

Persistent Pain Management in Prison: an exploration of current practice and patient needs, and facilitators and barriers to intervention engagement

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Persistent pain is a complex long-term condition (LTC) characterised by biological, psychological, and social features.² It has a significant impact on the physical and emotional function of individual patients and is associated with a lower quality of life, detrimentally affecting families, communities, and wider society.³ Pain that continues for longer than 12 weeks is termed chronic or 'persistent' and affects between 18 per cent to 51 per cent of the world population.⁴ Pain is defined by the International Association for the Study of Pain (IASP) as: 'An unpleasant sensory and emotional experience associated with actual or potential tissue damage.'

Persistent pain was acknowledged as a primary health condition in 2021,⁵ following the World Health Organisation's (2019) updated chronic pain guidelines,⁶ which recognised the condition as pain that persists for more than 3 to 6 months. Studies have demonstrated that an inverse relationship exists between persistent pain and socioeconomic status, with higher prevalence rates seen in poorer areas.⁷ These social determinants

are likely to be the same circumstances that the prison population comes from.

England and Wales has a prison population of 85,851, most of whom are from lower socioeconomic backgrounds and typically (53 per cent) aged between 30 and 50.⁸ Higher levels of poor health exist in the prison community in the UK and across Europe, compared with the general population.⁹ In addition, the Prison Reform Trust estimates that 50 per cent of all people entering prison have a drug problem.¹⁰ The intersection of coexisting persistent pain and opioid use disorder (OUD) poses problems for the prison system due to the diversion of medication and safety concerns.¹¹

An estimated 30 per cent of prisoners in England suffer persistent pain.¹² Whilst national figures for pain medication prevalence are unknown, one study of a single English prison reported a third of the population to receive these, of which 44 per cent were opioids.¹³ In the general population, musculoskeletal (MSK) pain is the most common diagnosis associated with opioid prescription, and has been closely linked to the

1. The views expressed are those of the authors and not necessarily those of the NHS, the NIHR, ARC Wessex, or the Department of Health and Social Care.
2. British Pain Society (2011). *Pain Summit Report*. Available at: <https://www.britishpainsociety.org>.
3. See footnote 2: British Pain Society (2011).
4. International Association for the Study of Pain (2020). *IASP announces revised definition of pain*. Available at: <https://www.iasp-pain.org>
5. National Institute for Clinical Excellence (2021). *Chronic pain in over 16s: assessment of all chronic pain and management of chronic primary pain*. Available at: <https://www.nice.org.uk/guidance/ng193>
6. Treede, R. D., Winfried, R., Barke, A., et al. (2019). Chronic pain as a symptom or a disease: the IASP Classification of Chronic Pain for the International Classification of Diseases (ICD-11). *PAIN*, 160(1), 19-27.
7. Prego-Demínguez, J., Khazaeipour, Z., Mallah, N., & Takkouche, B. (2021). Socioeconomic status and the occurrence of chronic pain: a meta-analysis. *Rheumatology*, 60(3), 1091-1105.
8. Ministry of Justice (2023). *Justice in numbers*. Available at: <https://www.data.justice.gov.uk/justice-in-numbers>
9. Groenewegen, P., Dirkzwager, A., van Dam, A., Massalimova, D., Sirdifield, C., & Smith, L. (2022). The health of detainees and the role of primary care: Position paper of the European Forum for Primary Care. *Primary Health Care Research & Development*, 23, e29.
10. Prison Reform Trust (2023). *The Bromley Briefings: Prison Fact-file*. January. Available at: <https://www.prisonreformtrust.org.uk>
11. Annison, H., Guiney, T., & Rubenstein, Z. (2023). *Locked In? Achieving penal change in the context of crisis and scandal: A discussion paper*. Prison Reform Trust. Available at: <https://www.prisonreformtrust.org.uk>
12. Public Health England (2013). *Managing persistent pain in secure settings*. Available at: <https://www.gov.uk/government/publications/managing-persistent-pain-in-secure-settings>
13. Croft, M., & Mayhew, R. (2015). Prevalence of chronic non-cancer pain in a UK prison environment. *British Journal of Pain*, 9(2), 96-108.

