BRIEF REPORT

Access to treatment in prison: an inventory of medication preparation and dispensing approaches [version 1; peer review: 1 approved, 1 approved with reservations]

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Abstract

The preparation and dispensing of medication in prisons or jails are critical for individuals to access their treatment. This process is resource-intensive for healthcare professionals and may violate principles of confidentiality, autonomy, respect, and dignity if non-qualified staff are involved. However, there are no published best practices on the topic. This report aims to bridge this gap by presenting the results of a mapping exercise on different models of medication preparation and dispensing. Authors call upon healthcare professionals to enrich this live document to inform health services research further and improve access to prescribed medications for people experiencing incarceration.

Keywords

Access to medication, preparation, dispensing, detention, prison, autonomy, confidentiality, dignity

Open Peer Review

Approval Status

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1. **Saman Zamani**, The Global Fund to Fight AIDS, Tuberculosis and Malaria, Geneva, Switzerland

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Any reports and responses or comments on the article can be found at the end of the article.

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Author roles: **Tran NT:** Conceptualization, Data Curation, Formal Analysis, Investigation, Methodology, Visualization, Writing – Original Draft Preparation, Writing – Review & Editing; **Pralong D:** Conceptualization, Formal Analysis, Methodology, Validation, Writing – Original Draft Preparation; **Secrétan AD:** Conceptualization, Formal Analysis, Investigation, Methodology, Validation, Writing – Original Draft Preparation; **Renaud A:** Conceptualization, Formal Analysis, Investigation, Methodology, Validation, Visualization, Writing – Review & Editing; **Mary G:** Conceptualization, Formal Analysis, Investigation, Methodology, Validation, Visualization, Writing – Review & Editing; **Nicholas A:** Conceptualization, Formal Analysis, Investigation, Methodology, Validation, Writing – Review & Editing; **Mouton E:** Formal Analysis, Investigation, Methodology, Project Administration, Supervision, Validation, Writing – Review & Editing; **Rubio C:** Conceptualization, Formal Analysis, Investigation, Methodology, Validation, Writing – Review & Editing; **Dubost C:** Conceptualization, Formal Analysis, Investigation, Validation, Writing – Review & Editing; **Meach F:** Conceptualization, Formal Analysis, Investigation, Validation, Writing – Review & Editing; **Bréchet-Bachmann AC:** Formal Analysis, Investigation, Validation, Writing – Review & Editing; **Wolff H:** Formal Analysis, Investigation, Resources, Supervision, Validation, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

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Background

Individuals experiencing incarceration carry a high burden of physical and mental health conditions^{1–4}. Clinical services operating in prisons and jails are vital in offering non-pharmacological and pharmacological interventions to treat, care for, and support incarcerated persons. Once prescribed, medications require coordinated preparation and dispensing for individuals to access their treatment on time. The report of the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) published in 1992 recommended that *there should be appropriate supervision of the pharmacy and the distribution of medicines. Further, the preparation of medicines should always be entrusted to qualified staff (pharmacist/nurse, etc.)*⁵. Therefore, medication preparation and dispensing should only engage qualified healthcare professionals. This process is notably intensive and can take away resources from other clinically meaningful activities, such as individual patient visits and health promotion and prevention activities. In smaller detention facilities (less than 100 occupants), which usually have limited healthcare staff, prison officers or even prisoners can be involved in medication preparation and dispensing⁶. Such practices violate the principles of confidentiality, autonomy, respect, dignity, and quality of care. CPT experts raised such concerns during recent visits in different European countries, where they observed a lack of respect for the 1992 recommendations of the CPT⁷. For instance, prison officers and incarcerated individuals were found in Greece to work as orderlies (i.e., persons trained in first aid and selected healthcare tasks, such as the dispensing of medications, under the supervision of nurses)⁸. In Norway, although nurses were present daily, custodial officers had the duty to dispense prescribed medications⁹.

Best practices related to medication preparation and dispensing in prison, and in particular in smaller facilities, could help inform the organization of healthcare service delivery that complies with quality of care, confidentiality, and other human rights principles. There is, however, a paucity of publication on the subject. The objective of this paper is to present a live inventory of different approaches to medication preparation and dispensing in prisons.

