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A systematic scoping review of mental health in prisons through the COVID-19 pandemic

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ABSTRACT

Objective To examine the extent, nature and quality of literature on the impact of the COVID-19 pandemic on the mental health of imprisoned people and prison staff.

Design Scoping review

Data sources Pubmed, Embase, CINAHL, Global Health, Cochrane, PsycINFO, PsychExtra, Web of Science and Scopus were searched for any paper from 2019 onwards which focused on the mental health impact of COVID-19 on imprisoned people and prison staff. A grey literature search focused on international and government sources and professional bodies representing healthcare, public health and prison staff was also performed. We also performed hand-searching of the reference lists of included studies.

Eligibility criteria for selection of studies All papers, regardless of study design, were included if they examined the mental health of imprisoned people or prison staff specifically during the COVID-19 pandemic. Imprisoned people could be of any age and from any countries. All languages were included. Two independent reviewers quality assessed appropriate papers.

Results Of 185 articles found, 39 were eligible for inclusion, most of which were opinion pieces. The articles focused on the challenges to prisoner mental health. Fear of COVID-19, the impact of isolation, discontinuation of prison visits and reduced mental health services were all likely to have an adverse effect on the mental well-being of imprisoned people. However, these impacts can be mitigated. The limited research on prison staff showed significant vulnerability to the mental health impact of COVID-19.

Conclusions It is important to address the mental health impacts of the pandemic on people who live and work in prisons. It is possible to balance infection control imperatives and the fundamental human rights of prison populations.

Keywords: Prison, Prisoners, inclusion health, correctional institutions, prison personnel, global health, mental health

STRENGTHS AND LIMITATIONS OF THIS STUDY

- The first review of mental health in prisons during the COVID-19 pandemic.
- We report our rigorous methodology in the format of the PRISMA extension for scoping reviews (PRISMA-ScR) to improve our review's transparency, accuracy and completeness.
- Our search strategy and inclusion criteria were broad, identifying comprehensively the relevant literature with clear implications for research and policy.
- A limitation of the study is that much data on this subject is likely unpublished – we have highlighted the priority areas to research going forward to rectify this.

WHAT IS ALREADY KNOWN ON THIS SUBJECT?

- Prison populations are one of the most deprived and excluded populations worldwide, with a high burden of disease, particularly mental illness.
- Prisons are thought to be at high risk for COVID-19 outbreaks for multiple reasons including overcrowded conditions, frequent staff changeover and movement of imprisoned people in and out of and between prisons.
- The pandemic is thought to have had an adverse impact on the mental well-being of the general community.

WHAT THIS STUDY ADDS

- The impact of COVID-19 on the mental health of prison staff and residents is likely to be profound, related not only to fear of COIVD-19, but also as a consequence of instituting infection control measures. Although essential, these must be kept to a minimum and mitigation strategies to maintain mental well-being implemented alongside them.
- The existing body of research in this area is very limited and therefore research is urgently needed to gain in-depth understanding of the mental health impact in prisons, to identify effective interventions, and to examine the impacts of decarceration on mental health.

INTRODUCTION

In March 2020, the World Health Organization (WHO) declared a COVID-19 pandemic.[1] As of 30th September 2020, there have been more than 33 million confirmed infections worldwide with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), resulting in more than one million deaths.[2]

There are over 11 million people imprisoned globally.[3] This population is particularly susceptible to COVID-19 because of overcrowded, poorly ventilated and often insanitary environments and suboptimal healthcare services. Frequent staff changeover and movement of imprisoned people in and out of and between prisons contributes to multiple entry points for COVID-19 and the potential for rapid spread once introduced.[4, 5]

Imprisoned people are at high-risk for severe COVID-19 due to a high burden of chronic diseases, such as diabetes and hypertension. Also, people from black and minority ethnic groups are often over-represented and such individuals have a poorer prognosis.[6, 7] These factors are likely to result in significant stress and anxiety.[8-12] This may be exacerbated further by the infection control measures in prisons which focus on restricting prisoner access to each other and outside visitors.[13-16] Measures implemented include social distancing, cancelling all visits and limiting the time that prisoners spend outside their cell. This has resulted in imprisoned people being locked into cells for 23 hours or more each day. Comparisons could be drawn between this isolation and solitary confinement,[15] which has been shown to impact on mental health.[17, 18] Furthermore, imprisoned people already have a high burden of mental health issues and substance use.[7, 19, 20] Prison staff also have a high burden of mental health conditions.[21, 22] They face significant pressure from working in prisons, which is likely to be exacerbated by the pandemic.[9, 23]

We conducted a systematic scoping review of literature related to COVID-19 and mental health in both prison staff and residents. The review aimed to examine the extent, nature and quality of literature on the impact of the COVID-19 pandemic on the mental well-being of imprisoned people and prison staff, and to highlight gaps in the evidence base.

METHODOLOGY

We conducted a scoping review using the methodology described by Arksey and O'Malley.[24] We adhered to the five stages of the scoping review process: (1) identifying the research question, (2) identifying relevant studies, (3) study selection, (4) charting the data, and (5) collating, summarising and analysing the included literature. We have reported this review in accordance with the guidance in the Preferred Reporting Items for Systematic reviews and meta-analyses extension for scoping reviews (PRISMA-ScR).[25]

Identifying the research question

Our research question was, "what is the extent, nature and quality of the literature on the impact of the COVID-19 pandemic on the mental health of prisoners and prison staff?". We included substance miuse within the definition of mental health.

We used Ako et al. 2020's[26] definition of 'prison' as representing "detention facilities housing both on-remand and convicted people. These settings included prisons, police holding cells, pre-trial detention, closed youth institutions, and camps where drug users are forced into mandatory labour as means of rehabilitation". We also included immigration detention centres.

Identifying relevant studies

We conducted a systematic literature search in nine databases (Pubmed, Embase, CINAHL, Global Health, Cochrane, PsycINFO, PsychExtra, Web of Science and Scopus) from 2019 onwards, since this is when COVID-19 was identified. These databases reflect the breadth of disciplines within this field. We kept search terms broad to maximise sensitivity (see appendix 1). We also searched grey literature, focusing on official channels of information such as international and government sources and professional bodies representing healthcare, public health and prison staff. We hand-searched the reference lists of included studies.

Study selection

We screened articles by title and abstract for potentially eligible studies and obtained the full text. We included papers which met the eligibility criteria:

- The article must examine the mental health of imprisoned people or prison staff, of any age and from any country in any language
- The article must look specifically at the mental health effects of the COVID-19 pandemic
- All study designs will be included

Papers reporting research data were evaluated for research quality in line with scoping review adaptations suggested by Pham et al.[27] We used the relevant National Institutes of Health's (NIH) quality assessment tools.[28] Opinion pieces and grey literature were not quality assessed.

Charting, collating, summarising and analysing the data

We charted the data; key data were entered into a table with the following headings: author, month and year, title; study design; population described or studied; key findings and recommendations (see table 1). We summarised the data and identified thematic categories.

Patient and public involvement

We did not involve our population in conducting this review.

RESULTS

Our search returned a total of 506 articles (see figure 1). After removal of duplicates and initial screening, we reviewed 116 articles in full. After reviewing these articles against our exclusion criteria, 39 papers were included (see appendix 2).

FIGURE 1: PRISMA flowchart

Most papers were opinion pieces, with the exception of six guidelines,[13-16, 29, 30] three briefings,[31-33] three case studies,[34-36] and one literature review.[37] The three case studies and the literature review were all found to be of poor quality (see appendix 3). Of papers which were focused on a particular country, the most common were USA (11), UK (3), France (2), then one from Brazil, Australia and Italy.

Many papers considered prisoners generally but two examined juvenile correctional facilities (JCFs) in the USA,[38, 39] two looked at USA Immigration and Customs Enforcement (ICE) detention centres[8, 34] and one described a mental health support programme for healthcare staff and attorneys working in prisons.[35]

There was little primary data and that which was identified was conflicting. One study found that recorded incidents of self-harm in 31 UK prisons had decreased by one-third when comparing

February to April 2020.[40] However, two other studies documented higher levels of self-harm across UK prisons.[9, 33]

Our thematic synthesis identified six key themes: fear of COVID-19, changes in movement and activities, changes in communication, changes in mental health services, decarceration (release of prisoners) and continuity of care and the mental health of prison staff. We discuss author conclusions thematically below.

Fear of COVID-19

The pandemic has induced stress and anxiety in detainees over the risk to themselves and those they love contracting or dying from COVID-19.[12, 36, 41, 42] This is exacerbated by awareness of their health vulnerabilities[9] and their unhygienic, overcrowded living conditions.[8, 10, 34] Those left after the pandemic could also experience survivor guilt and grief over loved ones who have died.[43]

Changes in movement and activities

Movement of many imprisoned people has been severely restricted because of infection control measures. Those with symptoms, positive test results, new to the prison or vulnerable to severe infection are put into isolation, a practice which has negative connotations in prison for its perceived similarity to punitive solitary confinement.[44-46] Many were concerned isolation may lead to exacerbations of mental health conditions, anger, depression, psychosis, self-harm and suicide.[36, 43, 45-49] There were also concerns that isolation in JCFs will affect young offenders' neurological development.[39, 45]

In this context, it is important to clarify the difference between isolation and solitary confinement.[15, 44-46, 49] Prisoners in isolation should have resources to make it psychologically bearable – such as a "television, tablet, radio, reading materials, and means of communicating with loved ones"[44] – as well as access to health professionals and updates on the necessary length for isolation.[13, 44] Unless these differences are well-defined, prisoners may be reluctant to report symptoms.[9, 44]

Many prisons have significantly restricted prisoner movement regardless of COVID-19 status.[39, 42, 45, 46, 49] Together with social distancing measures, this can mean spending up to 23 hours isolated in an 8 x 6 foot cell each day.[33, 39, 45, 46] This contrasts with Penal Reform International suggesting blanket isolation measures should be avoided or, if imposed, "only for the time required to undertake a more individualised and independent medical assessment".[32]

Many activities, including work, education and religious activities, have been stopped[33, 42, 46] and not substituted by recommended socially distant activities.[15, 16, 39, 46] This is likely to have detrimental effects on mental health.[45, 49] The lack of activities is a consequence of restricting staff numbers on site to minimise infection risk,[39] and the logistical challenge for facilities such as gyms to clean shared equipment.[39] However, in-cell activities, including exercises, mindfulness, puzzles, colouring and playing cards, offer alternatives.[9, 46]

Finally, imprisoned people are rarely attending appointments outside of prison, resulting in trials and court hearings being delayed, increased time spent on remand, and likely additional distress.[36, 46]

Changes in communication

Many prisons have stopped visits,[11, 12, 33, 36, 38, 42, 45, 46, 50-52] which will likely negatively impact mental health.[10, 12, 38, 42, 45, 49, 50, 52] Lack of contact could result in increased anxiety

over the health of family members as well as prisoner's own welfare.[42] The European Centre for Disease Prevention and Control (ECDC) calls for special considerations for deciding on visits when infants and children are involved.[14] However, in the USA, by early April, all JCFs had suspended in-person visits [38] and, by May, some women in UK prisons had not seen their children in two months.[33]

One positive side-effect of reduced visits is a reduction in drug availability and drug use in prisons as visits are a drug trafficking route.[31, 40] Concurrently, demand for opioid substitution medication has increased, possibly to help with withdrawal symptoms.[31]

Ensuring communication with family and friends is maintained is important. One key method by which this has happened is increased telephone access.[38-40, 48, 51] Additional methods include letter writing, video calls and a prison voicemail service.[10, 14, 38, 39, 42, 46, 49, 51] However, these methods are not equally implemented or effective; different prisons have different policies and resources[38]. For example, secure phone handsets are only available in half of prisons in England and Wales.[46] Moreover, those with the greatest risk of self-harm and suicide are more likely to be alienated from support networks so least likely to benefit.[33, 40]

Communication between prisoners and staff is also a priority. Levels of education and health literacy are low amongst imprisoned people and, combined with a tight control of information within prisons, this can lead to the spread of misinformation and fear.[48] Emphasis must be placed on regular, clear communication to prisoners concerning changes in protocol.[42] The Royal College of General Practitioners (RCGP) emphasises good communication throughout their guidelines for managing COVID-19 in prisons.[29]

Changes in mental health services

Despite a prevailing belief that the mental health burden will increase, routine services have been deprioritised or withdrawn in many places due to infection risk.[9, 33, 38, 43] This is counter to the widespread belief that psychiatric and psychological care remains critical.[10, 12, 38, 43, 47, 50, 52] Adaptations include correctional staff providing psychological support, prisoner access to online counselling tools and telepsychiatry.[10, 34, 43, 47, 53] Telepsychiatry received particular note,[10, 34, 36, 47, 54] with recommendations for US states to waive license requirements to facilitate greater uptake.[10]

With the reality of rationalised mental health services, articles emphasised the need to optimise triaging to ensure the most high-risk prisoners are prioritised; suggested factors include pre-existing mental health condition, risk of harm to self or others, aggression and refusal to eat.[9, 43] For the in-person mental health appointments which do take place, it is important that staff are risk-assessed and provided with personal protective equipment.[30, 43]

Decarceration and continuity of care

Many recommended decarceration as a strategy to help reduce infection risk.[8, 55-57] This has been implemented in several countries including Iran, Turkey, Afghanistan, Indonesia and Ethiopia.[58, 59]

However, there are important considerations for the mental health of those released.[46, 51, 60] Firstly, they will be entering an unfamiliar environment with substantial societal changes, leading to increased stress.[41, 46] Prisoners often have a lack of financial and social capital, lower educational attainment, higher rates of unemployment and regularly become homeless, all of which are more challenging with current restrictions.[41, 55, 60] Those who return to difficult family situations may

be at risk of domestic violence, with restricted options to change living arrangements and challenges to seeking a police protective order if needed.[41, 51] Secondly, many community services on which released prisoners often rely have been reduced, altered or discontinued, leading to challenges in accessing care.[36, 41, 46, 51, 57] One key area which needs careful planning is opioid agonist therapy (OAT).[15, 29, 55, 60] In some areas, OAT services are now available via telemedicine, but these require prisoners to be equipped with technology and internet connection prior to release.[56, 57]

With these added complications and the rapid speed of decarceration, liaising with community services for follow-up is challenging.[16, 41, 46, 51, 60] Close attention must be paid to those released to ensure continuity of health and social care.[41, 46, 55, 57]

The mental health of prison staff

The pandemic has affected the mental health of those who work in prisons. In England and Wales, prison staff absences have doubled.[46] Staff have been faced with fear of contracting the virus as well as burnout from operating with reduced numbers.[9, 38, 48] A diminished workforce will have implications on prisoner mental health too.[9, 46] Fewer staff means less opportunity to support prisoners and less time to supervise prisoners at high risk of self-harm or suicide.[46]

Summary

In summary, the reported impacts on the mental health of imprisoned people are overwhelmingly negative, caused not just by fear of COVID-19, but mediated through the regime changes implemented to minimise infection risks. The key challenges can be summed up as social distancing and isolation, discontinuation of prison visits and reduced/discontinued mental health services. These impacts can be ameliorated by measures, including the provision of individual and communal socially distant activities; clear communication with prisoners; decarceration; ensuring access to friends and family through telephones and video calls; effective risk assessment of each prisoner's mental health; telepsychiatry; and socially distant in-person mental health appointments. This is summarised in Figure 2.

FIGURE 2 – Summary of the challenges and solutions to prisoner mental health during COVID-19

DISCUSSION

The review's findings suggest that the pandemic has had a profound effect on the mental health of those living and working in prisons. Isolation is a huge challenge to mental health in prisons. The adverse psychological effects of solitary confinement are well documented[17, 18, 61] and include an increased risk of mortality five years after release.[61] Although the reasons for isolation are different, there are likely still negative consequences for mental health. Similarly, visitors have been shown to be positive for prisoner well-being and linked to reduced recidivism.[62] Preventing visits is therefore also likely to impact mental health. A rapid review of the psychological impact of quarantine in the wider community showed a detrimental effect on mental health in a wide-ranging and possibly long-lasting way.[63] Longer quarantine increases the severity of impact and, when a restriction to liberty is imposed rather than voluntary, it leads to more distress and greater long-term mental health complications.[63]

Reduced access to health services is also likely to impact mental health. Since the pandemic started, health services in many countries have developed rapidly, with the widespread adoption of telemedicine.[64] There are, however, concerns over equity and lack of access to technology in prisons. Even in high-income countries such as the UK, at the start of the pandemic 50 of 117 prison

sites had connectivity too poor to enable video consultation.[65] With growing recognition the pandemic is far from over, it is important to address mental health issues now. Prison riots have occurred in Brazil, Colombia, Italy and the USA,[10, 12, 47] linked to the challenges to mental health highlighted in figure 2[10, 11, 47, 49, 50, 52] and demonstrate that solutions cannot wait.

The discussion around mental health in prisons throughout COVID-19 is lacking robust evidence. Considering the physical and mental health vulnerabilities of prisoners,[6, 7, 19, 20] understanding the impact of COVID-19 and the implemented regime changes is an urgent need. Particularly in the context of mass decarceration, prisons are often places of transience and the unaddressed mental health impact will have downstream consequences on wider society too. Currently, the prison service in England and Wales is evaluating feedback from prison residents and staff to improve management of safety and mental health as the pandemic continues[66, 67].

