

# Study of the characteristics of medical information in transfers between prisons\*

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## ABSTRACT

**Introduction:** The mobility of the prison population creates a need for information transmitted in transfers between centers that can guarantee optimal care continuity.

**Objective:** To assess the quality of transmission of health information when inmates are transferred between prisons in Spain.

**Material and method:** Observational, descriptive and cross-sectional study, consisting of a review of medical records of inmates who passed through Madrid III Prison in a three-month period. All measured variables were qualitative, and were expressed in absolute and relative frequencies.

**Results:** 1,168 inmates passed through Madrid III Prison in this period. Only 21 came from prisons in Catalonia, the Basque Country or Navarre, where their medical records are different from those in the rest of Spain, and only 57.14% provided some type of health information. Of the remaining inmates, 70.79% provided some type of information: 63.90% of the total had prescriptions for medication and 5% were prescribed with methadone. Of those taking medication, 89.10% were prescribed it in electronic prescriptions, which were correct in 98% of the cases. For methadone, only 75.44% had electronic prescriptions, which were correct in all cases. The date of the last dose administered was only indicated in 72.40% of the treatments.

**Discussion:** Only 34.70% of the records presented optimal quality in terms of the information transmitted, and in 2.50% of the cases the information received was deficient. The use of computerized tools facilitates the transmission of information, reduces the workload and improves patient safety.

**Key words:** continuity of patient care; quality of health care; patient safety; medication reconciliation; patient transfer; prisons.

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## INTRODUCTION

Care continuity is a key factor in healthcare, and should be guaranteed when patients are transferred between different healthcare levels. In our case this not only includes the occasions when persons enter or leave prison, but also when they are transferred bet-

ween prisons or are sent to community health services to receive treatment.

Guaranteeing healthcare continuity for patient transfers is a critical point in any healthcare system. It is also a point where special attention needs to be paid to ensure patient safety, since it is one of the areas where most errors take place in administering medication<sup>1,2</sup>.

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The ENEAS<sup>3</sup> study on hospitalisation-related adverse effects gives a figure of 37.40% for effects associated with medication. The APEAS<sup>4</sup> study on the safety of patients in primary healthcare showed that 48.20% of adverse effects were related to medication. There is no data on this subject for prisons.

It is estimated that up to 40% of medication prescription errors in the community take place during healthcare transfers<sup>5</sup>, making this a critical point for ruptures in healthcare continuity. To facilitate continuity and reduce risks, it is important to make adequate use of the digital clinical history, including electronic prescriptions for drugs<sup>6,7</sup>, the development of information systems that enable complex chronic patients to be detected, the promotion of stable communication systems that enable information to be exchanged between professionals in the same or different healthcare settings<sup>8</sup>, the promotion of activities carried out by primary care nursing staff as educators in self-care and patient autonomy, etc. Electronic prescription of drugs ensures that the pharmacological treatment is correctly recorded (drug, dose, start and end dates) in the appropriate section in the digital clinical history, thus making this information easily accessible for consultation by any professional. The use of standardised documents<sup>9</sup> in which the treatment, drug, dosage and duration are clearly stated is also recommended, along with details of patients' needs from a nursing care perspective. These elements contribute towards providing adequate therapeutic reconciliation, which in this case refers to a formal and protocolised process in which the indicated medication is compared with what the patient is actually taking, in order to resolve potential discrepancies and ensure healthcare continuity<sup>6</sup>.

There is a growing trend in prisons for inmates to suffer from multiple pathologies<sup>10-13</sup>, which leads directly to polypharmacy. We are therefore facing a growing number of complex chronic patients, in which a low level of medical knowledge and poor perception of their health makes management difficult and places them in an especially difficult position during transfers between healthcare units, both when they are transferred between prisons and when they are referred to specialist consultations or A&E services. Healthcare continuity processes that avoid unnecessary procedures and enable adequate therapeutic reconciliation are therefore especially important in this context.

Madrid III is a prison for men located in the Valdemoro district of Madrid, in which 800 inmates are normally housed under a standard regime. It is also a centre where every year more than 4,000 inmates are

housed for at least one night during transfers. Day to day working experience with this population led us to consider the characteristics of this transfers in healthcare terms and see what areas need improvement.

The initial hypothesis is that the medical information about patients that is received when they are transferred is inadequate, which makes care continuity more difficult and also represents a potentially hazardous event in terms of patient safety.

## OBJECTIVES

The general aim is to evaluate the transmission of medical information when inmates are transferred between prisons in Spain as a whole, including those whose final destination is Madrid III (admissions), with a view to establishing guidelines that might improve the transmission of healthcare information between prisons.