Methods

First, we looked for published literature on different modalities of medication preparation and dispensing. On 15 August 2019, we searched PubMed and Google Scholar for publications studying different approaches using search strings combining medical subject headings (MeSH) terms related to medication preparation, dispensing, and prison with terms related to best practices (i.e., *pharmaceutical preparations AND prisons AND practice guidelines as topic*). The review of titles and abstracts yielded no relevant articles, prompting us to extend our search to the grey literature by using Google Search, at no avail. The lack of relevant publications underscored the paucity of research on this important operational aspect of health services management in prisons.

Second, we conducted a focus group discussion among our clinical staff from the Division of Health in Prison, which operates at the post-trial detention facility of La Brenaz in Geneva, Switzerland. On 22 August 2019, the focus group discussion, which involved four female nurses, two male nurses, two internal medicine specialists (one female, one male), and a female psychiatrist, resulted in a preliminary mapping. We captured the mapping onto a whiteboard to facilitate participants' inputs before categorizing the information in a Word document table (Table 1). We consolidated the initial results with inputs from healthcare colleagues who could not attend the focus group discussion. The mapping drew from our work experience in prisons and visit to other facilities in Switzerland and various countries in Europe and North America. It was also informed by quality of care and operational considerations with a focus on reducing errors¹⁰ and promoting key human rights principles, such as autonomy, confidentiality, respect, and dignity¹¹.

The Cantonal Ethical Review Board of Geneva granted ethical approval for the study (2017-01379). All participants consented to participate in the study and have the data published.

All the available data is presented in this paper.

Results

Table 1 summarizes different models of medication preparation and dispensing with the right column giving comments on the quality of care and operational considerations as well as human rights principles. Within the same facility, various modalities may coexist, depending on staff availability and medication type. Medication can be prepared manually or via an automated and computerized system by a range of health cadres at different locations, including clinics within the facility, pharmacies inside or outside the facility, or prison officers' quarters if officers carry such a duty. Medication tablets can be given within blister packs or deblistered (intact or crushed), while liquids or creams remain in their original tubes or bottles or are transferred into plastic containers. Dispensing can be the responsibility of clinical staff, prison officers, fellow incarcerated individuals, educators, or teachers. Medication can be given in hand or left inside the cell, a personal locked medication boxes, or a cupboard for self-service. Finally, patients can take their medication under direct supervision or unsupervised.

Discussion

This report aimed to present an inventory of different medication preparation and dispensing models in carceral settings with a focus on whether they respect quality of care and key human rights principles. Ensuring access to medication while conforming to prison security requirements and taking into account concerns about trafficking, theft, and misuse, particularly of prescribed psychoactive substances¹², needs a pragmatic and well-adjusted operational approach. We acknowledge the fact that our inventory is not exhaustive – this was the beginning of an effort to bridge the gap in published best practices on the topic. Therefore, we call upon prison health services

Table 1. Summary of different models of medication preparation and dispensing in prisons.