This review has several key strengths. Firstly, this is the first review of the mental health in prisons during the pandemic. Also, through taking a systematic approach, it has identified comprehensively the relevant literature with clear implications for research and policy. However, the poor quality of articles included means that the findings are not conclusive.

More research is urgently needed not only to gain an in-depth understanding of the mental health impact in prisons but also to identify effective interventions. Research also needs to examine the impacts of decarceration. Recently released prisoners are at a high risk of mortality, particularly from drug-related deaths.[68] Given drug-related sentences are one of the commonest sentences being commuted,[41, 59] it is important to examine how continuity of care is best maintained on release. The lack of research on prison staff and imprisoned women is notable and should also be addressed.

Prisons should consider the mental well-being of their residents and staff. There needs to be greater provision of in-cell activities and expansion of electronic communications to enable imprisoned people to communicate with health professionals and family, and to enable courts to function remotely to prevent the backlog of trials. There must be clear communication with imprisoned people and staff about the public health measures taken so that they know what to expect. These measures, whilst enabling infection control, must be kept to a minimum to ensure the protection of prisoners' human rights. Healthcare staff have an important role to play in identifying and monitoring the well-being of vulnerable people, maintaining services and responding to health needs. Releasing large numbers of people into the community creates problems for these individuals and requires adequate protections such as appropriate housing and links into health services. All these measures must be underpinned by strong leadership and collaborative working across prison systems, non-governmental organisations and health and social care partners.

CONCLUSION

The impact of COVID-19 on the mental health of prisoners and prison staff is likely to be profound, related not only to fear of COVID-19, but also as a consequence of instituting infection control measures. Although essential, these must be kept to a minimum and mitigation strategies to maintain mental well-being implemented alongside them. In March 2020, WHO noted, "People in prisons and other places of detention are not only likely to be more vulnerable to infection with COVID-19, they are also especially vulnerable to human rights violations." Given the evidence of impact so far, and the reality that this pandemic is far from over, more must be done to address the adverse mental health consequences of the pandemic on those who live and work in prisons.

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All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

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The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted. LJ and EP conceived the study. LJ performed the search, screened articles and assessed their quality. EP acted as co-reviewer and quality assessor. All authors contributed substantially to the interpretation of the findings. LJ produced the first draft and KG, EP, JP and AR revised critically the content. All authors approved the final manuscript. LJ is the overall content guarantor.

BIBLIOGRAPHY

1. WHO Director-General's opening remarks at the media briefing on COVID-19. World Health Organization; 2020 [updated 11 March 2020]. Available from: https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020.

2. WHO Coronavirus Disease (COVID-19) Dashboard. World Health Organization; 2020 [updated 01 October 2020]. Available from: https://covid19.who.int/.

3. World Prison Population List - twelfth edition. World Prison Brief; 2018.

4. Bick JA. Infection control in jails and prisons. *Clin Infect Dis* 2007; 45(8):1047-55. https://doi.org/10.1086/521910.

5. Wallace M, Hagan L, Curran KG, et al. COVID-19 in Correctional and Detention Facilities - United States, February-April 2020. *MMWR Morb Mortal Wkly Rep* 2020; 69(19):587-90. https://doi.org/10.15585/mmwr.mm6919e1.

6. Li J, Huang DQ, Zou B, et al. Epidemiology of COVID-19: A systematic review and meta-analysis of clinical characteristics, risk factors, and outcomes. *Journal of Medical Virology* 2020. https://doi.org/10.1002/jmv.26424.

7. Fazel S, Baillargeon J. The health of prisoners. *The Lancet* 2011; 377(9769):956-65. https://doi.org/10.1016/S0140-6736(10)61053-7.

8. Garcini L, Rodriguez M, Mercado A, et al. A Tale of Two Crises: The Compounded Effect of COVID-19 and Anti-Immigration Policy in the United States. *Psychological Trauma: Theory, Research, Practice, and Policy* 2020; 12(S1):S230-S2. https://doi.org/10.1037/tra0000775.

9. Kothari R, Forrester A, Greenberg N, et al. COVID-19 and prisons: Providing mental health care for people in prison, minimising moral injury and psychological distress in mental health staff. *Medicine, Science and the Law* 2020; 60(3):165-8. https://doi.org/10.1177%2F0025802420929799.

10. Robinson L, Heyman-Kantor R, Angelotta C, et al. Strategies Mitigating the Impact of the COVID-19 Pandemic on Incarcerated Populations. *American Journal of Public Health* 2020; 110(8):1135-6. https://doi.org/10.2105/AJPH.2020.305754.

11. Tozzo P, D'Angiolella G, Caenazzo L. Prisoners in a pandemic: We should think about detainees during Covid-19 outbreak. *Forensic Science International: Synergy* 2020;2:162-3. https://doi.org/10.1016/j.fsisyn.2020.05.004.

12. Caputo F, Gratteri S, Sacco MA, et al. Covid-19 emergency in prison: Current management and forensic perspectives. *The Medico-legal journal* 2020. https://doi.org/10.1177%2F0025817220923693.

13. Preventing and controlling outbreaks of COVID-19 in prisons and places of detention. Ministry of Justice and Public Health England; UK; 2020.

14. Infection prevention and control and surveillance for coronavirus disease (COVID-19) in prisons in EU/EEA countries and the UK. European Centre for Disease Prevention and Control; 2020.

15. CDC guidance on management of COVID-19 incorrectional and detention facilities. Centers for Disease Control and Prevention; USA; 2020.

16. Preparedness, prevention and control of COVID-19 in prisons and other places of detention. World Health Organization; 2020.

17. Haney C. Prison Effects in the Era of Mass Incarceration. *The Prison Journal* 2012. https://doi.org/10.1177/0032885512448604.

18. Arrigo BA, Bullock JL. The psychological effects of solitary confinement on prisoners in supermax units: reviewing what we know and recommending what should change. *Int J Offender Ther Comp Criminol* 2008; 52(6):622-40. https://doi.org/10.1177/0306624x07309720.

19. Fazel S, Bains P, Doll H. Substance abuse and dependence in prisoners: a systematic review. *Addiction* 2006; 101(2):181-91. https://doi.org/10.1111/j.1360-0443.2006.01316.x.

20. Fazel S, Danesh J. Serious mental disorder in 23,000 prisoners: a systematic review of 62 surveys. The Lancet 2002; 359(9306):545-50. https://doi.org/10.1016/S0140-6736(02)07740-1.

21. Goldberg P, David S, Landre MF, et al. Work conditions and mental health among prison staff in France. *Scandinavian Journal of Work, Environment & Health* 1996; 22(1):45-54.

22. Ferdik FV, Smith HP. Correctional Officer Safety and Wellness Literature Synthesis. National Institute of Justice; USA; 2020.

23. Kinman G, Clements AJ, Hart J. Job demands, resources and mental health in UK prison officers. *Occupational Medicine* 2017; 67(6):456-60. https://doi.org/10.1093/occmed/kqx091.

24. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. International Journal of Social Research Methodology. 2005; 8(1):19-32. https://doi.org/10.1080/1364557032000119616.

25. Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Annals of Internal Medicine* 2018; 169(7):467-73. https://doi.org/10.7326/M18-0850.

26. Ako T, Plugge E, Mhlanga-Gunda R, et al. Ethical guidance for health research in prisons in low- and middle-income countries: a scoping review. *Public Health* 2020; 186:217-27. https://doi.org/10.1016/j.puhe.2020.07.008.

27. Pham MT, Rajić A, Greig JD, et al. A scoping review of scoping reviews: advancing the approach and enhancing the consistency. *Res Synth Methods* 2014; 5(4):371-85. https://doi.org/10.1002/jrsm.1123.

28. Study Quality Assessment Tools. National Institutes of Health; 2020. Available from: https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools.

29. COVID-19 Guidance for Healthcare in Secure Environments. Royal College of General Practitioners; UK; 2020.

30. COVID-19: Secure hospital and criminal justice settings. Royal College of Psychiatrists; UK; 2020.

31. Impact of COVID-19 on patterns of drug use and drug-related harms in Europe. European Monitoring Centre for Drugs and Drug Addiction; 2020.

32. Coronavirus: Healthcare and human rights of people in prison. Penal Reform International; UK; 2020.

33. Report on short scrutiny visits to Prisons holding women; HMP Chief Inspector of Prisons; UK; 2020.

34. Green AS, Ruchman SG, Katz CL, et al. Piloting forensic tele-mental health evaluations of asylum seekers. *Psychiatry Research* 2020; 291:113256. https://doi.org/10.1016/j.psychres.2020.113256.

35. Weingarten K, Galvan-Duran A, D'Urso S, et al. The Witness to Witness Program: Helping the Helpers in the Context of the COVID-19 Pandemic. *Family Process* 2020; 59(3):883-97. https://doi.org/10.1111/famp.12580.

36. Fovet T, Lancelevée C, Eck M, et al. Prisons confinées: quelles conséquences pour les soins psychiatriques et la santé mentale des personnes détenues en France? [Mental health care in French correctional facilities during the Covid-19 pandemic]. *Encephale* 2020; 46(3S):S60-S5. https://doi.org/10.1016/j.encep.2020.05.002.

37. Chevance A, Gourion D, Hoertel N, et al. Assurer les soins aux patients souffrant de troubles psychiques en France pendant l'épidémie à SARS-CoV-2 [Ensuring mental health care during the SARS-CoV-2 epidemic in France: A narrative review]. *Encephale* 2020;46(3S):S3-S13. https://doi.org/10.1016/j.encep.2020.03.001.

38. Gagnon JC. The solitary confinement of incarcerated American youth during COVID-19. *Psychiatry Research* 2020; 291:113219. https://dx.doi.org/10.1016%2Fj.psychres.2020.113219.

39. Leon M, Rodas K, Greer M, et al. Leisure Behind Bars: The Realities of COVID-19 for Youth Connected to the Justice System. *Leisure Sciences* 2020. https://doi.org/10.1080/01490400.2020.1774005.

40. Hewson T, Green R, Shepherd A, et al. The effects of COVID-19 on self-harm in UK prisons. *BJPsych bulletin* 2020. https://doi.org/10.1192/bjb.2020.83.

41. Piel J. Letter to the Editor—Behavioral Health Implications of Inmate Release During COVID-19. *Journal of Forensic Sciences* 2020; 65(4):1379-81. https://doi.org/10.1111/1556-4029.14456.

42. Sánchez A, Simas L, Diuana V, et al. COVID-19 in prisons: An impossible challenge for public health? *Cadernos de Saúde Pública* 2020; 36(5). https://doi.org/10.1590/0102-311x00083520.

43. Liebrenz M, Bhugra D, Buadze A, et al. Caring for persons in detention suffering with mental illness during the Covid-19 outbreak. *Forensic Science International: Mind and Law* 2020; 1:100013. https://doi.org/10.1016/j.fsiml.2020.100013.

44. Cloud D, Ahalt C, Augustine D, et al. Medical Isolation and Solitary Confinement: Balancing Health and Humanity in US Jails and Prisons During COVID-19. *Journal of General Internal Medicine* 2020; 35(9):2738–42. https://dx.doi.org/10.1007%2Fs11606-020-05968-y.

45. Dutheil F, Bouillon-Minois J, Clinchamps M, et al. COVID-19: a prison-breaker? Canadian *Journal of Public Health* 2020; 111:480–1. https://doi.org/10.17269/s41997-020-00359-6.

46. Hewson T, Shepherd A, Hard J, et al. Effects of the COVID-19 pandemic on the mental health of prisoners. *The Lancet Psychiatry* 2020;7(7): 568-70. https://dx.doi.org/10.1016%2FS2215-0366(20)30241-8.

47. Henry BF. Social Distancing and Incarceration: Policy and Management Strategies to Reduce COVID-19 Transmission and Promote Health Equity Through Decarceration. *Health Education & Behavior* 2020; 47(4):536-9. https://doi.org/10.1177%2F1090198120927318.

48. Montoya-Barthelemy AG, Lee CD, Cundiff DR, et al. COVID-19 and the Correctional Environment: The American Prison as a Focal Point for Public Health. *American Journal of Preventive Medicine* 2020; 58(6):888-91. https://dx.doi.org/10.1016%2Fj.amepre.2020.04.001.

49. Stewart A, Cossar R, Stoové M. The response to COVID-19 in prisons must consider the broader mental health impacts for people in prison. *Australian and New Zealand Journal of Psychiatry* 2020. https://doi.org/10.1177%2F0004867420937806.

50. Gulati G, Dunne CP, Kelly BD. Prisons and the COVID-19 Pandemic. *Irish Journal of Psychological Medicine* 2020: 1-2. https://dx.doi.org/10.1017%2Fipm.2020.65.

51. Shepherd S, Spivak BL. Reconsidering the immediate release of prisoners during COVID-19 community restrictions. *Medical Journal of Australia* 2020;213(2):58-9.e1. http://doi.org/10.5694/mja2.50672.

52. Wurcel AG, Dauria E, Zaller N, et al. Spotlight on Jails: COVID-19 Mitigation Policies Needed Now. *Clinical infectious diseases* 2020; 71(15):891-2. https://doi.org/10.1093/cid/ciaa346.

53. Oladeru OT, Tran N-T, Al-Rousan T, et al. A call to protect patients, correctional staff and healthcare professionals in jails and prisons during the COVID-19 pandemic. *Health & justice* 2020; 8(17). https://dx.doi.org/10.1186%2Fs40352-020-00119-1.

54. Gunn J, Taylor PJ, Forrester A, et al. Telemedicine in prisons: A Crime in Mind perspective. *Criminal Behaviour and Mental Health* 2020; 30(2):65-7. https://doi.org/10.1002/cbm.2160.

55. Crowley D, Cullen W, O'Donnell P, et al. Prison and opportunities for the management of COVID-19. *BJGP open* 2020; 4(3). https://doi.org/10.3399/bjgpopen20X101106.

56. Hawks L, Woolhandler S, McCormick D. COVID-19 in Prisons and Jails in the United States. JAMA Internal Medicine. 2020; 180(8):1041-2. https://doi.org/10.1001/jamainternmed.2020.1856.

57. Sivashanker K, Rossman J, Resnick A, et al. Covid-19 and decarceration. *The BMJ* 2020; 369:m1865. https://doi.org/10.1136/bmj.m1865.

58. Pakes F. Coronavirus: why swathes of prisoners are being released in the world's most punitive states. The Conversation; 2020 [updated April 20]. Available from: https://theconversation.com/coronavirus-why-swathes-of-prisoners-are-being-released-in-the-worlds-most-punitive-states-136563.

59. COVID-19 in prisons—a ticking time bomb. UNAIDS; 2020 [updated 13 May]. Available from: https://www.unaids.org/en/resources/presscentre/featurestories/2020/may/20200513_prisons.

60. Ghosh A. Prisoners with drug use disorders during covid-19 pandemic: Caught between a rock and a hard place. *Asian Journal of Psychiatry* 2020; 54:102332. https://dx.doi.org/10.1016%2Fj.ajp.2020.102332.

61. Wildeman C, Andersen LH. Solitary confinement placement and post-release mortality risk among formerly incarcerated individuals: a population-based study. *The Lancet Public Health* 2020; 5(2):e107-e13. https://doi.org/10.1016/S2468-2667(19)30271-3.

62. De Claire K, Dixon L. The Effects of Prison Visits From Family Members on Prisoners' Well-Being, Prison Rule Breaking, and Recidivism: A Review of Research Since 1991. *Trauma Violence Abuse* 2017; 18(2):185-99. https://doi.org/10.1177/1524838015603209.

63. Brooks SK, Webster RK, Smith LE, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet* 2020; 395(10227):912-20. https://doi.org/10.1016/S0140-6736(20)30460-8.

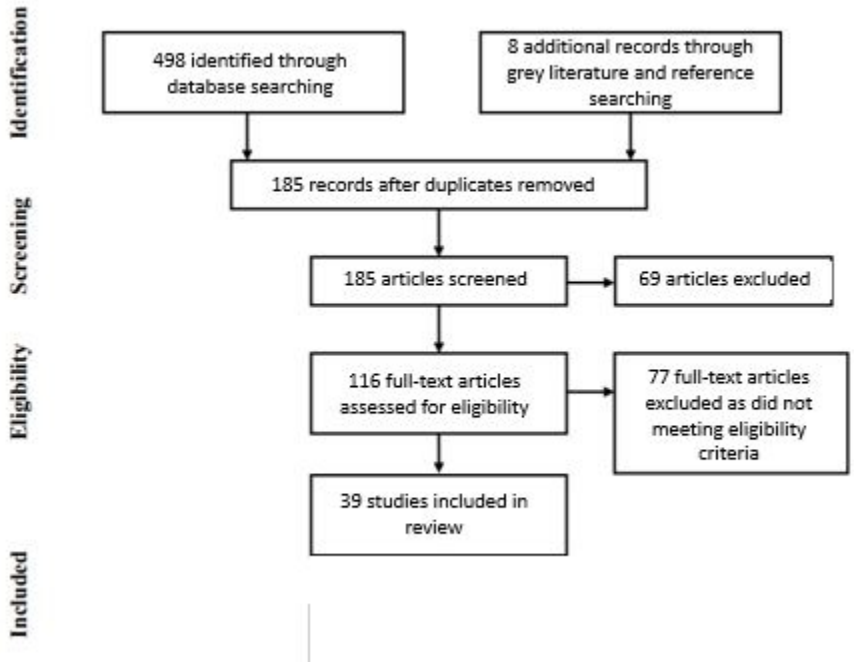
64. Webster P. Virtual health care in the era of COVID-19. *The Lancet* 2020; 395(10231):1180-1. https://doi.org/10.1016/S0140-6736(20)30818-7.