## MATERIAL AND METHODS

An observational, descriptive and cross-sectional study was carried between 14/03/2022 and 13/06/2022 (90 days).

The population sample was made up of 1,168 male inmates, which represents all the inmates who arrived at Madrid III prison in the period mentioned above, either as a transfer or admission, as the prison was their final destination. No exclusion criteria were used.

The information was obtained from the medical documentation that accompanied the inmates during the transfers, and was gathered in a registration form designed on an ad hoc basis for the study. The form was designed in line with a consensus reached between members of the prison nursing team, all of whom had considerable working experience in this field. Basic data was defined according to the team's experience and best practices, with no other type of validation being used.

Two groups were defined according to where the inmates came from:

- Group 1: centres managed by the National Public Administration.
- Group 2: centres managed by autonomous communities (Catalonia, Basque Country and Navarre), depending on the availability of the digital clinical history (OMI360, medical management software for prisons managed by the Public Administration) in the prisons and possible access to the information.

The following data was gathered: presence of transfer documentation, use of medication and/or methadone, form of prescription, reconciliation of prescriptions (the prescribed medication matches the one that is actually administered) and the presence of information about the last administered dose. All the primary variables gathered were nominal dichotomous and categorical. They were all generic and none of them represented a biomedical datum that required special protection.

A descriptive analysis of the principal variables was carried, estimating absolute and relative frequencies. These variables were then used to build the “quality” tool, which included the presence of six primary variables regarded as markers of critical points in patient safety (transfers section in OMI360 completed, electronic prescription of medication, prescribed medication matches the one administered, electronic prescription for methadone, methadone prescribed matches the administered dose and record of the last dose of treatment). Four categories in this area were defined:

- **Optimal quality:** when all the criteria were present.
- **Suboptimal quality:** when all the criteria minus one were present.
- **Deficient quality:** when more than one criterion was missing.
- **Situation of potential risk:** when only one or none of the criteria were present.

This tool was used for cases in group 1. The evaluation for group 2 only consisted of establishing whether some type of medical data existed or not, without specifying the content of the information received.

The database was built from an encrypted Excel into which the previously anonymised cases were entered, assigning a serial number to each one to ensure that the information was kept confidential. The data was processed with the Statistical Package for the Social Sciences (SPSS) version 24.

All the ethical requirements established by legislation currently in force in Spain on biomedical research were complied with. Authorisation was requested from and granted by the General Sub-Directorate of Institutional Relations and Territorial Coordination, in accordance with Instruction 12/2019, on research in the prison setting.

## RESULTS

### Group 1

This group represented 98.20% (1,147) of the sample. 40.90% of the group had a document with a treatment summary, and 44.70% had a completed OMI-transfer section. A total of 70.79% of the inmates had some type of information and only 29.21% lacked any data. The inmates who brought information included 20.94% who had information in both formats (document with a treatment summary and a completed OMI-transfer section) (Table 1).

Of the total of inmates who arrived in this period, 63.91% (733) had prescriptions for medication, while 4.97% (57) had been prescribed with methadone.

89.01% (653) of the inmates with prescribed medication had electronic prescriptions and in 98.01% (640) of these cases the prescription matched the medication that was being administered at the time (Figure 1), while in 1.99% of the case the medication actually administered did not match the one that was electronically prescribed.

41.25% (33) of the 10.91% (80) of the cases that did not have electronically prescribed medication, had adequate details of the medication in the follow-up reports, and 33.75% (27) had similar information in the treatment summary document. In 7.50% (6) of the cases, the information appeared in both documents. One notable feature of this group is that 17.50% (14) did not have the medication adequately specified in any document.

Only 75.44% (43) of the patients receiving methadone therapy had electronic prescriptions for this treatment. On the other hand, in all the cases that had prescriptions issued via this system, the prescrip-

Table 1. Distribution of information according to type of presentation.

Without information	335 (29.21%)		
With information	812 (70.79%)	Summary document	299 (36.82%)
		OMI360-transfer	343 (42.24%)
		Summary document + OMI360-transfer	170 (20.94%)