development of OUD.¹⁴ Prescription rates for pain medication in English prisons have been found to be higher than community rates and to be associated with substance misuse.¹⁵ Frontline pain medications, such as opioids, gabapentinoids, and tricyclic antidepressants, are frequently the focus of illicit drug trading within secure estates.¹⁶ Patients with comorbid OUD and persistent pain conditions have been shown to suffer more psycho-physiologically and recover more slowly from a pain challenge than opioid naive controls. This is due to their increased pain sensitivity and reduced pain tolerance, caused by prolonged opioid use, leaving them at risk of ongoing drug dependency and relapse.¹⁷

The Royal College of General Practitioners advise that pain medications (e.g., opioids and gabapentinoids) offer little benefit beyond symptom modification in persistent pain cases, and therefore recommend safe discontinuation.¹⁸ Additionally, passive approaches to pain management prevent engagement with rehabilitation services by encouraging reliance on medication, and averting the acknowledgment of relevant psychosocial factors, such as depression, self-efficacy, and inactivity, impacting on the individual pain experience.¹⁹

On reception into prison, prisoners are medically assessed and pain medication that is deemed inappropriate for use in this setting, such as opioid analgesics, are reduced (de-prescribed) as per NICE guidelines,²⁰ frequently leading to patient frustration and drug seeking behaviours.²¹ At present, limited alternative pain management interventions are offered to prisoners after de-prescribing. The WHO/Europe Health in Prisons Programme

recommends that prisoners should have the same standard of medical care as those living in the community,²² and guidelines recommend that persistent pain patients should be supported in their self-management.²³ The confinement and isolation of the prison experience can exacerbate existing painful conditions and cause emotional distress.²⁴ The European Federation for Primary Care warns that disempowerment caused by penal detention is detrimental to effective self-management.²⁵ Despite this, prison presents a natural opportunity for positive behavioural change, and the development of interdisciplinary partnerships to target effective pain self-management, substance misuse, and other physical health concerns.

The challenges of institutional overcrowding, staff retention, and underfunding mean that prisons frequently struggle to achieve their statutory aims, resulting in environments that are detrimental to prisoner health.²⁶ This is likely to impact negatively on effective self-management of LTCs and persistent pain.

This exploratory study aimed to highlight key issues that persistent pain presents in prisons and gain an understanding of patients' general needs, and the facilitators of, and barriers to, intervention. Objectives were to:

- 1) Explore routinely collected pharmacy data within a single site to describe trends in dispensed pain medication.
- 2) Undertake Patient and Public Involvement and Engagement (PPIE) with prisoners with persistent pain and lived experience, and key staff with knowledge of potential areas for

Higher levels of poor health exist in the prison community in the UK and across Europe, compared with the general population.