65. Edge C, Hayward A, Whitfield A, et al. COVID-19: digital equivalence of health care in English prisons. *The Lancet Digital Health* 2020; 2(9):e450-e2. https://doi.org/10.1016/S2589-7500(20)30164-3.

66. Impact of COVID-19 on prison safety April to June 2020. HMPPS Psychology Services and Evidence-based Practice team; UK; 2020.

67. "Keep talking, stay safe": A rapid review of prisoners' experience under COVID-19. Independent Advisory Panel on Deaths in Custody; UK; 2020.

68. Zlodre J, Fazel S. All-cause and external mortality in released prisoners: systematic review and meta-analysis. *Am J Public Health* 2012;102(12):e67-75. https://doi.org/10.2105/ajph.2012.300764.



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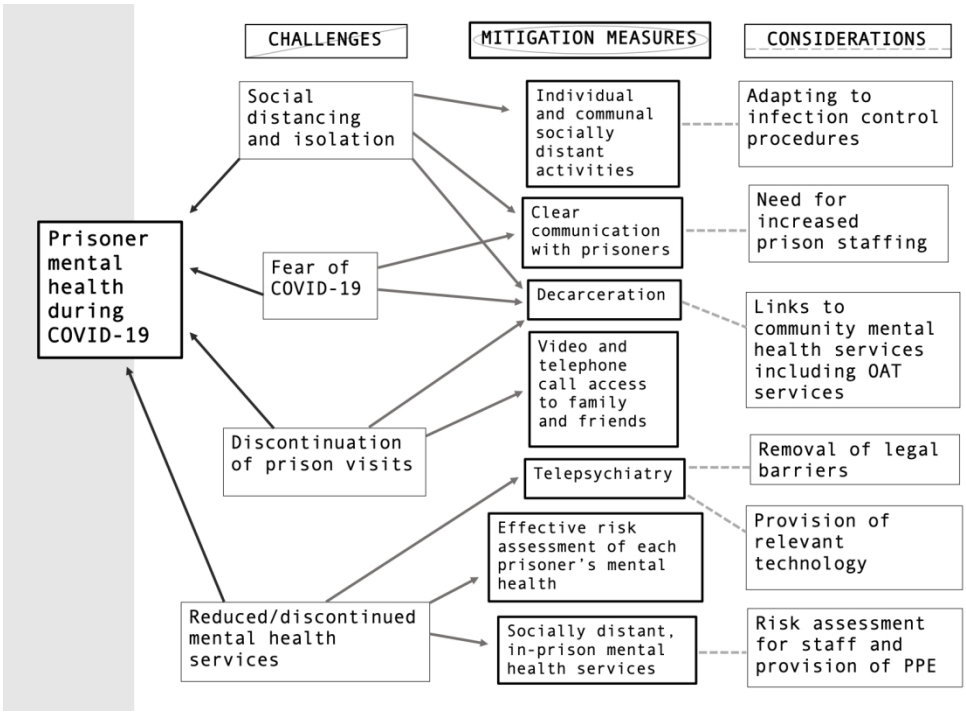

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APPENDIX 1

The following subject headings were included as exploded terms for *prisons/prisoners* if present in the database: prison (EMBASE), prisons (PsycEXTRA, Medline, PsycINFO), prisoner (EMBASE), prisoners (PsycEXTRA, Medline, Global Health, CINAHL, psycINFO), prisoners of war (PsycEXTRA), prisoner abuse (PsycEXTRA, PsycINFO), criminal offenders (PsycEXTRA), Criminal Rehabilitation (PsycEXTRA), correctional institutions (Global Health), offender (EMBASE), prisoner nursing (EMBASE), correctional facilities personnel (CINAHL), correctional health services (CINAHL), correctional facilities (CINAHL), correctional health nursing (CINAHL), prison personnel (PsycINFO). These terms were combined with a text word search for the following: prison* OR inmate OR inmates OR jail OR gaol* OR correction* facilit* OR penitentiar* OR penal institut* OR detention camp* OR custod* OR concentration camp* OR incarcerate* OR imprison* OR correctional setting* OR detain* OR detention* OR correction* cent* OR compulsory drug detention OR compulsory drug treatment OR compulsory rehabil* OR "re-education through labo*" OR laojiaosuo OR "long-term detention" OR labo* camp*. This search was performed in all databases looking only at the title and abstract of articles.

The following subject headings were included as exploded terms for *COVID-19* if present in the database: COVID-19 (CINAHL). These terms were combined with a text word search for the following: coronavirus* OR coronovirus* OR Wuhan OR "2019-nCoV" OR COVID OR “COVID-19” OR “CORVID-19” OR “CONVID-19” OR "WN-CoV” OR “HCoV-19” OR CoV OR "2019 novel" OR ncov OR "SARS-CoV-2" OR SARSCov19 OR ncov*wuhan OR “novel betacov” OR “novel betacoronavirus”. This search was performed in all databases looking only at the title and abstract of articles.

The *prisons/prisoners* category was combined with the AND operator with the *COVID-19* category. A limit based on publication date (from 2019 onwards) was applied. We then reviewed the results of these searches to remove duplicates and screen papers based on inclusion criteria.

Table 1 – Abbreviated data charting form

Author, month and year, title	Study design	Population described or studied	Key findings and recommendations related to mental health in prisoners during COVID-19
Caputo *et al.*, May 2020, "Covid-19 emergency in prison - Current management and forensic perspectives"	Opinion piece	Prisons	The current riots in prisons are not just a response to the risk of COVID-19 infection, but to visitor restrictions. The increased mental health burden needs to be addressed through greater psychological support for prisoners.
Centers for Disease Control and Prevention, July 2020, "Interim Guidance on Management of Coronavirus Disease 2019 (COVID-19) in Correctional and Detention Facilities"	Guidelines	Correctional and detention facilities	Alternative activities and forms of communication should be explored if normal procedures are discontinued. Any isolation measures implemented should be distinct from solitary confinement. Ensure released prisoners are aware how to access services in light of changes with COVID-19.
Chevance *et al.*, April 2020, "Ensuring mental health care during the SARS-CoV-2 epidemic in France - A narrative review"	Literature review	Prisons	Prisoners with psychiatric needs are especially vulnerable. In France, there are links between hospital facilities and psychiatric services for prisoners admitted with COVID-19 in order to facilitate high quality care.
Clarke, May 2020, "Report on short scrutiny visits to Prisons holding women"	Briefing	Women's prisons	A report into the COVID-19 response at three UK women's prisons. COVID-19 adaptations include isolation, social distancing and education of prisoners and staff. Levels of self-harm have increased and, although effort has been made to continue mental health services as much as possible, services are reduced and conducted largely via telephone.
Cloud *et al.*, July 2020, "Medical Isolation and Solitary Confinement: Balancing Health and Humanity in US Jails and Prisons During COVID-19"	Opinion piece	Jails and prisons	It is essential to clarify the differences between punitive solitary confinement and the ethical use of isolation during a pandemic – including provision of activities, well-being checks and telemedicine access.
Crowley *et al.*, May 2020, "Prison and opportunities for the management of COVID-19"	Opinion piece	Prisons	Decarceration is important in managing COVID-19 in prisons. However, it must be ensured all prisoners' needs are met on

			released including OAT services and accommodation.
Dutheil *et al.*, June 2020, "COVID-19: a prison-breaker?"	Opinion piece	Prisons	We must be vigilant to the physical and psychological consequences of infection control strategies for COVID-19 including suspension of visits and activities.
European Centre for Disease Prevention and Control, July 2020, "Infection prevention and control and surveillance for coronavirus disease (COVID-19) in prisons in EU/EEA countries and the UK"	Guidelines	Prisons and other places of detention	It is importance to balance any restrictions to visitors in prisons with the mental health needs of prisoners, particularly when children and infants are involved. If suspended, ensure there are technological alternatives for regular communication.
European Monitoring Centre for Drugs and Drug Addiction, June 2020, "Impact of COVID-19 on patterns of drug use and drug-related harms in Europe"	Briefing	Section within report on prisoners	The halting of prison visits is reported to have affected drug availability in prisons, contributing to a more general reduction in the use of illicit drugs in prisons. This appears to have led to increased demand for OAT, benzodiazepines and nicotine replacement therapy to help with withdrawal symptoms.
Fovet *et al.*, May 2020, "Prisons confinées: quelles conséquences pour les soins psychiatriques et la santé mentale des personnes détenues en France? [Mental health care in French correctional facilities during the Covid-19 pandemic]"	Case study	Prisons and forensic psychiatry inpatient units	The results of a survey conducted of health providers in prisons and forensic psychiatric inpatient units suggests the mental health of prisoners has deteriorated (although levels of suicide have remained stable). Isolation, reduced activities and delays in court hearings could help explain this deterioration.
Gagnon, June 2020, "The solitary confinement of incarcerated American youth during COVID-19"	Opinion piece	Juvenile correctional facilities	Isolation and suspension of visits is likely to have significant mental health harms for youth in prison. It is important that youth have visitors and can be educated outside their cells, and that they have access to mental health professionals.
Garcini *et al.*, May 2020, "A Tale of Two Crises: The Compounded Effect of COVID-19 and Anti-	Opinion piece	ICE detention facilities	Many immigrants are at high risk of mental health issues. Stress from living within a pandemic, limited access to healthcare and uncertainty over their immigration

Immigration Policy in the United States"			status is likely to be significant. Immigrants should be released to minimise these harms.
Ghosh, July 2020, "Prisoners with drug use disorders during covid-19 pandemic: Caught between a rock and a hard place"	Opinion piece	Prisons	Prisoners with opioid use disorder are at significant risk of harm after release – it is essential to ensure any released prisoners are linked with community health and OAT services.
Green *et al*., June 2020, "Piloting forensic tele-mental health evaluations of asylum seekers"	Case study	ICE detention facilities	Details the use of video calls to carry out forensic mental health evaluations for immigrants in ICE detention facilities. Originally started prior to the pandemic, COVID-19 infection control protocols gave additional reason for remote evaluations.
Gulati *et al*., May 2020, "Prisons and the COVID-19 pandemic"	Opinion piece	Prisons	The pandemic, isolation and restrictions in prison visits will all likely contribute to significant psychological distress. It is important to ensure mental healthcare is maintained and is tailored to coping with COVID-19.
Gunn *et al*., May 2020, "Telemedicine in prisons: A Crime in Mind perspective"	Opinion piece	Prisons	Conducting psychiatric appointments through telemedicine has significant challenges (inability to develop empathy and rapport, inability to pick up nuances, lack of feeling of privacy, medicolegal implications). It should not be implemented beyond COVID-19 without a full review.
Hawks *et al*., April 2020, "COVID-19 in Prisons and Jails in the United States"	Opinion piece	Prisons and jails	Decarceration is important for managing COVID-19 in prisons. However, it musts be ensured that all who might benefit from OAT, which is now available via telemedicine, are referred to such services on release.
Henry *et al*., May 2020, "Social Distancing and Incarceration: Policy and Management Strategies to Reduce COVID-19 Transmission and Promote Health Equity	Opinion piece	Prisons	Social isolation within prisons is associated with negative mental health outcomes. Strategies to tackle this impact should include decarceration, access to the outdoors within prisons, mental healthcare provision and access to telephones.

Through Decarceration"			
Hewson *et al.*, June 2020, "Effects of the COVID-19 pandemic on the mental health of prisoners"	Opinion piece	Prisons	COVID-19 has affected the mental health of prisoners through the suspension of visits and activities, but strategies should be explored to minimise disruptions and mitigate harms. For those released early, it is important there is close follow-up because of such substantial community and service changes.
Hewson *et al.*, July 2020, "The effects of COVID-19 on self-harm in UK prisons"	Opinion piece	Prisons	Data seems to suggest a reduction in self-harm and drug use across 31 prisons within the UK.
Kothari *et al.*, May 2020, "COVID-19 and prisons: Providing mental health care for people in prison, minimising moral injury and psychological distress in mental health staff"	Opinion piece	Prisons	Early reports suggest a deterioration in prisoner mental health. There are challenges to delivering mental healthcare in prisons during the pandemic, and non-essential services have been suspended. Prison staffing levels are low and need to be increased, and activities and psychological self-help materials need to be provided for prisoners to help them cope.
Léon *et al.*, June 2020, "Leisure Behind Bars: The Realities of COVID-19 for Youth Connected to the Justice System"	Opinion piece	Juvenile correctional facilities	Prolonged isolation is detrimental to the mental health of youth in custody, who already are highly vulnerable. Reductions in staff levels and infection control protocols make caring for youth even more challenging. Increased phone time is not enough; there must be an increase in positive activities and provision of mental health resources to youth.
Liebrenz *et al.*, February 2020, "Caring for persons in detention suffering with mental illness during the Covid-19 outbreak"	Opinion piece	Prisons	There is likely to be a mental health burden in prisons from challenges such as isolation, grief from losing loved ones and survivor guilt. It is essential to ensure mental health services continue as normally as possible, assisted by risk-assessing mental health staff and providing them with PPE.
Ministry of Justice and Public Health England, August 2020,	Guidelines	Prisons and other places of detention	Ensure those in isolation have opportunities to discuss any anxieties with a member of staff.

"Preventing and controlling outbreaks of COVID-19 in prisons and places of detention"			
Montoya-Barthelemy *et al*., April 2020, "COVID-19 and the Correctional Environment - the american prison as a focal point for public health"	Opinion piece	Prisons	Isolation will likely worsen prisoner mental health, particularly if information is not clearly shared with prisoners. Ensure activities and visits are as minimally impacted as possible. Prison staff mental health is also highly vulnerable; they need training to support each other's mental health as well as that of prisoners.
Oladeru *et al*., July 2020, "A call to protect patients, correctional staff and healthcare professionals in jails and prisons during the COVID-19 pandemic"	Opinion piece	Prisons	Given prisoners' limited access to family and friends, staff should be encouraged to provide them with emotional and mental health support.
Penal reform international, March 2020, "Coronavirus: Healthcare and human rights of people in prison"	Briefing	Prisons	It is important to recognise the detrimental effects of isolation on prisoners. Therefore, any measures needed should be as minimal as possible and ideally not for the entire prison.
Piel, May 2020, "Letter to the Editor—Behavioral Health Implications of Inmate Release During COVID-19"	Opinion piece	Prisons	Any prisoners released at the moment are even more vulnerable due to changes to mental health and substance misuse services. Further, mental health assessments for prisoners on release might be abbreviated and those at risk of domestic violence might struggle to change accommodation if needed.
Robinson *et al*., July 2020, "Strategies Mitigating the Impact of the COVID-19 Pandemic on Incarcerated Populations"	Opinion piece	Prisons	Prisoners are likely to face a severe psychological burden from living in a high-risk environment for COVID-19, isolation procedures and visitor restrictions. Increasing telemedicine services and video calls to family are essential to tackling these issues.
Royal College of General Practitioners, March 2020, "COVID-19 guidance for healthcare in secure environments"	Guidelines	Secure environments	Ensure prisoners have access to alternative activities during isolation. Maintain clear communication with prisoners as to why changes are taking place and

			ensure opportunities for prisoners to discuss their anxieties.
Royal College of Psychiatrists, September 2020, "COVID-19: Secure hospital and criminal justice settings"	Guidelines	Forensic psychiatric hospitals, prisons and courts	In-reach mental health staff to prisons need to follow infection-control and social-distancing measures.
Sánchez *et al*., May 2020, "COVID-19 in prisons - an impossible challenge"	Opinion piece	Prisons	The fear of COVID-19, restrictions on movement and activities and suspension of family visits are all likely to exacerbate feelings of isolation among prisoners. Ensure prisoners can maintain communication with their families and are aware of any changes to procedure and why they're happening.
Shepherd, May 2020, "Reconsidering the immediate release of prisoners during COVID-19 community restrictions"	Opinion piece	Prisons	Decarceration risks significant issues with prisoners accessing community and mental health services (which have been altered or discontinued) – it is important to balance this risk when considering prisoner early-release.
Sivashanker *et al*., May 2020, "Covid-19 and decarceration"	Opinion piece	Prisons	With decaraceration, it is important to ensure released prisoners are connected to mental health and substance misuse services – virtual ambulatory care offers a good medium by which to offer this during the pandemic.
Stewart *et al*., June 2020, "The response to COVID-19 in prisons must consider the broader mental health impacts for people in prison"	Opinion piece	Prisons	Isolation poses a significant mental health risk for prisoners – opportunities for outdoor access and sociallydistant activities are important. Adaptations to communication through phones and digital technology are key in responding to restricted visits.
Tozzo *et al*., May 2020, "Prisoners in a pandemic: We should think about detainees during Covid-19 outbreak"	Opinion piece	Prisons	Riots in Italian prisons were caused by visitor restrictions and the fear of contracting COVID-19 in overcrowded, unhygienic conditions.
Weingarten *et al*., July 2020, "The Witness to Witness Program: Helping the Helpers in	Case study	Healthcare workers and attorneys working with people involved	Describes the adaptations needed for an emotional support service to continue to operate during the pandemic. The service is run for healthcare workers and attorneys

the Context of the COVID-19 Pandemic"		in the detention process	working with prisoners. It has been able to serve over 2,700 people to date.
World Health Organization, March 2020, "Preparedness, prevention and control of COVID-19 in prisons and other places of detention"	Guidelines	Prisons and other places of detention	Decisions to limit or restrict visits need to consider the mental health impact on prisoners.
Wurcel *et al.*, March 2020, "Spotlight on Jails: COVID-19 mitigation policies needed now"	Opinion piece	Jails	It is important to consider the unintended consequences of COVID-19 protocols introduced – stopping mental health services will likely have a deleterious effect. Riots in Italian prisons can be linked to COVID-19 policies such as the suspension of prison visits.