Preparation		Comments
By whom?	Clinical staff working in prison <ul style="list-style-type: none"> - nurses or healthcare assistants - doctors - dedicated pharmacy preparer 	<ul style="list-style-type: none"> - in most cases - if no nurses, such as for ambulatory emergencies outside working hours - e.g., in France (<i>préparatrice</i> or <i>préparateur en pharmacie</i>)
	Prison officers	Raises quality of care and confidentiality issues
Where?	Clinics in prison	
	Pharmacies <ul style="list-style-type: none"> - intra-muros - extra-muros 	<ul style="list-style-type: none"> - e.g., in large detention facilities - e.g., for the preparation of opioid agonist therapy, such as methadone, where this cannot be done in prison. In France, the University Hospital Centers (CHU) have an automated system to prepare medications, which are then delivered to prisons in the form of individual sachets containing de-blistered medicines
	Prison officers' quarters	Raises quality and confidentiality issues
How?	Manually	Time-consuming, prone to errors
	Automated/computerized	Start-up investment required, less time-consuming, less prone to errors
In which form?	Tablets in the blister pack	Medication quality preserved
	Tablets deb blistered and intact	Medication quality can be compromised if not taken immediately or put into an adequate medication container; no blister label to check the expiry date and whether the medication is the correct one.
	Tablets deb blistered, crushed, and mixed with water	Medication quality compromised, degrading (no patient autonomy, lack of respect and dignity), prone to wrong medication intake
	Liquid or cream in its original container (e.g., tube or bottle)	Medication quality preserved but often larger quantity than required and may not adhere to prison security requirements (e.g., plastic and transparent containers)
	Liquid or cream in smaller and transparent plastic containers with cover	Medication quality can be compromised if not taken or applied immediately; no original label to check the expiry date and whether the medication is the correct one
Dispensing and intake		
By whom?	Clinical staff working in prison <ul style="list-style-type: none"> - nurses or healthcare assistants - doctors 	<ul style="list-style-type: none"> - in most cases - if no nurses (e.g., ambulatory emergencies outside working hours)
	Prison officers	Raises quality, confidentiality and other patients' rights issues (e.g., coerced medication administration), confusion of roles (prison vs. health staff)
	Fellow incarcerated persons	Raises quality and confidentiality issues
	Educators or teachers	E.g., in facilities for minors; raises quality of care and confidentiality issues

Preparation		Comments
How?	In-hand, e.g.,: - in the clinic	- allows 2-way communication, however access may be limited by restrictive rules regarding movements inside the facility
	- at the cell door	- potential lack of confidentiality
	- at the workplace	- potential lack of confidentiality
	- in the classroom	- potential lack of confidentiality
	- at a prison counter	- e.g., reception desk; potential lack of confidentiality
	Left inside the cells	E.g., for individuals living in individual rooms
	Self-service from a locked medication cupboard	E.g., prepared medications are left in individual boxes stored and locked in a common cupboard; prison officers open the cupboard at a set time for patients to take their medications; confidentiality issues, prone to errors, prone to violent interactions between patients
	Personal locked medication boxes	E.g., at the post-trial detention center of La Brenaz, Geneva (168 individual rooms); requires start-up investment; promotion of users autonomy, confidential, dignified, and respectful; no reported theft or peer pressure incidents; possible operational challenges if implemented in larger facilities or pre-trial prisons with high turn-over
Intake	Under direct supervision - for all prescriptions - for controlled substances	- lack of respect, dignity, and autonomy
	Unsupervised	- confidentiality, autonomy, respect, and dignity preserved; risk of misuse

managers, providers, and researchers to enrich this live document with their own experience and observations. This continuously enriched inventory can provide a foundation for further operational research and cost-effectiveness studies. The emerging best practices can help inform the design of new medication delivery systems that can contribute to improve the efficiency of healthcare services in prisons as well as empower individuals

to safely, timely, and confidentially access and manage their prescribed treatment.

Data availability

Underlying data

All data underlying the results are available as part of the article and no additional source data are required.