14. Magel, J., Kietrys, D., Kruger, E., Fritz, J., & Gordon, A. (2021). Physical Therapists should play a greater role in managing patients with opioid use and opioid misuse. *Substance Abuse*, 42(3), 255-260.
15. Sedgwick, A., & Orr, M. (2017). *The chronic pain management service at HMP The Mount: overview of the current service and audit*. Hertfordshire Community NHS Trust.
16. See footnote 11: Annison, H., Guiney, T., & Rubenstein, Z. (2023).
17. Wachholtz, A., Foster, S., & Cheadle, M. (2015). Psychophysiology of pain and opioid use: Implications for managing pain in patients with opioid use disorder. *Drug & Alcohol Dependency*, 1(10), 1-6.
18. Royal College of General Practitioners (2021). *Statement of clarification on the latest NICE chronic pain guidance; regarding patients already on medication*. Available at: <https://www.rcgp.org.uk>
19. Wachholtz, A., Gonzalez, G., & Ziedonis, D. (2019). Psycho-physiological response to pain among opioid use disorder: Implications for patients with prolonged abstinence. *American Journal of Drug & Alcohol Abuse*, 45(5), 495-505.
20. See footnote 4: IASP. (2020).
21. See footnote 17: Wachholtz, A., Foster, S., & Cheadle, M. (2015).
22. World Health Organisation (2023). *Prisons and health EURO*. Available at: <https://www.who.int/europe/health-topics/prisons-and-health>
23. See footnote 4: IASP. (2020)
24. Walsh, E., Butt, C., Freshwater, D., Dobson, R., Wright, N., Cahill, J., Briggs, M., & Alldred, D. (2014). Managing pain in prison: staff perspectives. *International Journal of Prisoner Health*, 10(3), 198-208.
25. See footnote 8: Ministry of Justice (2023).
26. See footnote 9: Groenewegen, P., et al. (2022).

service development, to hear stories, suggestions, and expectations around the needs, facilitators of, and barriers to, de-prescribing in general.

The authors intend the results of this exploratory study to be used in future to explore the feasibility of designing a biopsychosocial treatment programme for persistent pain management in this unique setting.

Method

This mixed methods exploration of current prison pain management practice consisted of a database search to scope the number of individuals entering HMP Winchester on prescription pain medication, combined with PPIE input from both prisoners and key staff stakeholders (see study inclusion criteria). PPIE was used to gather stories, experiences, and expectations of prison healthcare in relation to pain management practice, through the eyes of service users and workers, to shape further research priorities and the initial stages of future intervention design.

Setting

This explorative study was conducted at HMP Winchester, which is an old Victorian remand prison built in 1869, and serves the law courts of the south-central region of England. It houses a population of 690 men, mostly aged between 30 and 50, with 17 per cent over 50 years of age and 21 per cent being under 25. Half are unsentenced and 13 per cent are foreign nationals. Only 3 per cent are serving life sentences, and on average 83 (12 per cent) prisoners a month are released back into the local community.²⁷ Health care at the prison is provided by Practice Plus Group Limited.

Ethical considerations

Ethical approval was not required as the project was deemed PPIE and not clinical research. The project was registered with the Practice Plus Group Ltd, Health in Justice, Research and Innovation Committee and funded by the National Institute for Health Research (NIHR), Applied Research Collaboration Wessex. Each

PPIE participant was provided with a plain language description of the activity and its relation to the project. Confidentiality was discussed and participants were required to verbally acknowledge their agreement, prior to taking part. Participants were informed of their right to withdraw at any point from the discussion. All completed surveys and written feedback were destroyed securely after data analysis.

Database Search

Inclusion criteria

All participants were men over the age of 18. The prison pharmacy database was searched for admissions to the prison receiving a prescription for a controlled pain medication. The search was conducted under the generic names of commonly used analgesics. Search terms were as follows; Opioids, 'Codeine based preparations', 'Tramadol', 'Morphine sulphate', neuropathic analgesia', 'Amitriptyline', 'Pregabalin', 'Gabapentin',. Other medications licensed for pain relief, such as tricyclic antidepressants (for example, Duloxetine) and Benzodiazepines (for example, Diazepam) were excluded, due to widespread use within the prison population for other conditions.

Data Collection

Data were collected from the electronic healthcare records database, SystemOn, and pharmacy records were searched between March to May 2023 inclusive. A three month period was stipulated to fit within the study funding period.

Data Extraction

Demographic characteristics (age, ethnicity, work status, and living accommodation) were extracted. Recorded comorbidities were documented, and a mental health or substance misuse disorder was recorded if a case note showed evidence of a clinical diagnosis or an active treatment from the respective service. LTCs were defined as a disorder impacting on an individuals' quality of life for more than a year, as per NICE guidelines.²⁸ A recorded diagnosis of two or more

Frontline pain medications, such as opioids, gabapentinoids, and tricyclic antidepressants, are frequently the focus of illicit drug trading.