APPENDIX 2

Table 2: Systematic review and meta-analyses checklist

Checklist	Chevance et al[37]
Is the review based on a focused question that is adequately formulated and described?	No
Were eligibility criteria for included and excluded studies predefined and specified?	No
Did the literature search strategy use a comprehensive, systematic approach?	No
Were titles, abstracts, and full-text articles dually and independently reviewed for inclusion and exclusion to minimize bias?	No
Was the quality of each included study rated independently by two or more reviewers using a standard method to appraise its internal validity?	No
Were the included studies listed along with important characteristics and results of each study?	No
Was heterogeneity assessed? (This question applies only to meta-analyses.)	No
Overall quality rating	Poor

Table 3: Case Series Studies

Checklist	Study	
	Green et al[34]	Weingarten et al[35]
Was the study question or objective clearly stated?	Yes	No
Was the study population clearly and fully described, including a case definition?	No	No
Were the cases consecutive?	N/A	N/A
Were the subjects comparable?	CD	CD

Was the intervention clearly described?	Yes	Yes
Were the outcome measures clearly defined, valid, reliable, and implemented consistently across all study participants?	NR	NR
Was the length of follow-up adequate?	No	No
Were the statistical methods well-described?	NR	NR
Were the results well-described?	No	No
Overall quality rating	Poor	Poor

Table 4: Observational Cohort and Cross-sectional studies

Checklist	Fovet et al[36]
Was the research question or objective in this paper clearly stated?	Yes
Was the study population clearly specified and defined?	Yes
Was the participation rate of eligible persons at least 50%?	CD
Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?	CD
Was a sample size justification, power description, or variance and effect estimates provided?	No
For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?	No
Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?	NR
For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?	No
Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?	No
Was the exposure(s) assessed more than once over time?	N/A
Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?	Yes
Were the outcome assessors blinded to the exposure status of participants?	N/A
Was loss to follow-up after baseline 20% or less?	N/A
Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?	N/A
Overall quality rating	Poor

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	3
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	3-4
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	N/A
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	3-4
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	4
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	21
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	4
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	4
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	4-5
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	4-5
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	4-5

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	4
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	5-11
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	23-24
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	5-11
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	11-14
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	14-15
Limitations	20	Discuss the limitations of the scoping review process.	15
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	15
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	16

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMAScR): Checklist and Explanation. Ann Intern Med. 2018;169:467–473. doi: 10.7326/M18-0850.

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A scoping review of mental health in prisons through the COVID-19 pandemic

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ABSTRACT

Objective To examine the extent, nature and quality of literature on the impact of the COVID-19 pandemic on the mental health of imprisoned people and prison staff.

Design Scoping review

Data sources Pubmed, Embase, CINAHL, Global Health, Cochrane, PsycINFO, PsychExtra, Web of Science and Scopus were searched for any paper from 2019 onwards which focused on the mental health impact of COVID-19 on imprisoned people and prison staff. A grey literature search focused on international and government sources and professional bodies representing healthcare, public health and prison staff was also performed. We also performed hand-searching of the reference lists of included studies.

Eligibility criteria for selection of studies All papers, regardless of study design, were included if they examined the mental health of imprisoned people or prison staff specifically during the COVID-19 pandemic. Imprisoned people could be of any age and from any countries. All languages were included. Two independent reviewers quality assessed appropriate papers.

Results Of 647 articles found, 83 were eligible for inclusion, the majority (58%) of which were opinion pieces. The articles focused on the challenges to prisoner mental health. Fear of COVID-19, the impact of isolation, discontinuation of prison visits and reduced mental health services were all likely to have an adverse effect on the mental well-being of imprisoned people. The limited research and poor quality of articles included means that the findings are not conclusive. However, they suggest a significant adverse impact on the mental health and wellbeing of those who live and work in prisons.

Conclusions It is key to address the mental health impacts of the pandemic on people who live and work in prisons. These findings are discussed in terms of implications for getting the balance between infection control imperatives and the fundamental human rights of prison populations.

Keywords: Prison, Prisoners, inclusion health, correctional institutions, prison personnel, global health, mental health

STRENGTHS AND LIMITATIONS OF THIS STUDY

- The first scoping review of mental health in prisons during the COVID-19 pandemic.
- We report our rigorous methodology in the format of the PRISMA extension for scoping reviews (PRISMA-ScR) to improve our review's transparency, accuracy and completeness.
- Our search strategy and inclusion criteria were broad, identifying comprehensively the relevant literature with clear implications for research and policy.
- The review identified key challenges to mental health in prisons during the pandemic for further research.
- The primary limitation of the study is the limited and low quality research available within this review, which therefore means it is difficult to draw firm conclusions from the findings.

INTRODUCTION

In March 2020, the World Health Organization (WHO) declared a COVID-19 pandemic.[1] As of 31st March 2021, there have been more than 127 million confirmed infections worldwide with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), resulting in more than 2.5 million deaths.[2]

There are over 11 million people imprisoned globally.[3] This population is particularly susceptible to COVID-19 because of overcrowded, poorly ventilated and often insanitary environments and suboptimal healthcare services. Frequent staff changeover and movement of imprisoned people in and out of and between prisons contributes to multiple entry points for COVID-19 and the potential for rapid spread once introduced.[4, 5]

Imprisoned people are at high-risk for severe COVID-19 due to a high burden of chronic diseases, such as diabetes and hypertension. Also, people from black and minority ethnic groups are often over-represented and such individuals have a poorer prognosis.[6, 7] It is therefore clear imprisoned people are at high risk for severe COVID-19, which is likely to result in significant stress and anxiety within this population.[8-12] This may be exacerbated further by the infection prevention and control measures in prisons which focus on restricting prisoner access to each other and outside visitors.[13-16] Measures implemented include social distancing, cancelling all visits and limiting the time that prisoners spend outside their cell. This has resulted in imprisoned people being locked into cells for 23 hours or more each day. Comparisons could be drawn between this isolation and solitary confinement,[15] which has been shown to impact on mental health.[17, 18] Furthermore, imprisoned people already have a high burden of mental health issues and substance use.[7, 19, 20] Prison staff also have a high burden of mental health conditions.[21, 22] They face significant pressure from working in prisons, which is likely to be exacerbated by the pandemic.[9, 23]

We conducted a scoping review of literature related to COVID-19 and mental health in both prison staff and residents. The review aimed to examine the extent, nature and quality of literature on the impact of the COVID-19 pandemic on the mental well-being of imprisoned people and prison staff. We have also summarized and analysed the research findings and highlighted gaps in the evidence base.

METHODOLOGY

We conducted a scoping review using the methodology described by Arksey and O'Malley.[24] We adhered to the five stages of the scoping review process: (1) identifying the research question, (2) identifying relevant studies, (3) study selection, (4) charting the data, and (5) collating, summarising and analysing the included literature. We have reported this review in accordance with the guidance in the Preferred Reporting Items for Systematic reviews and meta-analyses extension for scoping reviews (PRISMA-ScR).[25]

Identifying the research question

Our research question was, "what is the extent, nature and quality of the literature on the impact of the COVID-19 pandemic on the mental health of imprisoned people and prison staff?". We included substance misuse within the definition of mental health.

We used Ako et al. 2020's[26] definition of 'prison' as representing "detention facilities housing both on-remand and convicted people. These settings included prisons, police holding cells, pre-trial detention, closed youth institutions, and camps where drug users are forced into mandatory labour as means of rehabilitation". We also included immigration detention centres.

Identifying relevant studies

We conducted a systematic literature search in nine databases (Pubmed, Embase, CINAHL, Global Health, Cochrane, PsycINFO, PsychExtra, Web of Science and Scopus) from 2019 onwards, since this is when COVID-19 was identified. The search was carried out on 5th March 2021. These databases reflect the breadth of disciplines within this field. We kept search terms broad to maximise sensitivity (see appendix 1). We also searched grey literature, focusing on official channels of information such as international and government sources and professional bodies representing healthcare, public health and prison staff. We hand-searched the reference lists of included studies.

Study selection

We screened articles by title and abstract for potentially eligible studies and obtained the full text. We included papers which met the eligibility criteria:

- The article must examine the mental health of imprisoned people or prison staff, of any age and from any country in any language
- The article must look specifically at the mental health effects of the COVID-19 pandemic
- All study designs will be included

Papers reporting research data were evaluated for research quality in line with scoping review adaptations suggested by Pham et al.[27] We used the relevant National Institutes of Health's (NIH) quality assessment tools.[28] Opinion pieces, case studies and grey literature were not quality assessed.

Charting, collating, summarising and analysing the data

We charted the data; key data were entered into a table with the following headings: author, month and year, title; study design; population described or studied; key findings and recommendations (see appendix 2). After familiarisation with the data, three authors (LJ, KG & EP) inductively identified six key themes from the data: mental health impact of the pandemic, changes in movement and activities, changes in communication, changes in mental and substance health services, decarceration and planning prisoner release and the mental health of prison staff.[29] These themes were reviewed and finessed with the other authors.

Patient and Public Involvement

Discussions with experts by experience who had lived or worked in prisons highlighted the growing importance of mental wellbeing in prisons during the pandemic. However, they were not involved in the subsequent conduct of the review.

RESULTS

Our search returned a total of 1080 articles (see figure 1). After removal of duplicates and initial screening, we reviewed 280 articles in full. After reviewing these articles against our exclusion criteria, 83 papers were included (see appendix 2).

FIGURE 1: PRISMA flowchart

The majority of papers were opinion pieces, with the exception of 10 case studies,[30-39] seven guidelines,[13-16, 40-42], six literature reviews,[43-48] five qualitative studies,[49-53] three cross-sectional studies,[54-56] three briefings,[57-59] three case studies,[37, 39, 60] and one study protocol.[61] [48]All assessed studies were found to be of poor quality (see appendix 3). Of papers which were focused on a particular country, the countries included were USA (27), UK (8), Italy (5),

Australia (5), Canada (2), then one from Brazil, China, Switzerland, Germany and Nigeria. One paper focused broadly on Africa, and another on South America.

Many papers considered prison environments generally but three examined juvenile correctional facilities (JCFs) in the USA,[62-64] seven looked at immigration and detention centres[8, 44-46, 60, 65, 66] and one described a mental health support programme for healthcare staff and attorneys working in prisons.[37]

There was little primary data and that which was identified was conflicting. One study found that recorded incidents of self-harm in 31 UK prisons had decreased by one-third when comparing February to April 2020.[67] However, two other studies documented higher levels of self-harm across UK prisons.[9, 51, 59]

Our thematic synthesis identified six key themes: fear of COVID-19, changes in movement and activities, changes in communication, changes in mental and substance health services, decarceration (release of prisoners) and continuity of care and the mental health of prison staff. We discuss author conclusions thematically below.

Fear of COVID-19

The pandemic has induced stress and anxiety in detainees over the risk to themselves and those they love contracting or dying from COVID-19.[12, 39, 64, 68-71] This is exacerbated by awareness of their health vulnerabilities[9] and their unhygienic, overcrowded living conditions.[8, 10, 60] Those left after the pandemic could also experience survivor guilt and grief over loved ones who have died.[72]

Changes in movement and activities

Movement of many imprisoned people has been severely restricted because of infection control measures. Those with symptoms, positive test results, new to the prison or vulnerable to severe infection are put into isolation, a practice which has negative connotations in prison for its perceived similarity to punitive solitary confinement.[35, 43, 47, 70, 73-78] Many were concerned isolation may lead to exacerbations of mental health conditions, anger, depression, psychosis, self-harm and suicide.[39, 46, 56, 66, 72, 74-76, 79-84] There were also concerns that isolation in JCFs will affect young offenders' neurological development.[63, 74, 85]

In this context, it is important to clarify the difference between isolation and solitary confinement.[15, 73-75, 81]. Solitary confinement refers to the confinement of prisons for 22 hours or more a day without 'meaningful human contact'.[86] It is used as a disciplinary sanction imposed by prison authorities but is also used as a preventative measure for the protection of the imprisoned person. Imprisoned people in isolation are removed from contact with other members of the prison, usually as an infection prevention and control measure. All prisoners should have resources to make it psychologically bearable – such as a "television, tablet, radio, reading materials, and means of communicating with loved ones"[73, 85, 87] – as well as access to health professionals and updates on the necessary length for isolation.[13, 73] Unless the purpose of their isolation is well-defined, prisoners may be reluctant to report symptoms.[9, 73]

Many prisons have significantly restricted prisoner movement regardless of COVID-19 status.[63, 69, 74, 75, 81] Together with social distancing measures, this can mean spending up to 23 hours isolated in an 8 x 6 foot cell each day.[59, 63, 74, 75] This contrasts with Penal Reform International suggesting blanket isolation measures should be avoided or, if imposed, "only for the time required to undertake a more individualised and independent medical assessment".[58]

Many activities, including work, education and religious activities, have been stopped[59, 69, 75] and not substituted by recommended socially distant activities.[15, 16, 39, 46] This is likely to have detrimental effects on mental health.[74, 81] The lack of activities is a consequence of restricting staff numbers on site to minimise infection risk,[63] and the logistical challenge for facilities such as gyms to clean shared equipment.[63] However, in-cell activities, including exercises, mindfulness, puzzles, videos, colouring and playing cards, offer alternatives.[9, 75, 88]

Finally, imprisoned people are rarely attending appointments outside of prison, resulting in trials and court hearings being delayed, increased time spent on remand, and likely additional distress.[39, 75]

Changes in communication

Many prisons have stopped visits,[11, 12, 39, 59, 62, 69, 74, 75, 89-92] which will likely negatively impact mental health.[10, 12, 62, 69, 74, 81, 87, 89, 91] Lack of contact could result in increased anxiety over the health of family members as well as prisoner's own welfare.[69] The European Centre for Disease Prevention and Control (ECDC) calls for special considerations for deciding on visits when infants and children are involved.[14] However, in the USA, by early April 2020, all JCFs had suspended in-person visits [62] and, by May 2020, some women in UK prisons had not seen their children in two months.[59]

One positive side-effect of reduced visits is a reduction in drug availability and drug use in prisons as visits are a drug trafficking route.[36, 57, 67] Concurrently, demand for opioid substitution medication has increased, possibly to help with withdrawal symptoms.[36, 57] Managing an increased number of withdrawing people has likely put additional strain on prison staff and healthcare workers.

Ensuring communication with family and friends is maintained is important. One key method by which this has happened is increased telephone access.[62, 63, 67, 80, 87, 90] Additional methods include letter writing, video calls and a prison voicemail service.[10, 14, 62, 63, 69, 75, 81, 87, 88, 90] However, these methods are not equally implemented or effective; different prisons have different policies and resources[62, 76, 77, 84]. For example, secure phone handsets are only available in half of prisons in England and Wales.[75] Moreover, those with the greatest risk of self-harm and suicide are more likely to be alienated from support networks so least likely to benefit.[59, 67]

Communication between imprisoned people and staff is also a priority. Levels of education and health literacy are low amongst imprisoned people and, combined with a tight control of information within prisons, this can lead to the spread of misinformation and fear.[80] Emphasis must be placed on regular, clear communication to prisoners concerning changes in protocol.[31, 43, 69, 87] The Royal College of General Practitioners (RCGP) emphasises good communication throughout their guidelines for managing COVID-19 in prisons.[40]

Changes in mental and substance health services

Despite a prevailing belief that the mental health burden will increase, routine services have been deprioritised or withdrawn in many places due to infection risk.[9, 54, 59, 62, 72, 93, 94] This is counter to the widespread belief that psychiatric and psychological care remains critical.[10, 12, 31, 43, 62, 72, 77, 79, 82, 87, 89, 91, 93] Adaptations include correctional staff providing psychological support, prisoner access to online counselling tools and telepsychiatry.[10, 60, 72, 79, 95] Telepsychiatry received particular note,[10, 30, 39, 45, 54, 60, 79, 92, 96, 97] with recommendations for US states to waive license requirements to facilitate greater uptake.[10, 98]

With the reality of rationalised mental health services, articles emphasised the need to optimise triaging to ensure prisoners with the highest mental health risk are prioritised; suggested factors include pre-existing mental health condition, risk of harm to self or others, aggression and refusal to eat.[9, 72] For the in-person mental health appointments which do take place, it is important that staff are risk-assessed and provided with personal protective equipment.[41, 72] A number of articles reported how systems and processes had been modified and developed to ensure that imprisoned people were able to continue with drug treatment.[32, 33, 36, 42] In one prison, depot buprenorphine had become first line treatment for opioid agonist treatment (OAT).[36]

Decarceration and continuity of care

Many recommended decarceration as a strategy to help reduce infection risk.[8, 55, 85, 93, 99-102] This has been implemented in several countries including Iran, Turkey, Afghanistan, France, Indonesia and Ethiopia.[92, 103, 104]

However, there are important considerations for the mental health of those released.[75, 90, 105] Firstly, they will be entering an unfamiliar environment with substantial societal changes, leading to increased stress.[68, 75] Imprisoned people often have a lack of financial and social capital, lower educational attainment, higher rates of unemployment and regularly become homeless, all of which are more challenging with current restrictions.[68, 98, 99, 105] Those who return to difficult family situations may be at risk of domestic violence, with restricted options to change living arrangements and challenges to seeking a police protective order if needed.[68, 90] Secondly, many community services on which released prisoners often rely have been reduced, altered or discontinued, leading to challenges in accessing care.[39, 68, 75, 90, 101] One key area which needs careful planning is OAT.[15, 32, 40, 61, 99, 105-107] In some areas, OAT services are now available via telemedicine, but these require prisoners to be equipped with technology and internet connection prior to release.[32, 33, 61, 100, 101]

With these added complications and the rapid speed of decarceration, liaising with community services for follow-up is challenging.[16, 68, 75, 90, 105] Close attention must be paid to those released to ensure continuity of health and social care.[68, 75, 99, 101]

The mental health of prison staff

The pandemic has affected the mental health of those who work in prisons. In England and Wales, prison staff absences have doubled.[75] Staff have been faced with fear of contracting the virus as well as burnout from operating with reduced numbers.[9, 62, 80] A diminished workforce will have implications on the mental health of imprisoned people too.[9, 75] Fewer staff means less opportunity to support imprisoned people and less time to supervise those at high risk of self-harm or suicide.[75]

Summary

In summary, the reported impacts on the mental health of imprisoned people are overwhelmingly negative, caused not just by fear of COVID-19, but mediated through the regime changes implemented to minimise infection risks. The key challenges can be summed up as social distancing and isolation, discontinuation of prison visits and reduced/discontinued mental health services. These impacts can be ameliorated by measures, including the provision of individual and communal socially distant activities; clear communication with prisoners; decarceration; ensuring access to friends and family through telephones and video calls; effective risk assessment of the mental health of imprisoned people; telepsychiatry; and socially distant in-person mental health appointments. This is summarised in Figure 2.

