therap\* or service\* or intervention\* or program\*)) ) 76,758
9. noft(((implement\* or initiat\* or induction) NEAR/3 pathway\*)) ) 109
10. noft(((barrier\* or facilitat\*) NEAR/3 (care or treat\* or therap\* or pathway\* or service\* or intervention\* or program\*)) ) 4,403
11. noft(harm reduction ) 1,899
12. noft( ((patient\* or user\*) NEAR/3 (experience\* or perspective\* or opinion\* or view\* or attitude\* or voice\* or feedback))) 4,964

13. noft(((opioid\* OR opiate\*) NEAR/3 (replacement OR substitution OR maintenance))) OR noft(((opioid\* OR opiate\*) NEAR/3 (maintenance OR substitution OR replacement) NEAR/3 (treatment OR therap\*))) OR (Opioid agonist\* NEAR/3 (treatment\* or therap\*)) OR noft(("medically assisted" OR "opioid assisted") NEAR/3 (treatment\* OR therap\*)) 504
14. noft(((opioid\* OR opiate\* OR abstral OR atasol OR avinza OR buprenorphine OR butorphanol OR butrans OR coactifed OR codeine OR cotridin OR covan OR demerol OR dextropropoxyphene OR dihydrocodeine OR dilaudid OR diphenoxylate OR doloral OR duragesic OR durela OR empracet OR emtec OR endocet OR endodan OR fentanil OR fentanyl OR fentora OR fiorinal OR heroin OR hycodan OR hydrocodone OR hydromorph\* OR jurnista OR kadian OR lenoltec OR levorphanol OR lomotil OR lorcet OR lortab OR meperidine OR "m-eslon" OR metadol OR methado OR methadone OR morphine OR "ms contin" OR "ms-ir" OR nalbuphine OR novahist OR nubain OR nucynta OR opana OR "oxy.ir" OR oxyco OR oxycodone OR oxycontin OR "oxy-ir" OR oxymorphone OR oxyneo OR pentazocine OR percocet OR percodan OR pethidine OR procet OR propoxyphene OR ralivia OR rivacocet OR sepeudol OR stadol OR statex OR suboxone OR talwin OR tapentadol OR targin OR tecnal OR tramacet OR tramadol OR tridural OR tussionex OR ultram OR vicodin OR zytram) NEAR/3 (depend\* OR disorder\* OR "use" OR user\* OR using OR misus\* OR abuse\* OR abusi\* OR addict\* OR withdraw\* OR overdos\* OR postoverdos\*))) OR noft(((overdos\* OR postoverdos\*) AND (opioid\* OR opiate\*))) 2,375
15. noft(((initiat\* OR pathway\* OR enroll\* OR start\* OR accept\* OR reject\* OR refus\* OR consider\* OR link\* OR facilitat\* OR access\* OR connect\* OR discuss\* OR conversation\* OR present\* OR admit\* OR admission\* OR administer\* OR deliver\*) NEAR/5 (care OR treat\* OR therap\* OR service\* OR intervention\* OR program\*))) OR noft(((implement\* OR initiat\* OR induction) NEAR/3 pathway\*)) OR noft(((barrier\* OR facilitat\*) NEAR/3 (care OR treat\* OR therap\* OR pathway\* OR service\* OR intervention\* OR program\*))) OR noft(harm reduction) OR noft(((patient\* OR user\*) NEAR/3 (experience\* OR perspective\* OR opinion\* OR view\* OR attitude\* OR voice\* OR feedback))) 83,272
16. (noft(((opioid\* OR opiate\* OR abstral OR atasol OR avinza OR buprenorphine OR butorphanol OR butrans OR coactifed OR codeine OR cotridin OR covan OR demerol OR dextropropoxyphene OR dihydrocodeine OR dilaudid OR diphenoxylate OR doloral OR duragesic OR durela OR empracet OR emtec OR endocet OR endodan OR fentanyl OR fentanyl OR fentora OR fiorinal OR heroin OR hycodan OR hydrocodone OR hydromorph\* OR jurnista OR kadian OR lenoltec OR levorphanol OR lomotil OR lorcet OR Lortab OR meperidine OR "m-eslon" OR metadol OR methado OR methadone OR morphine OR "ms contin" OR "ms-ir" OR nalbuphine OR novahist OR nubain OR nucynta OR opana OR "oxy.ir" OR oxyco OR oxycodone OR oxycontin OR "oxy-ir" OR oxymorphone OR oxyneo OR pentazocine ORpercocet OR percodan OR pethidine OR procet ORpropoxyphene OR ralivia OR rivacocet OR sepeudol OR stadol OR statex OR suboxone OR talwin OR tapentadol OR targin OR tecnal OR tramacet OR tramadol OR tridural OR tussionex OR ultram OR vicodin OR zytram) NEAR/3 (depend\* OR disorder\* OR "use" OR user\* OR using OR misus\* OR abuse\* OR