27. HM Chief Inspector of Prisons (2022). *Report of an unannounced inspection of HMP Winchester. 7-11th February*. Available at: <https://www.justiceinspectors.gov.uk>

28. National Institute for Clinical Evidence (2015). *Older people with social care needs and multiple long-term condition*. Ng 22. Available at: <https://www.nice.org.uk/guidance/ng22>

LTCs was taken as evidence of comorbidity. The primary diagnosis, or reason for the initial prescription of a controlled pain medication, was recorded. A prisoner was deemed 'homeless' if they were designated as 'of no fixed abode'. These demographics provide insight into patient socioeconomic influences and status (which is strongly associated with deprivation),²⁹ and may affect access to healthcare in the prison community.

Data Analysis

Descriptive statistics were used to describe the sample and categorical information organised into nominal and ordinal data. Numerical statistics were described using means, standard deviations, and ranges where appropriate.

Patient and Public Involvement and Engagement

Inclusion criteria

Patient contributions were collected in a two stage iterative process.

- 1) An initial convenience sample of six men with persistent pain were selected from the prison physiotherapy service waiting list and invited to complete an open text survey. This feedback was then used to construct discussion topics for interview in stage 2.
- 2) A separate convenience sample (n = 12) was selected from the pharmacy database search, as described above, and divided into two subgroups; group A (n = 6) from the codeine search list, and group B (n = 6) from the pregabalin list. Individuals from both groups were then invited for interview.

Patients were deemed eligible if they had entered the prison in the study period of March to April 2023, were medically stable, and not assessed as a security risk by prison staff. Codeine users (Group A) were canvassed, as they formed the largest group and therefore the most obvious for comparison, Pregabalin users (Group B) were included, as collectively they

present the greatest challenge to prison health care services.³⁰ Due to its ability to replicate the effects of an illicit drug, pregabalin is the most diverted medication in the prison system.³¹ Prior to patient interviews, the following key staff stakeholders were invited to an informal group discussion to explore potential areas for cross disciplinary partnership:

- ☐ Physical education instructor
- ☐ Psychologist
- ☐ GP
- ☐ Nurse prescriber
- ☐ Custody manager for activities

Data Collection

Prisoners (n = 12) invited to take part in one-to-one interview discussions were asked to acknowledge their agreement to participate as previously stated. Detailed notes in writing were taken by the lead author. Six key staff stakeholders involved in service delivery contributed to discussions, which were also recorded in writing by the lead author. Prisoner interviews took place in the privacy of the individual participants' cell, and staff meetings were held in the healthcare department.

Data Extraction and Analysis

Discussion highlights from prisoners and staff were processed to identify patient needs, and potential engagement facilitators and general barriers to behavioural change. These were organised into recommendations to support decision making for intervention design, as has been described elsewhere.³²

Results

Demographics

A total of 475 men were received into HMP Winchester over the three-month study period, 43 of whom were in possession of a prescription for pain medication, giving a prevalence rate of 9 per cent (see Table 1).

Table 1. Prevalence of prescription pain medication entering HMP Winchester in Spring of 2023

Month	Receptions	Individual Prescriptions	Prevalence	Mean Age
March	147	n = 14	10 per cent	45.41 (SD = 15.65)
April	153	n = 9	6 per cent	46.75 (SD = 17.04)
May	175	n = 20	11 per cent	42.35 (SD = 14.44)
Total	475	n = 43	9 per cent	45.14 (SD = 15.21)

29. Public Health England (2020). *Prescribed Medicines Review: Summary*. Available at: <https://www.gov.uk>
30. NHS England (2017). *Pain management formulary for prisons: The formulary for acute, persistent and neuropathic pain* (2nd ed).
31. Soni, A., & Walters, P. (2019). A study of the reasons for prescribing and misuse of gabapentinoids in prison including their co-prescription with opioids and anti-depressants. *International Journal of Prisoner Health*, 16(1), 67-77.
32. Doria, N., Condran, B., & Boulos, L. (2018). Sharpening the focus: differentiating between focus groups for patient engagement v qualitative research. *Research Involvement and Engagement*, 4(19), 145-162.