FIGURE 2 – Summary of the challenges and solutions to prisoner mental health during COVID-19

DISCUSSION

The review's findings suggest that the pandemic has had a profound effect on the mental health of those living and working in prisons. Isolation is a huge challenge to mental health in prisons. The adverse psychological effects of solitary confinement are well documented[17, 18, 108] and include an increased risk of mortality five years after release.[108] Although the reasons for isolation are different, there are likely still negative consequences for mental health. Similarly, visitors have been shown to be positive for the well-being of imprisoned people and linked to reduced recidivism.[109] Preventing visits is therefore also likely to impact mental health. A rapid review of the psychological impact of quarantine in the wider community showed a detrimental effect on mental health in a wide-ranging and possibly long-lasting way.[110] Longer quarantine increases the severity of impact and, when a restriction to liberty is imposed rather than voluntary, it leads to more distress and greater long-term mental health complications.[110]

Reduced access to health services is also likely to impact mental health. Since the pandemic started, health services in many countries have developed rapidly, with the widespread adoption of telemedicine.[111] There are, however, concerns over equity and lack of access to technology in prisons. Even in high-income countries such as the UK, at the start of the pandemic 50 of 117 prison sites had connectivity too poor to enable video consultation.[112] With growing recognition the pandemic is far from over, it is important to address mental health issues now. Prison riots have occurred in Brazil, Colombia, Italy and the USA,[10, 12, 79] linked to the challenges to mental health highlighted in figure 2[10, 11, 43, 79, 81, 89, 91, 113] and demonstrate that solutions cannot wait.

The discussion around mental health in prisons throughout COVID-19 is lacking robust evidence. Considering the physical and mental health vulnerabilities of prisoners,[6, 7, 19, 20] understanding the impact of COVID-19 and the implemented regime changes is an urgent need. Particularly in the context of mass decarceration, prisons are often places of transience and the unaddressed mental health impact will have downstream consequences on wider society too. Currently, the prison service in England and Wales is evaluating feedback from prison residents and staff to improve management of safety and mental health as the pandemic continues.[66, 67]

This review has several key strengths. Firstly, this is the first scoping review of the mental health in prisons during the pandemic. Also, through taking a systematic approach, it has identified comprehensively the relevant literature and gaps in evidence with clear implications for research and policy. However, the poor quality of articles included means that the findings are not conclusive.

More research is urgently needed not only to gain an in-depth understanding of the mental health impact in prisons but also to identify effective interventions. Research also needs to examine the impacts of decarceration. Recently released prisoners are at a high risk of mortality, particularly from drug-related deaths.[114] Given drug-related sentences are one of the commonest sentences being commuted,[68, 104] it is important to examine how continuity of care is best maintained on release. The lack of research on prison staff and imprisoned women is notable and should also be addressed.

Prisons should consider the mental well-being of their residents and staff. There needs to be greater provision of in-cell activities and expansion of electronic communications to enable imprisoned people to communicate with health professionals and family, and to enable courts to function remotely to prevent the backlog of trials. There must be clear communication with imprisoned people and staff about the public health measures taken so that they know what to expect. These measures, whilst enabling infection control, must be kept to a minimum to ensure the protection of

prisoners' human rights. Healthcare staff have an important role to play in identifying and monitoring the well-being of vulnerable people, maintaining services and responding to health needs. Releasing large numbers of people into the community creates problems for these individuals and requires adequate protections such as appropriate housing and links into health services. All these measures must be underpinned by strong leadership and collaborative working across prison systems, non-governmental organisations and health and social care partners.

CONCLUSION

The impact of COVID-19 on the mental health of imprisoned people and prison staff is likely to be profound, related not only to fear of COVID-19, but also as a consequence of instituting infection prevention and control measures. Although essential, these must be kept to a minimum and mitigation strategies to maintain mental well-being implemented alongside them. In March 2020, WHO noted, "People in prisons and other places of detention are not only likely to be more vulnerable to infection with COVID-19, they are also especially vulnerable to human rights violations." Given the evidence of impact so far, and the reality that this pandemic is far from over, there is an urgent need for action alongside further research to address the adverse mental health consequences of the pandemic on those who live and work in prisons.

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All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

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The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted. LJ and EP conceived the study. LJ performed the search, and LJ and KG screened articles and assessed their quality. EP acted as co-reviewer and quality assessor. All authors contributed substantially to the interpretation of the findings. LJ produced the first draft and KG, EP, JP and AR revised critically the content. All authors approved the final manuscript. LJ is the overall content guarantor.

ETHICS APPROVAL STATEMENT

Ethics approval was not seen as necessary as this was a scoping review.

DATA AVAILABILITY STATEMENT

All relevant review information in supplementary material. No primary data analysed.

BIBLIOGRAPHY

1. WHO Director-General's opening remarks at the media briefing on COVID-19. World Health Organization; 2020. Available from: https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020 [accessed 08 April 2021].

2. WHO Coronavirus Disease (COVID-19) Dashboard. World Health Organization; 2020. Available from: https://covid19.who.int/ [accessed 08 April 2021].

3. World Prison Population List - twelfth edition. World Prison Brief; 2018.

4. Bick JA. Infection control in jails and prisons. *Clin Infect Dis* 2007; 45(8):1047-55. https://doi.org/10.1086/521910.

5. Wallace M, Hagan L, Curran KG, et al. COVID-19 in Correctional and Detention Facilities - United States, February-April 2020. *MMWR Morb Mortal Wkly Rep* 2020; 69(19):587-90. https://doi.org/10.15585/mmwr.mm6919e1.

6. Li J, Huang DQ, Zou B, et al. Epidemiology of COVID-19: A systematic review and meta-analysis of clinical characteristics, risk factors, and outcomes. *Journal of Medical Virology* 2020. https://doi.org/10.1002/jmv.26424.

7. Fazel S, Baillargeon J. The health of prisoners. *The Lancet* 2011; 377(9769):956-65. https://doi.org/10.1016/S0140-6736(10)61053-7.

8. Garcini L, Rodriguez M, Mercado A, et al. A Tale of Two Crises: The Compounded Effect of COVID-19 and Anti-Immigration Policy in the United States. *Psychological Trauma: Theory, Research, Practice, and Policy* 2020; 12(S1):S230-S2. https://doi.org/10.1037/tra0000775.

9. Kothari R, Forrester A, Greenberg N, et al. COVID-19 and prisons: Providing mental health care for people in prison, minimising moral injury and psychological distress in mental health staff. *Medicine, Science and the Law* 2020; 60(3):165-8. https://doi.org/10.1177%2F0025802420929799.

10. Robinson L, Heyman-Kantor R, Angelotta C, et al. Strategies Mitigating the Impact of the COVID-19 Pandemic on Incarcerated Populations. *American Journal of Public Health* 2020; 110(8):1135-6. https://doi.org/10.2105/AJPH.2020.305754.

11. Tozzo P, D'Angiolella G, Caenazzo L. Prisoners in a pandemic: We should think about detainees during Covid-19 outbreak. *Forensic Science International: Synergy* 2020;2:162-3. https://doi.org/10.1016/j.fsisyn.2020.05.004.

12. Caputo F, Gratteri S, Sacco MA, et al. Covid-19 emergency in prison: Current management and forensic perspectives. *The Medico-legal journal* 2020. https://doi.org/10.1177%2F0025817220923693.

13. Preventing and controlling outbreaks of COVID-19 in prisons and places of detention. Ministry of Justice and Public Health England; UK; 2020.

14. Infection prevention and control and surveillance for coronavirus disease (COVID-19) in prisons in EU/EEA countries and the UK. European Centre for Disease Prevention and Control; 2020.

15. CDC guidance on management of COVID-19 incorrectional and detention facilities. Centers for Disease Control and Prevention; USA; 2020.

16. Preparedness, prevention and control of COVID-19 in prisons and other places of detention. World Health Organization; 2020.

17. Haney C. Prison Effects in the Era of Mass Incarceration. *The Prison Journal* 2012. https://doi.org/10.1177/0032885512448604.

18. Arrigo BA, Bullock JL. The psychological effects of solitary confinement on prisoners in supermax units: reviewing what we know and recommending what should change. *Int J Offender Ther Comp Criminol* 2008; 52(6):622-40. https://doi.org/10.1177/0306624x07309720.

19. Fazel S, Bains P, Doll H. Substance abuse and dependence in prisoners: a systematic review. *Addiction* 2006; 101(2):181-91. https://doi.org/10.1111/j.1360-0443.2006.01316.x.

20. Fazel S, Danesh J. Serious mental disorder in 23,000 prisoners: a systematic review of 62 surveys. The Lancet 2002; 359(9306):545-50. https://doi.org/10.1016/S0140-6736(02)07740-1.

21. Goldberg P, David S, Landre MF, et al. Work conditions and mental health among prison staff in France. *Scandinavian Journal of Work, Environment & Health* 1996; 22(1):45-54.

22. Ferdik FV, Smith HP. Correctional Officer Safety and Wellness Literature Synthesis. National Institute of Justice; USA; 2020.

23. Kinman G, Clements AJ, Hart J. Job demands, resources and mental health in UK prison officers. *Occupational Medicine* 2017; 67(6):456-60. https://doi.org/10.1093/occmed/kqx091.

24. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. International Journal of Social Research Methodology. 2005; 8(1):19-32. https://doi.org/10.1080/1364557032000119616.

25. Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Annals of Internal Medicine* 2018; 169(7):467-73. https://doi.org/10.7326/M18-0850.

26. Ako T, Plugge E, Mhlanga-Gunda R, et al. Ethical guidance for health research in prisons in low- and middle-income countries: a scoping review. *Public Health* 2020; 186:217-27. https://doi.org/10.1016/j.puhe.2020.07.008.

27. Pham MT, Rajić A, Greig JD, et al. A scoping review of scoping reviews: advancing the approach and enhancing the consistency. *Res Synth Methods* 2014; 5(4):371-85. https://doi.org/10.1002/jrsm.1123.

28. Study Quality Assessment Tools. National Institutes of Health; 2020. Available from: https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools.

29. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology* 2006; 3(2):77-101.

30. Burton PRS, Morris NP, Hirschtritt ME. Mental Health Services in a U.S. Prison During the COVID-19 Pandemic. *Psychiatric services* 2021; 72(4):458-460. **https://doi.org/10.1176/appi.ps.202000476**.

31. di Giacomo E, de Girolamo G, Peschi G, et al. Italian Prisons During the COVID-19 Outbreak. *Am J of Public Health* 2020; 110(11):1646-7. https://doi.org/10.2105/ajph.2020.305896.

32. Donelan CJ, Hayes E, Potee RA, et al. COVID-19 and treating incarcerated populations for opioid use disorder. *Journal of substance abuse treatment* 2020:108216. https://dx.doi.org/10.1016%2Fj.jsat.2020.108216.

33. Duncan A, Sanders N, Schiff M, et al. Adaptations to jail-based buprenorphine treatment during the COVID-19 pandemic. *Journal of substance abuse treatment*. 2021:108161. https://dx.doi.org/10.1016%2Fj.jsat.2020.108161.

34. Green AS, Ruchman SG, Katz CL, et al. Piloting forensic tele-mental health evaluations of asylum seekers. *Psychiatry Research* 2020; 291:113256. https://doi.org/10.1016/j.psychres.2020.113256.

35. Murdoch DJ. British Columbia provincial corrections' response to the COVID-19 pandemic: A case study of correctional policy and practice. *Victims & Offenders* 2020; 15(7):1317-36. https://doi.org/10.1080/15564886.2020.1829225.

36. Roberts J, White B, Attalla D, et al. Rapid upscale of depot buprenorphine (CAM2038) in custodial settings during the early COVID-19 pandemic in New South Wales, Australia. *Addiction* 2021; 116(2):426-7. https://doi.org/10.1111/add.15244.

37. Weingarten K, Galvan-Duran A, D'Urso S, et al. The Witness to Witness Program: Helping the Helpers in the Context of the COVID-19 Pandemic. *Family Process* 2020; 59(3):883-97. https://doi.org/10.1111/famp.12580.

38. Ogunwale A, Majekodunmi OE, Ajayi SO, et al. Forensic mental health service implications of COVID-19 infection in Nigeria. *Forensic Sci Int: Mind and Law*. 2020;1:100026. https://dx.doi.org/10.1016%2Fj.fsiml.2020.100026.

39. Fovet T, Lancelevée C, Eck M, et al. Prisons confinées: quelles conséquences pour les soins psychiatriques et la santé mentale des personnes détenues en France? [Mental health care in French correctional facilities during the Covid-19 pandemic]. *Encephale* 2020; 46(3S):S60-S5. https://doi.org/10.1016/j.encep.2020.05.002.

40. COVID-19 Guidance for Healthcare in Secure Environments. Royal College of General Practitioners; UK; 2020.

41. COVID-19: Secure hospital and criminal justice settings. Royal College of Psychiatrists; UK; 2020.

42. Keppler K, Stover H. Forderungen zum Schutz vor SARS-CoV-2 im Justizvollzug [Demands for Protection against SARS-CoV-2 in Prisons]. *Sucht* 2020; 66(4):207-11. https://doi.org/10.1024/0939-5911/a000673.

43. Carvalho SGd, Santos ABSD, Santos IM. The pandemic in prison: interventions and overisolation. *Ciencia & saude coletiva* 2020;25(9):3493-502. http://dx.doi.org/10.1590/1413-81232020259.15682020.

44. Chaimowitz GA, Upfold C, Gea LP, et al. Stigmatization of psychiatric and justice-involved populations during the COVID-19 pandemic. *Prog Neuropsychopharmacol Biol Psychiatry*. 2021; 106:110150. https://doi.org/10.1016/j.pnpbp.2020.110150.

45. Kois LE, Cox J, Peck AT. Forensic e-mental health: Review, research priorities, and policy directions. *Psychology, Public Policy, and Law*. 2021; 27(1):1-16. https://psycnet.apa.org/doi/10.1037/law0000293.

46. Pedrosa AL, Bitencourt L, Fróes ACF, et al. Emotional, Behavioral, and Psychological Impact of the COVID-19 Pandemic. *Frontiers in psychology* 2020; 11:566212. https://doi.org/10.3389/fpsyg.2020.566212.

47. Stephenson T, Leaman J, O'Moore É, et al. Time out of cell and time in purposeful activity and adverse mental health outcomes amongst people in prison: a literature review. *Int J of prisoner health* 2021; 17(1):54-68. https://doi.org/10.1108/ijph-06-2020-0037.

48. Chevance A, Gourion D, Hoertel N, et al. Assurer les soins aux patients souffrant de troubles psychiques en France pendant l'épidémie à SARS-CoV-2 [Ensuring mental health care during the SARS-CoV-2 epidemic in France: A narrative review]. *Encephale* 2020;46(3S):S3-S13. https://doi.org/10.1016/j.encep.2020.03.001.

49. Gonçalves LC, Baggio S, Weber M, et al. COVID-19 Inmate Risk Appraisal (CIRA): development and validation of a screening tool to assess COVID-19 vulnerability in prisons. *Swiss medical weekly* 2021; 151:w20471. https://doi.org/10.4414/smw.2021.20471.

50. Maycock M, Dickson G. Analysing the views of people in custody about the management of the COVID-19 pandemic in the Scottish Prison Estate. *Int J of prisoner health*. https://doi.org/10.1108/IJPH-09-2020-0065.

51. CAPPTIVE: Covid-19 Action Prisons Project: Tracking Innovation, Valuing Experience. How prisons are responding to Covid-19 Briefing #2: Regimes, reactions to the pandemic, and progression. Prison Reform Trust; UK; 2021.