**Nota.** OMI360: medical management software used in prisons managed by the National Public Administration.

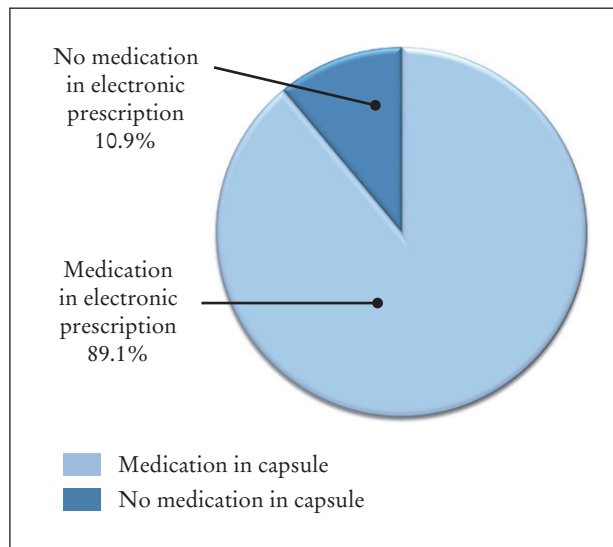


Figure 1. Characteristics of drug treatment prescriptions in OMI360 (medical management software for prisons managed by the National Public Administration).

tion matched the dosage that was actually administered. In those cases where the prescribed dose was not recorded in the electronic prescription (24,56%: 14 cases), only 28.58% (4) had the correct dosage in the follow-up reports; 7.14% (1) had the information in the treatment summary; 7.14% (1) had the same information in the follow-up report and the treatment summary document, while 57.14% (8) of the cases had no details of the dosage in any document.

The date of the last administered dose was specified in 72.40% (572) of the cases with any type of treatment, including methadone.

Transferred inmates were classed into four groups based on the “quality” complex variable. The majority (more than half of the cases analysed) provided information that was suboptimal or deficient, and 2.45% of the cases were found to be in a situation of risk (Figure 2 and Table 2).

## Group 2

Only 21 inmates in transit came from areas outside the jurisdiction of the Spanish General Secretary of Prisons in the three-month period of the study (1.79% of the total sample). 38.10% of this group came from Catalonia; another 38.10%, from the Basque Country and the remaining 23.80% from Navarre. Only 57.14% of the group as a whole came with some type of medical information (50% of the inmates from Catalonia, 50% from the Basque Country and 80% from Navarre). Differences according to the prison of origin were observed, although they were not statistically significant (Figure 3).

## DISCUSSION

Although the digital clinical history was implemented in all prisons managed by the General Secretary of Prisons more than five years ago, our results

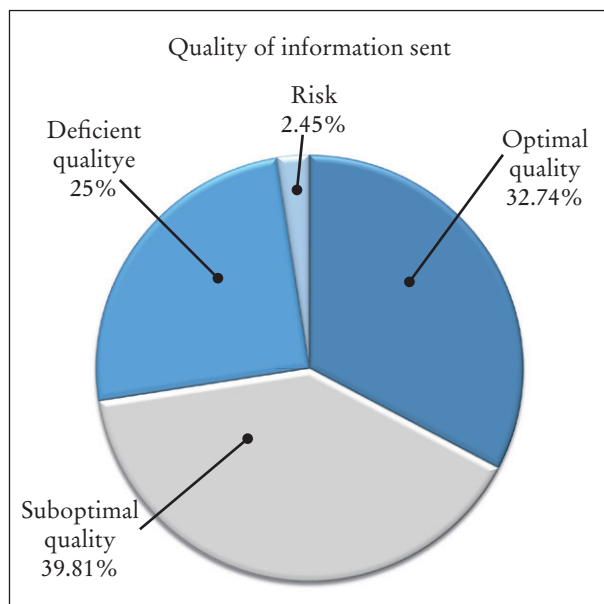


Figure 2. Quality of information provided according to type of patient and active treatment.

Table 2. Quality of information according to patient type and active treatment.

	Only medication	Only methadone	Medication and methadone	Total
Optimal quality	219 (32.21%)	2 (66.67%)	20 (37.74%)	241 (32.74%)
Suboptimal quality	275 (40.44%)	1 (33.33%)	17 (32.07%)	293 (39.81%)
Deficient quality	170 (25%)	--	14 (26.42%)	184 (25%)
Risk	16 (2.35%)	--	2 (3.77%)	18 (2.45%)