References

- Fazel S, Baillargeon J: **The health of prisoners.** *Lancet.* 2002; **377**(9769): 956–65.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Dudeck M, Drenkhahn K, Spitzer C, et al.: **Traumatization and mental distress in long-term prisoners in Europe.** *Punishm Soc.* 2011; **13**(4): 403–23.
[Publisher Full Text](#)
- Fazel S, Bains P, Doll H: **Substance abuse and dependence in prisoners: a systematic review and meta-regression analysis.** *Addiction.* 2006; **101**(2): 181–91.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Fazel S, Seewald K: **Severe mental illness in 33,588 prisoners worldwide: systematic review and meta-regression analysis.** *Br J Psychiatry.* 2012; **200**(5): 364–73.
[PubMed Abstract](#) | [Publisher Full Text](#)
- European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment: **Health care services in prisons - 3rd General Report of the CPT.** Council of Europe. 1993.
[Reference Source](#)
- Marshall T, Simpson S, Stevens A: **Health care in prisons: a health care needs assessment.** University of Birmingham Birmingham. 2000.
[Reference Source](#)
- Tran NT, Wolff H: **Upholding confidentiality in the preparation and distribution of medication in prisons: implementing recommendations of the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment [version 1; peer review: awaiting peer review].** *F1000Res.* 2020; **9**: 87.
[Publisher Full Text](#)
- European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment. **Report to the Greek Government on the visit to Greece carried out by the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) from 14 to 23 April 2015; Para 80, 81, 85.** Strasbourg: CPT. 2016.
[Reference Source](#)
- European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment. **Report to the Norwegian Government on the visit to Norway carried out by the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) from 28 May to 5 June 2018; Para 90.** Strasbourg: CPT. 2019.
[Reference Source](#)
- Stern MF, Greifinger RB, Mellow J: **Patient safety: moving the bar in prison health care standards.** *Am J Public Health.* 2010; **100**(11): 2103–10.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- UG: **United Nations Standard Minimum Rules for the Treatment of Prisoners (the Nelson Mandela Rules).** *UN GA Res.* 2015; **70**: 175.
[Reference Source](#)
- Elger BS, Shaw DM: **Confidentiality in prison health care—A practical guide.** *Emerging Issues in Prison Health: Springer.* 2017; 183–200.
[Publisher Full Text](#)

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Lamiece Hassan

University of Manchester, Manchester, UK

This brief report addresses the topic of medication preparation and dispensing in prisons. The authors draw on a focus group discussion and their own previous experiences to map approaches to medication preparation, dispensing and administration, providing a brief synopsis of different models.

As the authors admit - this approach was not intended to be exhaustive; rather, this contribution marks a preliminary effort to gather more comprehensive evidence of experiences and practices, with the hope of eventually informing best practice. Nonetheless, while I accept and endorse their focus on this important topic, I do have some concerns about the quality of the methods and analysis reported. Attention to these matters would improve the scientific contribution of this paper, even at this early stage.

First, the authors stated they looked for relevant literature in the published and grey literature and found nothing of relevance. Having authored reports and published papers commenting on pharmacy services and access to medication in prison myself (e.g. medicines reconciliation practices on entry to prison, in possession medication), I find this a bold statement and difficult to reconcile with my own knowledge of the literature. Perhaps it was their choice of keywords, geographical focus, date range or inclusion criteria that explains these limited results, but as currently written I am concerned that they have missed relevant literature commenting on pharmacy services in prison that might be directly or indirectly relevant to framing the topic.

Second, even for a brief scientific report there is very little information about the focus group discussion. There are limited details about the conduct and approach to analysis that would normally be required to satisfy notions of replicability (e.g. Was a topic guide used? Who moderated the group? Was it recorded, transcribed, coded and/or otherwise thematically analysed?). No reference is provided for the mapping approach mentioned and no direct quotations are provided so it is difficult to assess the quality of this approach as an empirical method for data collection and analysis.

Third, despite my reservations about how it was produced, I do think the table summarising different models of medication preparation and dispensing could potentially be a useful direction to pursue. However, as it is currently presented in a static format, it is not clear how this will become a 'live document' (as the authors envisage) that others can actively contribute towards in future. If the paper is published here, this presents an important opportunity to publicise their work and enable others to contribute examples (perhaps of literature and practice). Will/can the authors capitalise on this by including a mechanism for submitting examples e.g. a link to a live document that others can actively add to (e.g. Google docs or a survey)?

Is the work clearly and accurately presented and does it cite the current literature?

Partly

Is the study design appropriate and is the work technically sound?

Partly

Are sufficient details of methods and analysis provided to allow replication by others?

No

If applicable, is the statistical analysis and its interpretation appropriate?

Not applicable

Are all the source data underlying the results available to ensure full reproducibility?

No

Are the conclusions drawn adequately supported by the results?

No

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Prescribing practices in prisons; forensic psychiatric epidemiology; qualitative research.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 25 Sep 2020

Nguyen Toan Tran, Geneva University Hospitals and the University of Geneva, Chêne-Bourg, Switzerland

Dear Reviewer,

We are grateful for your review and have addressed the three important points you raised as follows.