52. Testoni I, Francioli G, Biancalani G, et al. Hardships in Italian Prisons During the COVID-19 Emergency: The Experience of Healthcare Personnel. *Frontiers in psychology* 2021; 12:619687. https://dx.doi.org/10.3389%2Ffpsyg.2021.619687.

53. CAPPTIVE Covid-19 Action Prisons Project: Tracking Innovation, Valuing Experience. How prisons are responding to Covid-19. Briefing #3: The prison service's response, precautions, routine health care, disabilities, well-being, mental health, self-harm, and what helped. Prison Reform Trust; UK; 2021.

54. Bandara S, Kennedy-Hendricks A, Merritt S, et al. Early Effects of COVID-19 on Programs Providing Medications for Opioid Use Disorder in Jails and Prisons. *J of addiction medicine* 2020; 14(5):e257-e260. https://doi.org/10.1097/adm.0000000000000718.

55. Marmolejo L, Barberi D, Bergman M, et al. Responding to COVID-19 in Latin American prisons: The cases of Argentina, Chile, Colombia, and Mexico. *Victims & Offenders* 2020; 15(7):1062-85. https://doi.org/10.1080/15564886.2020.1827110.

56. Novisky MA, Narvey CS, Semenza DC, et al. Institutional Responses to the COVID-19 Pandemic in American Prisons. *Victims & Offenders* 2020; 15(7):1244-61. https://doi.org/10.1080/15564886.2020.1825582.

57. Impact of COVID-19 on patterns of drug use and drug-related harms in Europe. European Monitoring Centre for Drugs and Drug Addiction; 2020.

58. Coronavirus: Healthcare and human rights of people in prison. Penal Reform International; UK; 2020.

59. Report on short scrutiny visits to Prisons holding women; HMP Chief Inspector of Prisons; UK; 2020.

60. Green AS, Ruchman SG, Katz CL, et al. Piloting forensic tele-mental health evaluations of asylum seekers. *Psychiatry Research* 2020; 291:113256. https://doi.org/10.1016/j.psychres.2020.113256.

61. Evans EA, Stopka TJ, Pivovarova E, et al. Massachusetts Justice Community Opioid Innovation Network (MassJCOIN). *Journal of substance abuse treatment* 2021: 108275. https://doi.org/10.1016/j.jsat.2021.108275.

62. Gagnon JC. The solitary confinement of incarcerated American youth during COVID-19. *Psychiatry Research* 2020; 291:113219. https://dx.doi.org/10.1016%2Fj.psychres.2020.113219.

63. Leon M, Rodas K, Greer M, et al. Leisure Behind Bars: The Realities of COVID-19 for Youth Connected to the Justice System. *Leisure Sciences* 2020. https://doi.org/10.1080/01490400.2020.1774005.

64. Barnert ES. COVID-19 and Youth Impacted by Juvenile and Adult Criminal Justice Systems. *Pediatrics* 2020; 146(2). https://doi.org/10.1542/peds.2020-1299.

65. Hedrick K, Borschmann R. Addressing self-harm among detained asylum seekers in Australia during the COVID-19 pandemic. Australian and NZ journal of public health 2021; 45(1):80. https://doi.org/10.1111/1753-6405.13061.

66. Wang J, Yang W, Pan L, et al. Prevention and control of COVID-19 in nursing homes, orphanages, and prisons. *Environ Pollut* 2020;266. https://dx.doi.org/10.1016%2Fj.envpol.2020.115161.

67. Hewson T, Green R, Shepherd A, et al. The effects of COVID-19 on self-harm in UK prisons. *BJPsych bulletin* 2020. https://doi.org/10.1192/bjb.2020.83.

68. Piel J. Letter to the Editor—Behavioral Health Implications of Inmate Release During COVID-19. *Journal of Forensic Sciences* 2020; 65(4):1379-81. https://doi.org/10.1111/1556-4029.14456.

69. Sánchez A, Simas L, Diuana V, et al. COVID-19 in prisons: An impossible challenge for public health? *Cadernos de Saúde Pública* 2020; 36(5). https://doi.org/10.1590/0102-311x00083520.

70. Barnert E, Ahalt C, Williams B, et al. Prisons: Amplifiers of the COVID-19 Pandemic Hiding in Plain Sight. Am J of Public Health. 2020; 110(7):964-6. https://doi.org/10.2105/AJPH.2020.305713.

71. Ryan C, Sabourin H, Ali A. Applying an Indigenous and gender-based lens to the exploration of public health and human rights implications of COVID-19 in Canadian correctional facilities. *Canadian Journal of Public Health* 2020; 111(6):971-4. https://dx.doi.org/10.17269%2Fs41997-020-00426-y.

72. Liebrenz M, Bhugra D, Buadze A, et al. Caring for persons in detention suffering with mental illness during the Covid-19 outbreak. *Forensic Science International: Mind and Law* 2020; 1:100013. https://doi.org/10.1016/j.fsiml.2020.100013.

73. Cloud D, Ahalt C, Augustine D, et al. Medical Isolation and Solitary Confinement: Balancing Health and Humanity in US Jails and Prisons During COVID-19. *Journal of General Internal Medicine* 2020; 35(9):2738–42. https://dx.doi.org/10.1007%2Fs11606-020-05968-y.

74. Dutheil F, Bouillon-Minois J, Clinchamps M, et al. COVID-19: a prison-breaker? Canadian *Journal of Public Health* 2020; 111:480–1. https://doi.org/10.17269/s41997-020-00359-6.

75. Hewson T, Shepherd A, Hard J, et al. Effects of the COVID-19 pandemic on the mental health of prisoners. *The Lancet Psychiatry* 2020;7(7): 568-70. https://dx.doi.org/10.1016%2FS2215-0366(20)30241-8.

76. Brennan PK. Responses Taken to Mitigate COVID-19 in Prisons in England and Wales. *Victims & Offenders* 2020; 15(7):1215-33. https://doi.org/10.1080/15564886.2020.1832027.

77. Heard C. Commentary: Assessing the global impact of the COVID-19 pandemic on prison populations. *Victims & Offenders* 2020; 15(7):848-61. https://doi.org/10.1080/15564886.2020.1825583.

78. Lachsz A, Hurley M, Lachsz A, et al. Why practices that could be torture or cruel, inhuman and degrading treatment should never have formed part of the public health response to the COVID-19 pandemic in prisons. *Curr Iss Crim Justice*. https://doi.org/10.1080/10345329.2020.1863310.

79. Henry BF. Social Distancing and Incarceration: Policy and Management Strategies to Reduce COVID-19 Transmission and Promote Health Equity Through Decarceration. *Health Education & Behavior* 2020; 47(4):536-9. https://doi.org/10.1177%2F1090198120927318.

80. Montoya-Barthelemy AG, Lee CD, Cundiff DR, et al. COVID-19 and the Correctional Environment: The American Prison as a Focal Point for Public Health. *American Journal of Preventive Medicine* 2020; 58(6):888-91. https://dx.doi.org/10.1016%2Fj.amepre.2020.04.001.

81. Stewart A, Cossar R, Stoové M. The response to COVID-19 in prisons must consider the broader mental health impacts for people in prison. *Australian and New Zealand Journal of Psychiatry* 2020. https://doi.org/10.1177%2F0004867420937806.

82. Goncalves Junior J, Sales JPd, Silva FCTd, et al. Analysis of the prison population's mental health in SARS-CoV-2 pandemic: qualitative analysis. *Psychiatry Research* 2021;296. https://doi.org/10.1016/j.psychres.2020.113669.

83. Mitchell SM, La Rosa NL, Cary J, et al. Considering the impact of COVID-19 on suicide risk among individuals in prison and during reentry. *J Crim Psychol*. https://doi.org/10.1108/JCP-10-2020-0044.

84. Payne JL, Hanley N. COVID-19 and corrections in Australia: A summary review of the available data and literature. *Victims & Offenders* 2020; 15(7):1367-84. https://doi.org/10.1080/15564886.2020.1829226.

85. Shiple C, Eamranond PP. Letter to the Editor-The disproportionate negative impacts of COVID-19 on the mental health of prisoners. *Journal of forensic sciences* 2021; 66(1):413-4. https://doi.org/10.1111/1556-4029.14590.

86. United Nations Standard Minimum Rules for the Treatment of Prisoners (the Nelson Mandela Rules). UNODC; NY, USA; 2015.

87. Brelje AB, Pinals DA, Brelje AB, et al. Provision of health care for prisoners during the COVID-19 pandemic: an ethical analysis of challenges and summary of select best practices. Int J of prisoner health. https://doi.org/10.1108/IJPH-07-2020-0042.

88. Li SD, Liu TH, Li SD, et al. Correctional System's Response to the Coronavirus Pandemic and Its Implications for Prison Reform in China. *Victims & Offenders* 2020; 15(7):959-69. https://doi.org/10.1080/15564886.2020.1824159.

89. Gulati G, Dunne CP, Kelly BD. Prisons and the COVID-19 Pandemic. *Irish Journal of Psychological Medicine* 2020: 1-2. https://dx.doi.org/10.1017%2Fipm.2020.65.

90. Shepherd S, Spivak BL. Reconsidering the immediate release of prisoners during COVID-19 community restrictions. *Medical Journal of Australia* 2020;213(2):58-9.e1. http://doi.org/10.5694/mja2.50672.

91. Wurcel AG, Dauria E, Zaller N, et al. Spotlight on Jails: COVID-19 Mitigation Policies Needed Now. *Clinical infectious diseases* 2020; 71(15):891-2. https://doi.org/10.1093/cid/ciaa346.

92. Fovet T, Thibaut F, Thomas P, et al. French forensic mental health system during the COVID-19 pandemic. *Forensic Sci Int: Mind and Law*. 2020;1:100034. https://dx.doi.org/10.1016%2Fj.fsiml.2020.100034.

93. Nweze VN, Anosike UG, Ogunwusi JF, et al. Prison health during the COVID-19 era in Africa. Public health in practice (Oxford, England). 2021;2:100083. https://dx.doi.org/10.1016%2Fj.puhip.2021.100083.

94. Zielinski MJ, Hinton KE, Bull CE. COVID-19 highlights the pitfalls of reliance on the carceral system as a response to addiction. *Journal of substance abuse treatment* 2021; 122:108190. https://doi.org/10.1016/j.jsat.2020.108190.

95. Oladeru OT, Tran N-T, Al-Rousan T, et al. A call to protect patients, correctional staff and healthcare professionals in jails and prisons during the COVID-19 pandemic. *Health & justice* 2020; 8(17). https://dx.doi.org/10.1186%2Fs40352-020-00119-1.

96. Gunn J, Taylor PJ, Forrester A, et al. Telemedicine in prisons: A Crime in Mind perspective. *Criminal Behaviour and Mental Health* 2020; 30(2):65-7. https://doi.org/10.1002/cbm.2160.

97. Hewson T, Robinson L, Khalifa N, et al. Remote consultations in prison mental healthcare in England: impacts of COVID-19. *BJPsych open* 2021; 7(2):e49. https://dx.doi.org/10.1192%2Fbjo.2021.13.

98. Otugo O, Wages B. COVID-19: the additional sentence for the incarcerated. *Health Equity* 2020; 4(403):403-5. https://doi.org/10.1089/heq.2020.0017.

99. Crowley D, Cullen W, O'Donnell P, et al. Prison and opportunities for the management of COVID-19. *BJGP open* 2020; 4(3). https://doi.org/10.3399/bjgpopen20X101106.

100. Hawks L, Woolhandler S, McCormick D. COVID-19 in Prisons and Jails in the United States. JAMA Internal Medicine. 2020; 180(8):1041-2. https://doi.org/10.1001/jamainternmed.2020.1856.

101. Sivashanker K, Rossman J, Resnick A, et al. Covid-19 and decarceration. *The BMJ* 2020; 369:m1865. https://doi.org/10.1136/bmj.m1865.

102. Canady VA. Bazelon Center urges reduction of jail population with MI. *Mental Health Weekly* 2020; 30(15):7. https://doi.org/10.1002/mhw.32318.

103. Pakes F. Coronavirus: why swathes of prisoners are being released in the world's most punitive states. The Conversation; 2020. Available from: https://theconversation.com/coronavirus-why-swathes-of-prisoners-are-being-released-in-the-worlds-most-punitive-states-136563 [accessed 08 April 2021].

104. COVID-19 in prisons—a ticking time bomb: UNAIDS; 2020. Available from: https://www.unaids.org/en/resources/presscentre/featurestories/2020/may/20200513_prisons [Accessed 08 April 2021].

105. Ghosh A. Prisoners with drug use disorders during covid-19 pandemic: Caught between a rock and a hard place. *Asian Journal of Psychiatry* 2020; 54:102332. https://dx.doi.org/10.1016%2Fj.ajp.2020.102332.

106. Aslim EG, Mungan MC. Access to substance use disorder treatment during COVID-19: Implications from reduced local jail populations. *Journal of substance abuse treatment* 2020; 119:108147. https://dx.doi.org/10.1016%2Fj.jsat.2020.108147.

107. Mukherjee TI, El-Bassel N. The perfect storm: COVID-19, mass incarceration and the opioid epidemic. *International Journal of Drug Policy* 2020;83:120819. https://dx.doi.org/10.1016%2Fj.drugpo.2020.102819.

108. Wildeman C, Andersen LH. Solitary confinement placement and post-release mortality risk among formerly incarcerated individuals: a population-based study. *The Lancet Public Health* 2020; 5(2):e107-e13. https://doi.org/10.1016/S2468-2667(19)30271-3.

109. De Claire K, Dixon L. The Effects of Prison Visits From Family Members on Prisoners' Well-Being, Prison Rule Breaking, and Recidivism: A Review of Research Since 1991. *Trauma Violence Abuse* 2017; 18(2):185-99. https://doi.org/10.1177/1524838015603209.

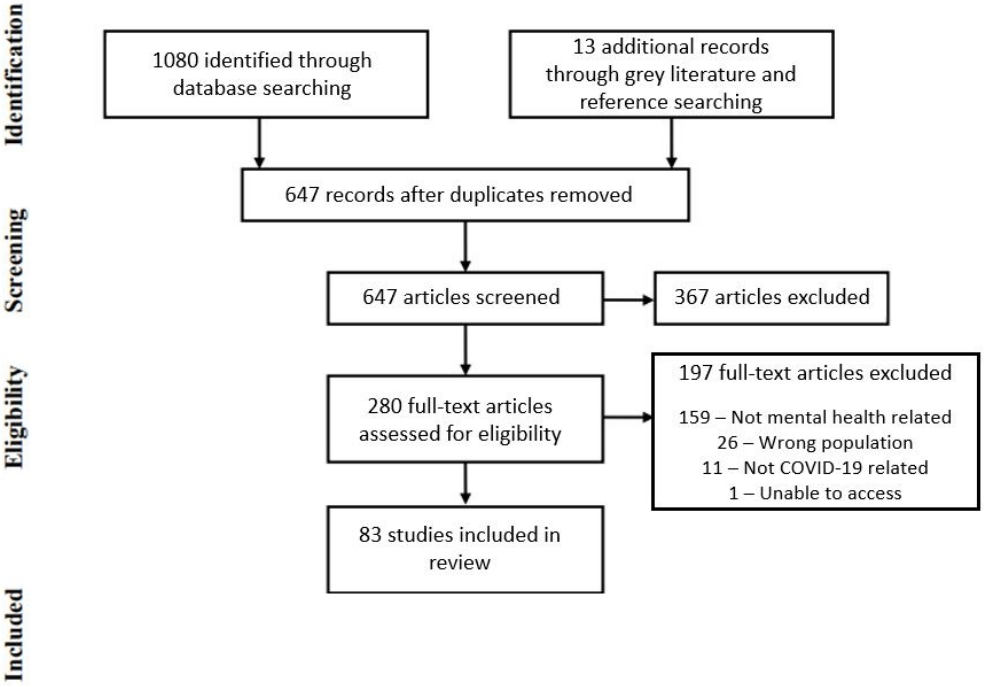
110. Brooks SK, Webster RK, Smith LE, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet* 2020; 395(10227):912-20. https://doi.org/10.1016/S0140-6736(20)30460-8.

111. Webster P. Virtual health care in the era of COVID-19. *The Lancet* 2020; 395(10231):1180-1. https://doi.org/10.1016/S0140-6736(20)30818-7.

112. Edge C, Hayward A, Whitfield A, et al. COVID-19: digital equivalence of health care in English prisons. *The Lancet Digital Health* 2020; 2(9):e450-e2. https://doi.org/10.1016/S2589-7500(20)30164-3.