The majority of cases (86 per cent, n = 37) were of white British ethnicity with an average age of 45 years (SD 15.21; range 20 to 88 years). As shown in Table 2, the majority had been prescribed their medication for a MSK condition. Most were known to mental health

services and had a substance misuse history. Over a quarter were recorded as homeless and few were in paid employment at the time of arrest. The mean duration for receiving prescription medication was 8.77 years (SD 5.47).

Table 2. Demographic characteristics of cohort in possession of a prescription pain medication

MH History	MSK History	SM Disorder	Comorbidity	Homeless	In Work
n =36	n = 35	n = 29	n = 32	n = 11	n = 7
83 per cent	81 per cent	67 per cent	74 per cent	26 per cent	16 per cent

Note. MH = Mental health, MSK = Musculoskeletal condition, SM = Substance misuse

Prescribing Characteristics

Prescribing rates for the three-month period are displayed in Table 3. The majority of prescriptions were for opioid medications [codeine and tramadol (79 per cent)] with codeine-based preparations the most commonly prescribed, followed by

gabapentinoids, of which pregabalin the most frequently used. Over a third had been prescribed a tricyclic antidepressant (Amitriptyline) for neuropathic pain, and half received two or more prescription analgesics, with codeine preparations in combination with a gabapentinoid (38 per cent, n = 8) being most common.

Table 3. Breakdown of medication prescriptions for the three month study period of spring 2023

No. Pts	Codeine	Amitriptyline	Pregabalin	Tramadol	Gabapentin	2 or More Drugs
Total	29	16	12	5	3	21
n = 43	67 per cent	37 per cent	28 per cent	12 per cent	7 per cent	49 per cent

Patient Perspectives

Feedback from PPIE discussions is presented under key themes and a summary of the general needs, and facilitators and barriers to intervention listed with recommendations for service development.

Needs: Information, Explanation, and Agency

Respondents believed they would benefit from a full explanation of the prison prescribing policy for pain

medication, giving information and reasons for de-prescribing, provided inclusively in terms that could be understood by all. In addition, an opportunity for open discussion about medication changes with the attending clinician was seen as important. Prisoners needed the time and opportunity to voice their concerns, and wished to be listened to by clinicians so that some personal agency was retained in decision-making. This was perceived to be in contrast with current care practices. A full list of identified patient needs can be seen in Table 4.

Table 4. Patient identified needs and recommendations for targeted intervention design

Recommendations	Group A — Codeine	Group B — Pregabalin
1. Explanation of de-prescribing policy to reduce confusion and provide understanding	<ul style="list-style-type: none">Why prison is prescribing different for community?Misunderstanding	<ul style="list-style-type: none">Inconsistency in messagesConfusion in prescribing policy
2. Education of alternative management methods	<ul style="list-style-type: none">Emotional support on entryPositive coping strategies	<ul style="list-style-type: none">No knowledge of other management methods
3. Knowledge of benefits to healthy lifestyle	<ul style="list-style-type: none">No knowledge of influencers to better health	<ul style="list-style-type: none">Lack of resources for behavioural change
4. Health literacy	<ul style="list-style-type: none">Avoidance of activity	<ul style="list-style-type: none">Long term harms need to be explained
5. Information and training	<ul style="list-style-type: none">How to get better sleep	<ul style="list-style-type: none">Pains of detox explained
6. Patient centred and Inclusive Education	<ul style="list-style-type: none">Information tailored to individual learning needs	<ul style="list-style-type: none">Boredom and lack of roleHelp managing emotions
7. Service Provision	<ul style="list-style-type: none">Rehabilitation needs to be in a safe environment	<ul style="list-style-type: none">More time to moveIndividualised treatment