abusi\* OR addict\* OR withdraw\* OR overdos\* OR postoverdos\*))) OR  
 noft(((overdos\* OR postoverdos\*) AND (opioid\* OR opiate\*))) AND(noft(((initiat\*  
 OR pathway\* OR enroll\* OR start\* OR accept\* OR reject\* OR refus\* OR  
 consider\* OR link\* OR facilitat\* OR access\* OR connect\* OR discuss\* OR  
 conversation\* OR present\* OR admit\* OR admission\* OR administer\* OR  
 deliver\*) NEAR/5 (care OR treat\* OR therap\* OR service\* OR intervention\* OR  
 program\*)) OR noft(((implement\* OR initiat\* OR induction) NEAR/3 pathway\*))  
 OR noft(((barrier\* OR facilitat\*) NEAR/3 (care OR treat\* OR therap\* OR pathway\*  
 OR service\* OR intervention\* OR program\*)) OR noft(harm reduction) OR  
 noft(((patient\* OR user\*) NEAR/3 (experience\* OR perspective\* OR opinion\*  
 OR view\* OR attitude\* OR voice\* OR feedback)))) 722

17. noft((buprenorphine OR burprex OR suboxone OR brixadi OR bunavail OR  
 buprenex OR butrans OR buvidal OR cizdol OR norspan OR prefin OR  
 probuphine OR sublocade OR subutex OR temgesic OR zubsolv))  
 OR(noft(((opioid\* OR opiate\*) NEAR/3 (replacement OR substitution OR  
 maintenance))) OR noft(((opioid\* OR opiate\*) NEAR/3 (maintenance OR  
 substitution OR replacement) NEAR/3 (treatment OR therap\*)) OR  
 (Opioidagonist\* NEAR/3 (treatment\* OR therap\*)) OR noft(("medically assisted"  
 OR "opioid assisted") NEAR/3 (treatment\* OR therap\*)) OR ((noft(((opioid\* OR  
 opiate\* OR abstral OR atasol OR avinza OR buprenorphine OR butorphanol OR  
 butrans OR coactifed OR codeine OR cotridin OR covan OR demerol OR  
 dextropropoxyphene OR dihydrocodeine OR dilaudid OR diphenoxylate OR  
 doloral OR duragesic OR durela OR empracet OR emtec OR endocet OR  
 endodan OR fentanil OR fentanyl OR fentora OR fiorinal OR heroin OR hycodan  
 OR hydrocodone OR hydromorph\* OR jurnista OR kadian OR lenoltec OR  
 levorphanol OR lomotil OR lorcet OR lortab OR meperidine OR "m-eslon" OR  
 metadol OR methado OR methadone OR morphine OR "ms contin" OR "ms-ir"  
 OR nalbuphine OR novahist OR nubain OR nucynta OR opana OR "oxy.ir" OR  
 oxyco OR oxycodone OR oxycontin OR "oxy-ir" OR oxymorphone OR oxyneo OR  
 pentazocine OR percocet OR percodan OR pethidine OR procet OR  
 propoxyphene OR ralivia OR rivacocet OR sepeudol OR stadol OR statex OR  
 suboxone OR talwin OR tapentadol OR targin OR tecnal OR tramacet OR  
 tramadol OR tridural OR tussionex OR ultram OR vicodin OR zytram) NEAR/3  
 (depend\* OR disorder\* OR "use" OR user\* OR using OR misus\* OR abuse\* OR  
 abus\* OR addict\* OR withdraw\* OR overdos\* OR postoverdos\*)) OR  
 noft(((overdos\* OR postoverdos\*) AND (opioid\* OR opiate\*))) AND (noft(((initiat\*  
 OR pathway\* OR enroll\* OR start\* OR accept\* OR reject\* OR refus\* OR  
 consider\* OR link\* OR facilitat\* OR access\* OR connect\* OR discuss\* OR  
 conversation\* OR present\* OR admit\* OR admission\* OR administer\* OR  
 deliver\*) NEAR/5 (care OR treat\* OR therap\* OR service\* OR intervention\* OR  
 program\*)) OR noft(((implement\* OR initiat\* OR induction) NEAR/3 pathway\*))  
 OR noft(((barrier\* OR facilitat\*) NEAR/3 (care OR treat\* OR therap\* OR pathway\*  
 OR service\* OR intervention\* OR program\*)) OR noft(harm reduction) OR  
 noft(((patient\* OR user\*) NEAR/3 (experience\* OR perspective\* OR opinion\* OR  
 view\* OR attitude\* OR voice\* OR feedback)))) 1,247