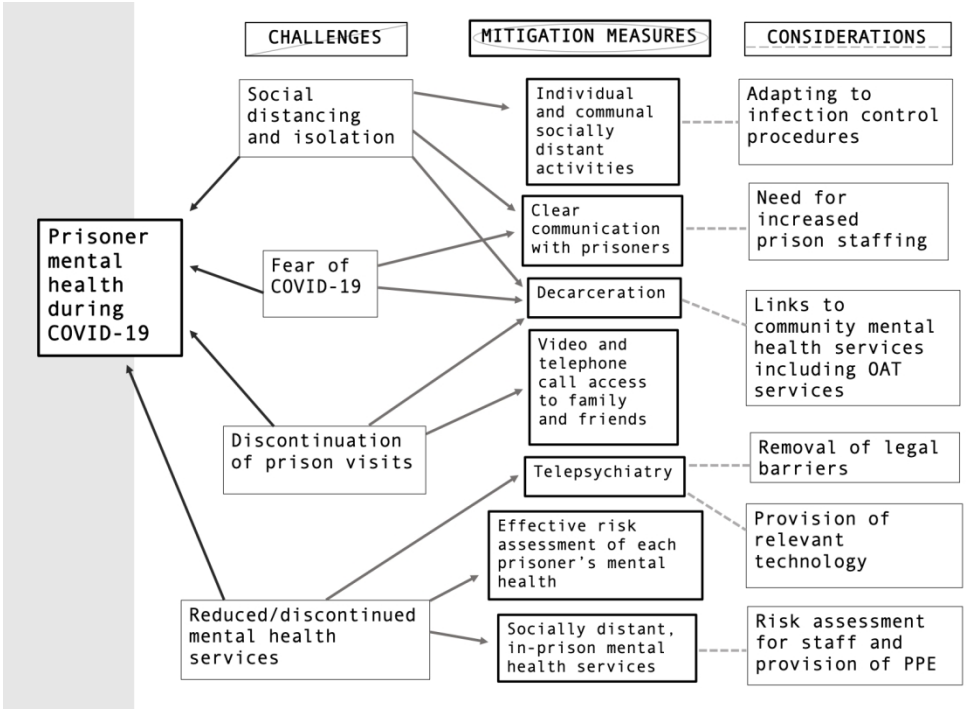
113. Pattavina A, Palmieri MJ. Fears of COVID-19 Contagion and the Italian Prison System Response. *Victims & Offenders* 2020; 15(7):1124-32. https://doi.org/10.1080/15564886.2020.1813856.

114. Zlodre J, Fazel S. All-cause and external mortality in released prisoners: systematic review and meta-analysis. *Am J Public Health* 2012;102(12):e67-75. https://doi.org/10.2105/ajph.2012.300764.



PRISMA flowchart

184x129mm (120 x 120 DPI)



Summary of the challenges and solutions to prisoner mental health during COVID-19

296x209mm (150 x 150 DPI)

APPENDIX 1

The following subject headings were included as exploded terms for *prisons/prisoners* if present in the database: prison (EMBASE), prisons (PsycEXTRA, Medline, PsycINFO), prisoner (EMBASE), prisoners (PsycEXTRA, Medline, Global Health, CINAHL, psycINFO), prisoners of war (PsycEXTRA), prisoner abuse (PsycEXTRA, PsycINFO), criminal offenders (PsycEXTRA), Criminal Rehabilitation (PsycEXTRA), correctional institutions (Global Health), offender (EMBASE), prisoner nursing (EMBASE), correctional facilities personnel (CINAHL), correctional health services (CINAHL), correctional facilities (CINAHL), correctional health nursing (CINAHL), prison personnel (PsycINFO). These terms were combined with a text word search for the following: prison* OR inmate OR inmates OR jail OR gaol* OR correction* facilit* OR penitentiar* OR penal institut* OR detention camp* OR custod* OR concentration camp* OR incarcerate* OR imprison* OR correctional setting* OR detain* OR detention* OR correction* cent* OR compulsory drug detention OR compulsory drug treatment OR compulsory rehabil* OR "re-education through labo*" OR laojiaosuo OR "long-term detention" OR labo* camp*. This search was performed in all databases looking only at the title and abstract of articles.

The following subject headings were included as exploded terms for *COVID-19* if present in the database: COVID-19 (CINAHL). These terms were combined with a text word search for the following: coronavirus* OR coronovirus* OR Wuhan OR "2019-nCoV" OR COVID OR “COVID-19” OR “CORVID-19” OR “CONVID-19” OR "WN-CoV” OR “HCoV-19” OR CoV OR "2019 novel" OR ncov OR "SARS-CoV-2" OR SARSCov19 OR ncov*wuhan OR “novel betacov” OR “novel betacoronavirus”. This search was performed in all databases looking only at the title and abstract of articles.

The *prisons/prisoners* category was combined with the AND operator with the *COVID-19* category. A limit based on publication date (from 2019 onwards) was applied. We then reviewed the results of these searches to remove duplicates and screen papers based on inclusion criteria.

APPENDIX 2

Table 1 – Abbreviated data charting form

Author, month and year, title	Study design	Population described or studied	Key findings and recommendations related to mental health in prisoners during COVID-19
Aslim and Mungan, Sept 2020, "Access to substance use disorder treatment during COVID-19: Implications from reduced local jail populations"	Opinion Piece	Jails	Decarceration or diversion from prison, during the pandemic, may lead to people not receiving treatment for substance use disorders, which they may have received in prison This could leading to individual health costs and increased recidivism. Prisons should facilitate access to substance use services on release.
Bandara *et al.,* Sept 2020, "Early Effects of COVID-19 on Programs Providing Medications for Opioid Use Disorder in Jails and Prisons"	Cross-sectional study	Prisons and Jails	An online survey of 16 prisons showed that 10/16 had downsized their opioid agonist treatment programmes due to COVID. 13/16 had released OAT programme participants early. The authors suggest that telemedicine may alleviate delivery challenges allowing community programmes to facilitate OAT in prisons without the need for face-to-face contact.
Bao *et al.,* Dec 2020, "COVID-19 Could Change the Way We Respond to the Opioid Crisis—for the Better"	Opinion Piece	Prisons and jails	Decarceration programmes, due to the pandemic, should consider initiating pharmacotherapy for people with substance misuse problems before release.
Barnert, August 2020, "COVID-19 and Youth Impacted by Juvenile and Adult Criminal Justice Systems"	Opinion Piece	Juvenile correctional facilities	Youths in custody have high mental health morbidity and existing trauma. This may be exacerbated by fear, social distancing, and disruption in care due to COVID. Isolation may feel like solitary confinement.
Brelje and Pinals, July 2020, "Provision of health care for prisoners during the COVID-19 pandemic: an ethical analysis of challenges and summary of select best practices"	Opinion piece	Prisons	Infection control measures introduced to reduce transmission of COVID-19 can have unintended psychological consequences. Increased access to phone and video visitation, continuing mental health treatment programmes, making medical isolation distinct from restrictive housing (e.g., through free access to educational

			material and entertainment so isolation is not punitive), engagement of prisoners in solution-driven protocols, and depopulation should be used to reduce the psychological impact.
Brennan, October 2020, "Responses Taken to Mitigate COVID-19 in Prisons in England and Wales"	Opinion piece	Prisons	The Howard's League and Prison Reform Trust warned that infection control measures amount to 'solitary confinement' and may lead to an increased risk of self-harm and suicide. At the end of May there were 16 self-inflicted deaths, after lockdown restrictions were imposed, and 5 deaths within a six-day period. Prisons have started to report an increase in self-inflicted deaths and self-harm (Independent Advisory Board). There are concerns about the long-term impact of infection control restrictions on health and wellbeing. The PRT have reported that separation from families is causing distress and compensatory measures (in cell telephones, video calls) are inadequate.
Burton *et al.,* Jan 2021, "Mental Health Services in a U.S. Prison During the COVID-19 Pandemic"	Case study	Prisons	In response to an increased need for inpatient psychiatric care and social distancing the prison implemented a telepsychiatry system. 60% of all psychiatric encounters moved to telehealth.
Canady, March 2020, "Bazelon Center urges reduction of jail population with MI"	Opinion piece	Jails	Prisoners with mental illness should be considered for early release or diversion from prison during the pandemic.
Caputo *et al*., May 2020, "Covid-19 emergency in prison - Current management and forensic perspectives"	Opinion piece	Prisons	The current riots in prisons are not just a response to the risk of COVID-19 infection, but to visitor restrictions. The increased mental health burden needs to be addressed through greater psychological support for prisoners.
Carvalho, Sept 2020, "The pandemic in prison: interventions and overisolation"	Literature review	Prisons	Prisoners are suffering from over-isolation as there are deprived of liberty and isolated from visitors, leading to unrest in some prisons. Prisoners need emotional and psychological support during the

			pandemic, information sharing and family contact.
Centers for Disease Control and Prevention, July 2020, "Interim Guidance on Management of Coronavirus Disease 2019 (COVID-19) in Correctional and Detention Facilities"	Guidelines	Correctional and detention facilities	Alternative activities and forms of communication should be explored if normal procedures are discontinued. Any isolation measures implemented should be distinct from solitary confinement. Ensure released prisoners are aware how to access services in light of changes with COVID-19.
Chaimowitz, Sept 2020, “Stigmatization of psychiatric and justice-involved populations during the COVID-19 pandemic”	Literature review	Psychiatric and prisons populations	Prisoners are at increased risk of psychological distress from infectious diseases. COVID restrictions have increased the isolation of prisons. The pandemic may lead to increased stigmatisation of prison populations, due to negative media representation, which could lead to issues with allocation of resources and affect policy and decision making for an already vulnerable population.
Chevance *et al.*, April 2020, "Ensuring mental health care during the SARS-CoV-2 epidemic in France - A narrative review"	Literature review	Prisons	Prisoners with psychiatric needs are especially vulnerable. In France, there are links between hospital facilities and psychiatric services for prisoners admitted with COVID-19 in order to facilitate high quality care.
Clarke, May 2020, “Report on short scrutiny visits to Prisons holding women”	Briefing	Women’s prisons	A report into the COVID-19 response at three UK women’s prisons. COVID-19 adaptations include isolation, social distancing and education of prisoners and staff. Levels of self-harm have increased and, although effort has been made to continue mental health services as much as possible, services are reduced and conducted largely via telephone.
Cloud *et al.*, July 2020, "Medical Isolation and Solitary Confinement: Balancing Health and Humanity in US Jails and Prisons During COVID-19"	Opinion piece	Jails and prisons	It is essential to clarify the differences between punitive solitary confinement and the ethical use of isolation during a pandemic – including provision of activities, well-being checks and telemedicine access.
Crowley *et al.*, May 2020, "Prison and	Opinion piece	Prisons	Decarceration is important in managing COVID-19 in prisons.

opportunities for the management of COVID-19"			However, it must be ensured all prisoners' needs are met on released including OAT services and accommodation.
Di Giacomo, July 2020, "Italian Prisons During the COVID-19 Outbreak"	Case study	Prisons	There is a need for increased psychological support for prisoners during the pandemic and information sharing. The prison offered increased psychological support to prisoners and staff.
Donelan, Dec 2020, "COVID-19 and treating incarcerated populations for opioid use disorder"	Case study	Prisons	In response to the rapid release of prisoners due to COVID-19 telemedicine and take-home drug treatments for substance misuse were used to provide continuity of care.
Duncan *et al.,* Oct 2020, "Adaptations to jail-based buprenorphine treatment during the COVID-19 Pandemic"	Case study	Prisons	One prison implemented telemedicine and a drug taper to ensure that substance misuse treatment could continue during the pandemic.
Dutheil *et al*., June 2020, "COVID-19: a prison-breaker?"	Opinion piece	Prisons	We must be vigilant to the physical and psychological consequences of infection control strategies for COVID-19 including suspension of visits and activities.
European Centre for Disease Prevention and Control, July 2020, "Infection prevention and control and surveillance for coronavirus disease (COVID-19) in prisons in EU/EEA countries and the UK"	Guidelines	Prisons and other places of detention	It is importance to balance any restrictions to visitors in prisons with the mental health needs of prisoners, particularly when children and infants are involved. If suspended, ensure there are technological alternatives for regular communication.
European Monitoring Centre for Drugs and Drug Addiction, June 2020, "Impact of COVID-19 on patterns of drug use and drug-related harms in Europe"	Briefing	Section within report on prisoners	The halting of prison visits is reported to have affected drug availability in prisons, contributing to a more general reduction in the use of illicit drugs in prisons. This appears to have led to increased demand for OAT, benzodiazepines and nicotine replacement therapy to help with withdrawal symptoms.
Evans *et al.,* Jan 2021, "Massachusetts Justice Community Opioid Innovation	Study protocol	Jails	Telemedicine has been used to help jails to continue to deliver Opioid therapy. The pandemic has led to difficulties ensuring

Network (MassJCOIN)"			continuity of Opioid treatment for released prisoners.
Fovet *et al*., May 2020, "Prisons confinées: quelles conséquences pour les soins psychiatriques et la santé mentale des personnes détenues en France? [Mental health care in French correctional facilities during the Covid-19 pandemic]"	Case study	Prisons and forensic psychiatry inpatient units	The results of a survey conducted of health providers in prisons and forensic psychiatric inpatient units suggests the mental health of prisoners has deteriorated (although levels of suicide have remained stable). Isolation, reduced activities and delays in court hearings could help explain this deterioration.
Fovet *et al*. September 2020, "French forensic mental health system during the COVID-19 pandemic"	Opinion piece	Forensic populations	An overview of the adaptations of the prison system in France to the COVID-19 pandemic, with a focus on forensic psychiatric units.
Gagnon, June 2020, "The solitary confinement of incarcerated American youth during COVID-19"	Opinion piece	Juvenile correctional facilities	Isolation and suspension of visits is likely to have significant mental health harms for youth in prison. It is important that youth have visitors and can be educated outside their cells, and that they have access to mental health professionals.
Garcini *et al*., May 2020, "A Tale of Two Crises: The Compounded Effect of COVID-19 and Anti-Immigration Policy in the United States"	Opinion piece	ICE detention facilities	Many immigrants are at high risk of mental health issues. Stress from living within a pandemic, limited access to healthcare and uncertainty over their immigration status is likely to be significant. Immigrants should be released to minimise these harms.
Ghosh, July 2020, "Prisoners with drug use disorders during covid-19 pandemic: Caught between a rock and a hard place"	Opinion piece	Prisons	Prisoners with opioid use disorder are at significant risk of harm after release – it is essential to ensure any released prisoners are linked with community health and OAT services.
Gonçalves *et al.*, Dec 2020, "Analysis of the prison population's mental health in Sars-Cov-2 pandemic: Qualitative analysis"	Qualitative study	Prisons	The COVID-19 pandemic is likely to lead to a deterioration of mental health in prison due to the populations pre-existing vulnerabilities and the limitations of the environment. Mental health support should be provided together with clear communication to prisoners.

Green *et al*., June 2020, "Piloting forensic tele-mental health evaluations of asylum seekers"	Case study	ICE detention facilities	Details the use of video calls to carry out forensic mental health evaluations for immigrants in ICE detention facilities. Originally started prior to the pandemic, COVID-19 infection control protocols gave additional reason for remote evaluations.
Gulati *et al*., May 2020, "Prisons and the COVID-19 pandemic"	Opinion piece	Prisons	The pandemic, isolation and restrictions in prison visits will all likely contribute to significant psychological distress. It is important to ensure mental healthcare is maintained and is tailored to coping with COVID-19.
Gunn *et al*., May 2020, "Telemedicine in prisons: A Crime in Mind perspective"	Opinion piece	Prisons	Conducting psychiatric appointments through telemedicine has significant challenges (inability to develop empathy and rapport, inability to pick up nuances, lack of feeling of privacy, medicolegal implications). It should not be implemented beyond COVID-19 without a full review.
Hawks *et al*., April 2020, "COVID-19 in Prisons and Jails in the United States"	Opinion piece	Prisons and jails	Decarceration is important for managing COVID-19 in prisons. However, it musts be ensured that all who might benefit from OAT, which is now available via telemedicine, are referred to such services on release.
Heard, Oct 2020, “Commentary: Assessing the Global Impact of the Covid-19 Pandemic on Prison Populations”	Opinion piece	Prisons	The restricted prison regime, due to COVID-19, isolated prisoners from social contact which may be damaging to mental health and increased self-harm. Suspension of specialist psychological services provided by external agencies may also damage mental health. Compensatory measures such as family video visits may have been poorly implemented.
Hendirck and Borschmann, Dec 2020, “Addressing self-harm among detained asylum seekers in Australia during	Opinion piece	Immigration detentions centres	Closed detention should be replaced with community-based models to protect asylum seekers from preventable harm – such as self-harm.

the COVID-19 pandemic"			
Henry *et al*., May 2020, "Social Distancing and Incarceration: Policy and Management Strategies to Reduce COVID-19 Transmission and Promote Health Equity Through Decarceration"	Opinion piece	Prisons	Social isolation within prisons is associated with negative mental health outcomes. Strategies to tackle this impact should include decarceration, access to the outdoors within prisons, mental healthcare provision and access to telephones.
Hewson *et al.*, June 2020, "Effects of the COVID-19 pandemic on the mental health of prisoners"	Opinion piece	Prisons	COVID-19 has affected the mental health of prisoners through the suspension of visits and activities, but strategies should be explored to minimise disruptions and mitigate harms. For those released early, it is important there is close follow-up because of such substantial community and service changes.
Hewson *et al*., July 2020, "The effects of COVID-19 on self-harm in UK prisons"	Opinion piece	Prisons	Data seems to suggest a reduction in self-harm and drug use across 31 prisons within the UK.
Hewson *et al.,* March 2021, "Remote consultations in prison mental healthcare in England: impacts of COVID-19"	Opinion piece	Prisons	There is a need to ensure forensic psychiatric assessment and treatment continue in prisons during the pandemic when face-to-face assessments are not feasible. Remote consultations via telemedicine can enable this and might also be cheaper and more efficient. However, there are potential problems and further evaluation is needed before they are incorporated into routine practice.
Keppler et al., September 2020, "Forderungen zum Schutz vor SARS-CoV-2 im Justizvollzug"	Guidelines	Prison	Expands the WHO guidelines with specific recommendations for service provision to imprisoned people with substance use needs and suggestions for how guidelines can be successfully adapted.
Kois et al., Dec 2021, "Forensic E-Mental Health: Review,	Literature review	Forensic populations	The COVID-19 pandemic has led to increased use of e-mental health technologies with forensic population. Research is needed to

Research Priorities, and Policy Directions"			examine the consequences of implementing these technologies in practice.
Kothari *et al.*, May 2020, "COVID-19 and prisons: Providing mental health care for people in prison, minimising moral injury and psychological distress in mental health staff"	Opinion piece	Prisons	Early reports suggest a deterioration in prisoner mental health. There are challenges to delivering mental healthcare in prisons during the pandemic, and non-essential services have been suspended. Prison staffing levels are low and need to be increased, and activities and psychological self-help materials need to be provided for prisoners to help them cope.
Lachsz and Hurley, Jan 2021, "Why practices that could be torture or cruel, inhuman and degrading treatment should never have formed part of the public health response to the COVID-19 pandemic in prisons"	Opinion piece	Prisons	The restrictive measures that have been implemented in prisons in response to COVID-19 in Australia have resulted in many prisoners being in isolation, which is tantamount to solitary confinement. Even short periods of time in isolation can cause significant mental harm.
Léon *et al.*, June 2020, "Leisure Behind Bars: The Realities of COVID-19 for Youth Connected to the Justice System"	Opinion piece	Juvenile correctional facilities	Prolonged isolation is detrimental to the mental health of youth in custody, who already are highly vulnerable. Reductions in staff levels and infection control protocols make caring for youth even more challenging. Increased phone time is not enough; there must be an increase in positive activities and provision of mental health resources to youth.
Li and Liu, Oct 2020, "Correctional System's Response to the Coronavirus Pandemic and Its Implications for Prison Reform in China"	Opinion piece	Prisons	Video and online materials were used for prisoner mental health care during the pandemic (replacing in-class instructions). Clinical psychologists/psychiatrists were made available in person or online. Some virtual family meetings tool place. For staff, long house and extended duty has negatively impacted mental health.