Facilitators: Purpose, Incentives, and Opportunity

Opportunities for purposeful ways to pass the time of imprisonment was called for, and rewards for engaging with rehabilitation programmes, such as more association time and wages, suggested. Several believed that prisoners themselves could play a meaningful role in helping others to cope better, and this could be developed into a healthcare peer mentor role, similar to the ‘Listeners’.³³ Both groups put forward ideas of activities that the prison could offer, for example yoga and Pilates, or more regular

routine physiotherapy. Prisoners wanted to be included in decisions regarding their medication, even if they did not agree with existing guidelines, and believed that opportunity for open and informative consultations would help to facilitate engagement. There was a common view that patients with pain needed to be listened to, given time to have the risks, benefits, and alternatives carefully explained to them, even though they were unlikely to be happy with the outcome. A full list of enabling facilitators is shown in Table 5.

Table 5. *Facilitators to participation and recommendations for targeted intervention design*

Recommendations	Group A — Codeine	Group B — Pregabalin
1. Activity programme backed up by In Cell activity packs and workbook	<ul style="list-style-type: none">● Time out of cell● In cell activities	<ul style="list-style-type: none">● Resources to change● Knowledge of other ways
2. Certification of achievement and peer support	<ul style="list-style-type: none">● Rehab attendance rewarded as evidence development	<ul style="list-style-type: none">● Being listened to● Help from other prisoners
3. Provision of therapeutic services	<ul style="list-style-type: none">● Yoga, Pilates	<ul style="list-style-type: none">● Regular physiotherapy
4. MDT and patient centred approach	<ul style="list-style-type: none">● Reduction to be explained, patient centred and discussed	<ul style="list-style-type: none">● Addiction to be separated from pain management
5. Development of therapeutic relationships	<ul style="list-style-type: none">● To be treated like a human being	<ul style="list-style-type: none">● Harms of medication explained
6. Provision of therapeutic environments	<ul style="list-style-type: none">● Provision of a safe place to do it	<ul style="list-style-type: none">● Access for disabilities

Barriers: Activity, Awareness, and Addiction

A full list of barriers and addressing recommendations is shown in Table 6. In summary, patients offered a limited understanding of how positive health behaviours can favourably impact on pain. Most men were unaware of the benefits that exercise could provide in pain management and this lack of knowledge acted as a barrier to behaviour change. When asked for recommendations to overcome this hurdle, a loss of agency and an absence of self-efficacy was demonstrated, leading to a pronounced sense of helplessness, as seen in the following contribution: *‘We’re banged up all day, what can we do? Nobody listens, my medication is just stopped and my pain is worse. There is absolutely nothing I can do to help myself. I feel like cutting up.’*

Information about pain in simple understandable formats was suggested by a minority. Managing pain and cravings without medication was a major obstacle to participating in physical activity, and many denied the harms caused by long-term drug use. Some advised that OUD should be separated from persistent pain, with addiction addressed before behaviour change for pain management could be contemplated. The majority disclosed notions that ‘addicts think differently’ and required a different approach. Drug seeking was a primary concern over functional restoration. Deprescribing was viewed as unfair and perceptions of injustice common, resulting in demotivation, avoidance of constructive activities, and withdrawal from prison regime services.