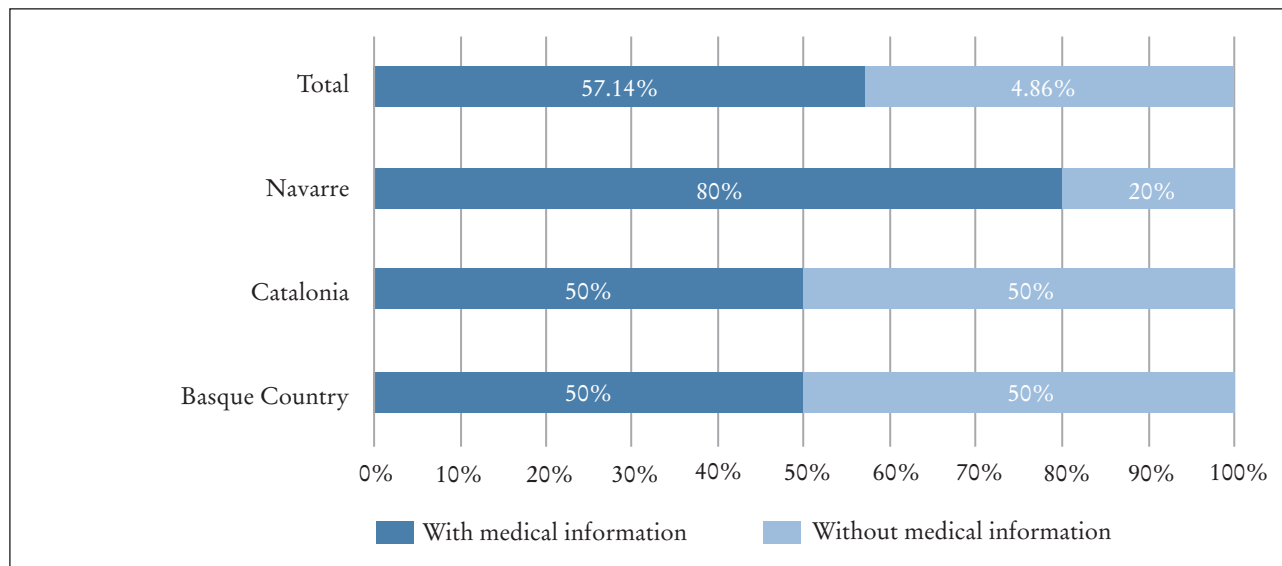


Figure 3. Distribution of presence of medical information in non-OMI360 (medical management software for prisons managed by the National Public Administration) areas (territories with transferred prison healthcare powers) according to autonomous communities.

show that only 44.70% of the inmates presented an adequately completed OMI-transfer section, and of these, almost a third included duplicated information in the treatment summary document along with the corresponding section of the digital clinical history. The recommendation in this case is to adequately complete the OMI-transfer section in every case and stop sending documentation in paper format.

There are no studies of this type on the prison setting in Spain. This makes it impossible to make any comparisons that might help in drawing conclusions about evolution over time. However, this same drawback, which might be regarded as a weakness of the study, may also be one of its strengths, since it is the first study of its kind and may be used for future studies that will enable comparisons to be made.

The size of the sample, with 1,168 cases, highlights the importance of this study, although other weak points can be seen. These include not having gathered the type of information received from inmates belonging to group 2 (a total of 21) and the fact that no differentiations were made in terms of the importance of the six primary variables used to define the four quality variables.

One important factor to bear in mind when considering the strengths and weaknesses of this study is that during the period in which it took place, almost 30% (Table 1) of the inmates in group 1 lacked medical information, and 27.6% of the cases with prescribed treatment had no details of the last administered dose, which is interpreted as a risk for patients. In such

cases, medication that the patient needs might not be administered or medication that was already administered might be repeated. Actions of this nature are potentially very serious.

In view of the results, it may be said that the duplication of medical information and the mismatch between electronically prescribed medication and what was actually administered to the inmates should alert us to the need to eliminate parallel records that still exist in some prisons, given that the used of standardised documents<sup>9</sup> and the electronic prescription of drugs are recommended<sup>6,7</sup>.

Any situation that creates doubts with regard to the adequate prescription of a medical treatment is alarming, and this is doubly so when methadone treatment is involved, given that it is an opiate with serious consequences for the patient when it is not correctly administered. One of our recommendations is therefore to improve the recording process for this drug.

Cases where the treatments in the electronic prescription are not effectively updated lead to risks in patient safety.

Electronic prescriptions should be understood as a useful tool, in which adequate implementation of the digital clinical history, the cessation of use of local information storage systems and the adequate use of tools that provide data, along with the optimisation of others that are excessively complex and so are effectively impractical and little used, is what justifies the need to develop training to develop awareness of a culture of safety and continuous improvement and quality.



When inmates come from areas that are not managed by the General Secretary of Prisons (group 2), 42.86% cases did not provide any medical information whatsoever, which highlight the rupture in continuity of care in such cases. This clearly indicates a need to establish stable communication systems<sup>8</sup> between centres managed by different administrations (National Public Administration and Administrations of the Autonomous Communities with transferred healthcare powers), which is a challenge and would oblige them to seek solutions that guarantee the right of prison inmates to receive high quality healthcare.

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## CORRESPONDENCE

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