Liebrenz *et al*., February 2020, "Caring for persons in detention suffering with mental illness during the Covid-19 outbreak"	Opinion piece	Prisons	There is likely to be a mental health burden in prisons from challenges such as isolation, grief from losing loved ones and survivor guilt. It is essential to ensure mental health services continue as normally as possible, assisted by risk-assessing mental health staff and providing them with PPE.
Marmolejo *et al*., Oct 2020, "Responding to COVID-19 in Latin American Prisons: The Cases of Argentina, Chile, Colombia, and Mexico"	Cross-sectional study	Prisons	People with mental illness formed part of the early release policy in response to the pandemic.
Maycock and Dickson, Dec 2020, "Analysing the views of people in custody about the management of the COVID-19 pandemic in the Scottish Prison Estate"	Qualitative study	Prisons	Prisoners expressed that they were mentally struggling because of the pandemic and prison restrictions. This was affecting relationships between prisoners and staff.
Ministry of Justice and Public Health England, August 2020, "Preventing and controlling outbreaks of COVID-19 in prisons and places of detention"	Guidelines	Prisons and other places of detention	Ensure those in isolation have opportunities to discuss any anxieties with a member of staff.
Mitchell *et al.,* Nov 2020, "Considering the impact of COVID-19 on suicide risk among individuals in prison and during reentry"	Opinion piece	Prisons	The pandemic may put prisoners at higher risk of suicide due to COVID related stressors: difficulty accessing mental health care, increased isolation, solitary confinement, financial hardships, negative news from the community. Without proper infrastructure prisoners released back into the community may also be at risk.
Montoya-Barthelemy *et al*., April 2020, "COVID-19 and the Correctional Environment - the american prison as a	Opinion piece	Prisons	Isolation will likely worsen prisoner mental health, particularly if information is not clearly shared with prisoners. Ensure activities and visits are as minimally impacted as possible. Prison staff

focal point for public health"			mental health is also highly vulnerable; they need training to support each other's mental health as well as that of prisoners.
Mukherjee and El-Bassel, Sept 2020, "The perfect storm: COVID-19, mass incarceration and the opioid epidemic"	Opinion piece	Prisons	There is a need for careful planning for early release of prisons to ensure they are linked to community services for substance disorders.
Murdoch, Oct 2020, "British Columbia Provincial Corrections' Response to the COVID-19 Pandemic: A Case Study of Correctional Policy and Practice"	Case study	Prisons	Prisons should consider alternative to solitary confinement to manage COVID-19 due to its negative effects on mental health.
Novisky *et al.,* Oct 2020, "Institutional Responses to the COVID-19 Pandemic in American Prisons"	Cross-sectional study	Prisons	There is concern that isolation strategies designed to halt transmission may lead to mental health issues such as self-harm and depression.
Nweze *et al.,* Jan 2021, "Prison health during the COVID-19 era in Africa"	Opinion piece	Prisons	Routine psychological and psychiatric care has been cancelled due to the pandemic. This care should be provided and people with mental illness should be considered for release.
Ogunwale *et al.,* July 2020, "Forensic mental health service implications of COVID-19 infection in Nigeria"	Case Study	Prisons	Due to COVID the provision of psychiatric support has been nurse driven. This means that mental health assessments have not been as comprehensive because a psychiatrist was not available to make a diagnosis, there wasn't multidisciplinary work, some medication could not be prescribed and psycho-legal assessments were not possible.
Oladeru *et al*., July 2020, "A call to protect patients, correctional staff and healthcare professionals in jails and prisons during the COVID-19 pandemic"	Opinion piece	Prisons	Given prisoners' limited access to family and friends, staff should be encouraged to provide them with emotional and mental health support.
Otugo and Wages, Sept 2020, "COVID-19:	Opinion piece	Prisons and jails	Care needs to be taken if people are released from prison, due to COVID-19 and they have a mental

The Additional Sentence for the Incarcerated"			health problem. There is a risk that they will be homeless. Telecommunication, used to try to mitigate the psychological effects of the restricted prison regime, should be free.
Pattavina and Palmieri, Oct 2020, "Fears of COVID-19 Contagion and the Italian Prison System Response"	Opinion piece	Prisons	Fear of infection and restrictions on visits led to anxiety and violent protests.
Payne and Hanley, Oct 2020, "COVID-19 and Corrections in Australia: A Summary Review of the Available Data and Literature"	Opinion piece	Prisons	Suspension of visits can have a negative effect on mental health. Video visits have been implemented but the level of effectiveness, access and satisfaction is unknown.
Pedrosa *et al.,* Oct 2020, "Emotional, Behavioral, and Psychological Impact of the COVID-19 Pandemic"	Literature review	Prisons and other vulnerable populations	Due to pre-existing vulnerability' and the restrictions on social contact' prisoners are more likely to suffer from various psychological effects of the pandemic including exacerbation of existing mental illness and suicidal behaviour.
Penal reform international, March 2020, "Coronavirus: Healthcare and human rights of people in prison"	Briefing	Prisons	It is important to recognise the detrimental effects of isolation on prisoners. Therefore, any measures needed should be as minimal as possible and ideally not for the entire prison.
Piel, May 2020, "Letter to the Editor—Behavioural Health Implications of Inmate Release During COVID-19"	Opinion piece	Prisons	Any prisoners released at the moment are even more vulnerable due to changes to mental health and substance misuse services. Further, mental health assessments for prisoners on release might be abbreviated and those at risk of domestic violence might struggle to change accommodation if needed.
Prison Reform Trust, 2020, "CAPPTIVE: Covid-19 Action Prisons Project: Tracking Innovation, Valuing Experience. How prisons are responding to Covid-19 Briefing #2. Regimes, reactions to	Qualitative study	Prisons	The restrictions implemented by prisons to tackle COVID-19 have resulted in prisons becoming 'human warehouses, largely devoid of constructive activity.' Access to activities key to rehabilitation have been patchy at best and non-existent in many prisons. many people are bored and frustrated; this has had a negative impact on

the pandemic, and progression"			the mental well-being of imprisoned people.
Prison Reform Trust, 2021, "CAPPTIVE Covid-19 Action Prisons Project: Tracking Innovation, Valuing Experience. How prisons are responding to Covid-19. Briefing #3 The prison service's response, precautions, routine health care, disabilities, well-being, mental health, self-harm, and what helped"	Qualitative study	Prisons	The restricted prison regime implemented to tackle COVID-19 has 'amplified' the mental health problems of imprisoned people. There were increasing levels of irritability, anger, anxiety and frustration. Some whose mental health was had been adversely affected were sent to segregation. The regime prevented people from being able to take action to address their own need/make things better/improve things: 'The lack of activities and the loss of family contact undermined people's well-being and contributed to depression.'
Roberts *et al*., Feb 2021, "Rapid upscale of depot buprenorphine (cam2038) in custodial settings during The early covid-19 pandemic in new Southwales, Australia"	Case Study	Prisons	The stopping of social visits in Australian prisons led to reduced availability of illicit drugs inside the prison and increasing demand for opiate substitution therapy. Healthcare staff within the prison responded effectively and long-acting depot buprenorphine became the first line treatment because it had additional advantages in this context.
Robinson *et al*., July 2020, "Strategies Mitigating the Impact of the COVID-19 Pandemic on Incarcerated Populations"	Opinion piece	Prisons	Prisoners are likely to face a severe psychological burden from living in a high-risk environment for COVID-19, isolation procedures and visitor restrictions. Increasing telemedicine services and video calls to family are essential to tackling these issues.
Royal College of General Practitioners, March 2020, "COVID-19 guidance for healthcare in secure environments"	Guidelines	Secure environments	Ensure prisoners have access to alternative activities during isolation. Maintain clear communication with prisoners as to why changes are taking place and ensure opportunities for prisoners to discuss their anxieties.
Royal College of Psychiatrists, September 2020, "COVID-19: Secure	Guidelines	Forensic psychiatric hospitals, prisons and courts	In-reach mental health staff to prisons need to follow infection-control and social-distancing measures.

hospital and criminal justice settings"			
Ryan *et al*., Oct 2020, "Applying an Indigenous and gender-based lens to the exploration of public health and human rights implications of COVID-19 in Canadian correctional facilities"	Opinion piece	Prisons	The pandemic may lead to higher levels of stress and anxiety' exacerbating existing mental health conditions.
Sánchez *et al*., May 2020, "COVID-19 in prisons - an impossible challenge"	Opinion piece	Prisons	The fear of COVID-19, restrictions on movement and activities and suspension of family visits are all likely to exacerbate feelings of isolation among prisoners. Ensure prisoners can maintain communication with their families and are aware of any changes to procedure and why they're happening.
Shepherd, May 2020, "Reconsidering the immediate release of prisoners during COVID-19 community restrictions"	Opinion piece	Prisons	Decarceration risks significant issues with prisoners accessing community and mental health services (which have been altered or discontinued) – it is important to balance this risk when considering prisoner early-release.
Shiple, Sept 2020, "Letter to the Editor—The disproportionate negative impacts of COVID-19 on the mental health of prisoners"	Opinion piece	Prisons	Prisoner mental health is likely to be more effected by the pandemic than the general population due to the health risks in prison and the lack of control over their personal response to the pandemic. Decarceration should be considered. Social isolation due to infection control measures may exacerbate mental health issues. Teleconferencing may be a useful way to reduce isolation. Quarantine needs to be different from solitary confinement with sources of entertainment, so it does not appear punitive.
Sivashanker *et al*., May 2020, "Covid-19 and decarceration"	Opinion piece	Prisons	With decarceration, it is important to ensure released prisoners are connected to mental health and substance misuse services – virtual ambulatory care offers a good

			medium by which to offer this during the pandemic.
Stephenson *et al*., Nov 2020, "Time out of cell and time in purposeful activity and adverse mental health outcomes amongst people in prison: a literature review"	Literature review	Prisons	Lower time out of cell and engagement in purposeful activities has a negative effect on mental health and increases suicide risk. These findings are particularly important due to the restricted regimes that have been implemented due to COVID-19.
Stewart *et al*., June 2020, "The response to COVID-19 in prisons must consider the broader mental health impacts for people in prison"	Opinion piece	Prisons	Isolation poses a significant mental health risk for prisoners – opportunities for outdoor access and socially-distant activities are important. Adaptations to communication through phones and digital technology are key in responding to restricted visits.
Testoni *et al*., Feb 2021, "Hardships in Italian Prisons During the COVID-19 Emergency: The Experience of Healthcare Personnel"	Qualitative study	Prisons	Healthcare staff have experienced distress during COVID-19 due to fear of the virus, strained relationships with custodial staff, operational difficulties, concerns about prisoners' distress, bereavement and fear caused by prisoners rioting
Tozzo *et al*., May 2020, "Prisoners in a pandemic: We should think about detainees during Covid-19 outbreak"	Opinion piece	Prisons	Riots in Italian prisons were caused by visitor restrictions and the fear of contracting COVID-19 in overcrowded, unhygienic conditions.
Wang *et al*., July 2020, "Prevention and control of COVID-19 in nursing homes, orphanages, and prisons"	Opinion piece	Prisons, nursing homes and orphanages	Social isolation can cause mental health problems so close attention must be paid to people who are isolated due to infection control measures in prison.
Weingarten *et al*., July 2020, "The Witness to Witness Program: Helping the Helpers in the Context of the COVID-19 Pandemic"	Case study	Healthcare workers and attorneys working with people involved in the detention process	Describes the adaptations needed for an emotional support service to continue to operate during the pandemic. The service is run for healthcare workers and attorneys working with prisoners. It has been able to serve over 2,700 people to date.
World Health Organization, March 2020, "Preparedness, prevention and control	Guidelines	Prisons and other places of detention	Decisions to limit or restrict visits need to consider the mental health impact on prisoners.

of COVID-19 in prisons and other places of detention"			
Wurcel *et al.*, March 2020, "Spotlight on Jails: COVID-19 mitigation policies needed now"	Opinion piece	Jails	It is important to consider the unintended consequences of COVID-19 protocols introduced – stopping mental health services will likely have a deleterious effect. Riots in Italian prisons can be linked to COVID-19 policies such as the suspension of prison visits.
Zielinski *et al.*, Nov 2020, "COVID-19 highlights the pitfalls of reliance on the carceral system as a response to addiction"	Opinion piece	Prisons	Policies intended to limit the spread of COVID-19 will further compromise access to substance use services for people in prisons. Group work is prohibited and services delivered by external contractors and volunteers have been stopped as these people can no longer enter the prisons.

APPENDIX 3

Table 1: Systematic review and meta-analyses checklist

Checklist	Study				
	Carvalho	Chaimowitz	Chevance et al[37]	Kois et al	Pedrosa et al
Is the review based on a focused question that is adequately formulated and described?	No	Yes	No	No	No
Were eligibility criteria for included and excluded studies predefined and specified?	No	No	No	No	No
Did the literature search strategy use a comprehensive, systematic approach?	Yes	No	No	No	No
Were titles, abstracts, and full-text articles dually and independently reviewed for inclusion and exclusion to minimize bias?	No	No	No	No	No
Was the quality of each included study rated independently by two or more reviewers using a standard method to appraise its internal validity?	No	No	No	No	No
Were the included studies listed along with important characteristics and results of each study?	No	No	No	No	No
Was heterogeneity assessed? (This question applies only to meta-analyses.)	N/A	N/A	N/A	N/A	N/A
Overall quality rating	Poor	Poor	Poor	Poor	Poor

Table 2: Observational Cohort and Cross-sectional studies

Checklist	Bandara et al	Novisky et al
Was the research question or objective in this paper clearly stated?	Yes	Yes
Was the study population clearly specified and defined?	Yes	Yes
Was the participation rate of eligible persons at least 50%?	Yes	Yes
Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion	No	Yes

criteria for being in the study prespecified and applied uniformly to all participants?		
Was a sample size justification, power description, or variance and effect estimates provided?	No	No
For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?	NR	NR
Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?	Yes	Yes
For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?	NR	NR
Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?	NR	NR
Was the exposure(s) assessed more than once over time?	NR	No
Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?	No	No
Were the outcome assessors blinded to the exposure status of participants?	N/A	N/A
Was loss to follow-up after baseline 20% or less?	N/A	N/A
Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?	No	No
Overall quality rating	Poor	Poor

Table 3: Qualitative studies

Checklist	Gonçalves et al	Maycock and Dickson	Testoni et al
Was there a clear statement of the aims of the research?	Yes	Yes	Yes
Is a qualitative methodology appropriate?	Yes	Yes	Yes
Was the research design appropriate to address the aims of the research?	Yes	Yes	Yes

Was the recruitment strategy appropriate to the aims of the research?	Yes	Yes	Yes
Was the data collected in a way that addressed the research issue?	No	Yes	Yes
Has the relationship between researcher and participants been adequately considered?	No	No	No
Have ethical issues been taken into consideration?	Yes	Yes	Yes
Was the data analysis sufficiently rigorous?	No	No	Yes
Is there a clear statement of findings?	No	No	No

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	4
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	4-5
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	N/A
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	4-5
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	5
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Appendix 1
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	5
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	5
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	5
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	5
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	5-6

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	5
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	5-10
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	5, Appendix 3
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Appendix 2
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	5-10
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	9-10
Limitations	20	Discuss the limitations of the scoping review process.	9-10
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	10
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	11

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

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