33. A peer-to-peer support service in prisons sponsored by The Samaritans.

Table 6. *Barriers to participation and recommendations for targeted intervention design*

Recommendations	Group A — Codeine	Group B — Pregabalin
1. Skill development in Health Literacy and cognition	<ul style="list-style-type: none">● Lacking knowledge of benefits of activity and impact on health	<ul style="list-style-type: none">● Denial of harms and habits● Refusal to Face situation
2. Provision learning in pain physiology and physical education	<ul style="list-style-type: none">● Limited understanding of how to exercise	<ul style="list-style-type: none">● Lack of support● No encouragement to change
3. Help to overcome pain to engage with opportunities offered inside	<ul style="list-style-type: none">● Limited work potential benefits and demotivation	<ul style="list-style-type: none">● Lack of motivation● Fear Avoidance
4. Substance Misuse referral for addiction issues	<ul style="list-style-type: none">● No meaningful role in prison	<ul style="list-style-type: none">● Drug seeking● Addiction mindset
5. Pain education and participation in exercise for all	<ul style="list-style-type: none">● Access facilities for disabilities● Fear Avoidance	<ul style="list-style-type: none">● Lack of understanding in how healing happens
6. Support with motivation and future goal setting/planning	<ul style="list-style-type: none">● Limited opportunity for movement	<ul style="list-style-type: none">● Immediate focus only● Lack of long term goals
7. Symptoms acknowledged and validated by healthcare professionals	<ul style="list-style-type: none">● Perceived injustice	<ul style="list-style-type: none">● Resistance to exercise● Catastrophising

Staff Proposals

Group members contributed that a pain management programme, which is activity-based and psychologically-informed, with an accompanying in-cell workbook would be beneficial. Educational level, neurodiversity, and baseline physical conditioning were raised as key considerations. Safety concerns regarding the risk of violence when mixing prisoners from different wings in group work was raised, and a risk assessment of prisoners’ suitability for participation proposed. Enabling incentives to engagement with treatment were suggested also; a certificate of achievement on completion, and positive recommendations made on prison/probation records to demonstrate efforts towards reform proposed.

Discussion

This study describes trends in dispensed pain medication within a single prison, and themes drawn from PPIE to understand needs, and the facilitators and barriers to intervention engagement. Results indicate that persistent pain is a complex health issue in prison. The majority of patients had a history of mental health problems and a background of substance misuse. It may be that higher levels of these characteristics exist in

remand sites, as we recorded greater rates than those reported by the Prison Reform Trust, nationally.³⁴ Many of our cohort were homeless and the majority unemployed, highlighting the difficult socioeconomic backgrounds of prison populations.³⁵

Prescription rates of controlled pain medications in this study were similar to that found in other remand sites.³⁶ Most of our cohort had been prescribed medication for a MSK condition, which is the diagnosis most frequently associated with opioid prescription and risk of misuse.³⁷ Serious safety concerns about the harm caused by opioid medication in prisons have been raised,³⁸ and this has implications for intervention design and healthcare services.

Feedback from PPIE highlighted multiple concerns regarding pain and prison de-prescribing policies. Prisoners needed a voice that was properly heard, however prison is naturally a place of limited personal agency. Men displayed limited insight into the importance of de-prescribing, and little knowledge of the risks presented by escalating doses and harms of dependency. Our findings show that information needs to be provided in plain summaries to explain these risks. The de-prescribing process was seen as unfair and considered a form of punishment. Perceptions of injustice have been cited as a barrier to recovery in persistent pain.³⁹ Having symptoms acknowledged,

34. See footnote 9: Groenewegen, P., et al, (2022).
35. Ahmed, A., van den Muijsenburgh, M., & Vrijhoef, H. (2022). Person-centred care in primary care: What works for whom, how and in what circumstances? *Health and Social Care in the Community*, 30(6), 3328–3341.
36. See footnote 31: Soni, A., & Walters, P. (2019).
37. See footnote 13: Croft, M., & Mayhew, R. (2015).
38. See footnote 12: Public Health England (2013).
39. Njis, J., Lahousse, L., Roose, E., Mustaqim, K., et al,. (2021). *Pain and opioid use in cancer survivors: A practical guide to account for perceived injustice*. *Pain Physician*, 24(5), 309-317.