With sincere appreciation

First, on the literature search:

We were also surprised by the findings of our search on 15 August 2019. On 25 September 2020, we ran again the search on PubMed using the same combination of terms as described in our report—again, without any limitations (date, language, geography, etc.):

(prisons[MeSH Terms]) AND ("Practice Guidelines as Topic"[Mesh]) AND ("pharmaceutical preparations"[MeSH Terms] OR pharmaceutical preparations[Text Word])

There was 1 result, but of no relevance: Brown L, Takeuchi D, Challoner K. Corneal abrasions associated with pepper spray exposure. *Am J Emerg Med*. 2000 May;18(3):271-2. doi: 10.1016/s0735-6757(00)90120-7. PMID: 10830682.

We agree that our choice of terms and combinations may have explained the limited results. As our work on this topic moves forward, we will make sure to look into alternative search strategies.

Second, on the qualitative component: We have now described this step more explicitly in the manuscript. It now reads as follows:

Second, we conducted a focus group discussion among our clinical staff from the Division of Health in Prison, which operates at the post-trial detention facility of La Brenaz in Geneva, Switzerland. On 22 August 2019, the Head of the unit facilitated a focus group discussion, which involved four female nurses, two male nurses, two internal medicine specialists (one female, one male), and a female psychiatrist., resulted in a preliminary mapping. We captured the mapping onto a whiteboard to facilitate participants' inputs before categorizing the The discussion was guided by the care continuum of medication preparation, distribution, and self-administration and the "4Ws + H" lens (what, where, when, who, and how). We did not record the discussion but directly captured participants' inputs on a whiteboard to help visualize the emerging mapping and catalyze additional contributions. Photographs of the whiteboard were taken and used to transcribe and further categorize the information in a Word document table (Table 1). We consolidated the initial results with inputs from healthcare colleagues who could not attend the focus group discussion and validated the content of the table with participants of the focus group discussion and the Division Chief. The mapping drew from our work experience in prisons and visit to other facilities in Switzerland and various countries in Europe and North America. It was also informed by quality of care and operational considerations with a focus on reducing errors¹⁰ and promoting key human rights principles, such as autonomy, confidentiality, respect, and dignity¹¹.

Third, on the table:

We opted for F1000Research as it allowed two features to update our table, which we have now added to the manuscript:

- First, the comment section enables readers to enrich the table
- Second, the paper can be resubmitted with an updated version [Update]: “[Update] is a new version, often after the article is indexed and/or the peer review is considered complete, in which authors can add small developments relevant to the research discussed in that article” – see <https://f1000research.com/for-authors/article-guidelines-new-versions>

Our addition reads as follows:

Therefore, we call upon prison health services managers, providers, and researchers to enrich this live document with their own experience and observations by adding their contributions directly in the section entitled “Comments on this article” located at the bottom of the online page of the article (an updated version will be uploaded once information saturation is reached).

Competing Interests: I have no competing interest to declare

Reviewer Report 16 June 2020

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Saman Zamani

The Global Fund to Fight AIDS, Tuberculosis and Malaria, Geneva, Switzerland

The brief report titled "Access to treatment in prison: an inventory of medication preparation and dispensing approaches" is an important note for further dialogue among public health experts in this field.

The study team appropriately started their inquiry with the health care providers and analyzed/documented important qualitative insight from the initial respondents.

It is important that the qualitative interviews and discussion to continue engaging the beneficiaries, inmates so to understand their perspectives and finding a practical arrangement for proper health service provision while ensuring respect to their rights. I would suggest this great and primary interviews to be continued among inmates and non-health staff of the prison.

Great work and thanks for all efforts and sharing the insight.

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Not applicable

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Public Health specialist

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 25 Sep 2020

Nguyen Toan Tran, Geneva University Hospitals and the University of Geneva, Chêne-Bourg, Switzerland

Dear Reviewer,

We are grateful for your review and for your suggestion regarding the continuous engagement of people experiencing incarceration, which we have now added to our manuscript.

With sincere appreciation

Competing Interests: I have no competing interests to declare.

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