18. noft(((opioid\* or opiate\*) NEAR/3 (disorder\* or depend\* or withdraw\* or overdos\* or postoverdos\*) NEAR/5 treat\*)) 335
19. (noft((buprenorphine OR burprex OR suboxone OR brixadi OR bunavail OR buprenex OR butrans OR buvidal OR cizdol OR norspan OR prefin OR probuphine OR sublocade OR subutex OR temgesic OR subsolv)) OR (noft(((opioid\* OR opiate\*) NEAR/3 (replacement OR substitution OR maintenance))) OR noft(((opioid\* OR opiate\*) NEAR/3 (maintenance OR substitution OR replacement) NEAR/3 (treatment OR therap\*))) OR (Opioid agonist\* NEAR/3 (treatment\* or therap\*)) OR noft(("medically assisted" OR "opioid assisted") NEAR/3 (treatment\* OR therap\*)) OR ((noft(((opioid\* OR opiate\* OR abstral OR atasol OR avinza OR buprenorphine OR butorphanol OR butrans OR coactifed OR codeine OR cotridin OR covan OR demerol OR dextropropoxyphene OR dihydrocodeine OR dilaudid OR diphenoxylate OR doloral OR duragesic OR durela OR empracet OR emtec OR endocet OR endodan OR fentanil OR fentanyl OR fentora OR fiorinal OR heroin OR hycodan OR hydrocodone OR hydromorph\* OR jurnista OR kadian OR lenoltec OR levorphanol OR lomotil OR lorcet OR lortab OR meperidine OR "m-eslon" OR metadol OR methado OR methadone OR morphine OR "ms contin" OR "ms-ir" OR nalbuphine OR novahist OR nubain OR nucynta OR opana OR "oxy.ir" OR oxyco OR oxycodone OR oxycontin OR "oxy-ir" OR oxymorphone OR oxyneo OR pentazocine OR percocet OR percodan OR pethidine OR procet OR propoxyphene OR ralivia OR rivacocet OR sepeudol OR stadol OR statex OR suboxone OR talwin OR tapentadol OR targin OR tecnal OR tramacet OR tramadol OR tridural OR tussionex OR ultram OR vicodin OR zytram) NEAR/3 (depend\* OR disorder\* OR "use" OR user\* OR using OR misus\* OR abuse\* OR abusi\* OR addict\* OR withdraw\* OR overdos\* OR postoverdos\*))) OR noft(((overdos\* OR postoverdos\*) AND (opioid\* OR opiate\*))) AND (noft(((initiat\* OR pathway\* OR enroll\* OR start\* OR accept\* OR reject\* OR refus\* OR consider\* OR link\* OR facilitat\* OR access\* OR connect\* OR discuss\* OR conversation\* OR present\* OR admit\* OR admission\* OR administer\* OR deliver\*) NEAR/5 (care OR treat\* OR therap\* OR service\* OR intervention\* OR program\*))) OR noft(((implement\* OR initiat\* OR induction) NEAR/3 pathway\*)) OR noft(((barrier\* OR facilitat\*) NEAR/3 (care OR treat\* OR therap\* OR pathway\* OR service\* OR intervention\* OR program\*))) OR noft(harm reduction) OR noft(((patient\* OR user\*) NEAR/3 (experience\* OR perspective\* OR opinion\* OR view\* OR attitude\* OR voice\* OR feedback\*)))) OR noft(((opioid\* OR opiate\*) NEAR/3 (disorder\* OR depend\* OR withdraw\* OR overdos\* OR postoverdos\*) NEAR/5 treat\*)) 1,346
20. noft((emergency NEAR/3 (department\* or ward\* or unit\* or room\* or service\* or medicine or center\* or centre\* or clinic or clinics or hospital\* or care or visit\* or patient\*)) ) 2,880
21. noft( (casualty NEAR/1 (department\* or ward\* or unit\* or room\* or service\* or medicine or center\* or centre\* or clinic or clinics or hospital\* or visit\* or patient\*)) ) 27
22. noft("a&e") 3,134
23. noft("emergency nurs\*") 3



|     |  |         |
|-----|--|---------|
| 24. | 1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR<br>14 OR 15 OR 16 OR 17 OR 18 OR 19 | 108,909 |
| 25. | 20 OR 21 OR 22 OR 23   | 6,015   |
| 26. | 24 AND 25  | 47      |
| 27. | 24 and 25 (limit 1995-2021)  | 25      |

## Appendix 2. Eligibility Criteria

1. Does this publication report about the emergency department or acute care setting?
  - a. YES
  - b. NO
  - c. UNCLEAR
  
2. Does this publication focus on the initiation of buprenorphine-naloxone (Suboxone), medically assisted therapy, replacement therapy, or a harm reduction strategy to support continuity of care?
  - a. YES
  - b. NO
  - c. UNCLEAR
  
3. Is the intervention used within the context of opioid use disorder and overdose?
  - a. YES
  - b. NO
  - c. UNCLEAR