validated, and being given opportunities to talk were offered as ways to deal with a sense of unfairness. This has been shown to be an important step in improving treatment outcomes for people with chronic low back pain,⁴⁰ and for patients from low socioeconomic backgrounds.⁴¹

Managing without medication was perceived to be a barrier to behaviour change and it has been claimed that patients with persistent pain present seeking symptom relief.⁴² Prison de-prescribing policy conflicts with patient expectations, and current practice guidelines indicate patients should cooperate in dose tapering. Therefore, it is important that those with coexisting pain and OUD are identified and supported in a referral pathway. Addressing both issues in a joint treatment strategy has been proposed,⁴³ and a psychologically informed approach to group physiotherapy has been shown to be effective in the treatment of other chronic conditions.⁴⁴ This indicates the need for interdisciplinary working and the incorporation of substance misuse services into de-prescribing programmes and policies, targeting drug seeking behaviours and hidden dependency, to improve personalised care and safety in prisons.

In contrast with current, general clinical opinion, patients with substance use disorders suggested separating the treatment of addiction from pain management. This is an issue worthy of deeper consideration as there are mixed views regarding the best approach to managing pain in OUD.⁴⁵ A move towards an interdisciplinary treatment pathway that addresses both coexisting OUD and persistent pain together has been called for by some researchers.⁴⁶ This makes intuitive sense, as smaller isolated communities have limited resources and a combined approach may facilitate better outcomes, as has been demonstrated in the treatment of other LTCs.⁴⁷

Staff reported incentives and rewards as important facilitators to behaviour change, and suggested that allowing prisoners to play a role in the running of a programme may enable recruitment, endorse

participation, and raise treatment satisfaction. Knowledge sharing between professionals and prisoners has previously been shown to aid better practice development and staff training opportunities.⁴⁸ Therefore, these contributions are important to consider in developing an interdisciplinary pathway for persistent pain management in prison. The current study has revealed a mismatch between patient expectations and current Prison Service provision in pain management. An integration of interdisciplinary care through the patient prison journey may improve outcomes.

Limitations

This study is limited by a narrow search strategy for frontline pain medication and it is likely that persistent pain prevalence rates are higher, as other medications which may be prescribed for pain, such as Benzodiazepines, were excluded due to their widespread use in other conditions. Our study was conducted at a single remand prison, with a small sample of all male prisoners, therefore findings are limited and it is not possible to generalise results to other custodial settings or different cohorts (such as women and young people). The study was also limited by its short time span, meaning the longitudinal picture remains unknown.

Conclusion

This explorative study highlights issues that persistent pain management presents in a prison setting, and indicates potential targets for pain management programmes. These findings will be used to design and develop an intervention for persistent pain in prison. Future research will build on this work to explore pain management in different prison settings and co-develop an interdisciplinary pain pathway to support safer de-prescribing of pain medications in custody.

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40. Lamb, S. E., Hansen, Z., Lall, R., Castelnovo, E., Withers, E. J., Nichols, V., Potter, R., & Underwood, M. R. (2010). Back Skills Training Trial investigators. Group cognitive behavioural treatment for low-back pain in primary care: a randomised controlled trial and cost-effectiveness analysis. *Lancet*, 375, 916–923.
 41. See footnote 13. Croft, M., & Mayhew, R. (2015).
 42. Wachholtz, A., Robinson, D., & Epstein, E. (2022). Developing a novel treatment for patients with chronic pain and Opioid User Disorder. *Substance Abuse Treatment Prevention and Policy*, 17(1), 35–47.
 43. See footnote 42: Wachholtz, A., et al. (2022).
 44. Williamson, E., Boniface, G., & Marlan, I., et al. (2022). The clinical effectiveness of a physiotherapy delivered physical and psychological group intervention for older adults with neurological claudication: the BOOST randomised controlled trial. *Journal of Gerontology*, 77(8), 1654–1663.
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