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Evaluation of hospital discharge prescriptions: are we favoring access to medications?

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Abstract

Objectives: To assess access within the public health system to medications prescribed at hospital discharge for patients admitted to the emergency unit of a high-complexity teaching hospital, as well as to analyze the role of the pharmacist in discharge counseling. **Methods:** This was a retrospective cross-sectional study that evaluated 1,068 electronic discharge prescriptions issued in 2023. Medications were classified according to the components of pharmaceutical assistance and compared with municipal lists of essential medicines. Items were considered inaccessible if they were absent from the lists, subject to incompatible restrictions, prescribed by brand name, or, in the case of the specialized component of pharmaceutical assistance, lacked the required Request Form. Dispensing by the day hospital and the occurrence of pharmacist-led discharge counseling were also evaluated. **Results:** A total of 4,229 medications were analyzed. Of these, 45.45% were inaccessible, mainly due to absence from municipal lists (81.22%), incompatible restrictions (9.52%), or lack of the required form (7.96%). Inaccessibility was higher for "as needed" or one-time-use medications, while in the specialized component, it predominated among medications for continuous use. There was wide variability in access among patients' municipalities of origin, with no clear correlation to population size or per capita GDP. The day hospital supplied only 2.9% of the inaccessible items. Pharmacist counseling was documented in 12 discharges (1.1%), although 23% of patients were on polypharmacy. **Conclusion:** The study reveals a high rate of inaccessibility to medications at hospital discharge, highlighting the need for improvements in access and for strengthening the pharmacist's role in both the pharmacy and therapeutics committee and in clinical care.

Keywords: health services accessibility; access to medications; pharmaceutical services; pharmacy service; hospital; patient discharge

Avaliação de prescrições de alta hospitalar: estamos favorecendo o acesso aos medicamentos?

Resumo

Objetivos: Avaliar o acesso, na rede pública, dos medicamentos prescritos na alta hospitalar de pacientes internados na unidade de emergência de um hospital de ensino de alta complexidade, além de analisar a atuação do farmacêutico nas orientações de alta. **Métodos:** Trata-se de um estudo transversal retrospectivo que avaliou 1.068 prescrições eletrônicas de alta emitidas no ano de 2023. Os medicamentos foram classificados segundo os componentes da assistência farmacêutica e confrontados com as listas municipais de medicamentos essenciais. Foram considerados não acessíveis os itens ausentes nas listas, sujeitos a restrições incompatíveis, prescritos por nome comercial ou, no caso do componente especializado da assistência farmacêutica, sem laudo de solicitação. Avaliou-se ainda a dispensação feita no Hospital-Dia e a ocorrência de orientações farmacêuticas na alta hospitalar. **Resultados:** Foram analisados 4.229 medicamentos. Do total, 45,45% estavam inacessíveis, sobretudo por ausência nas listas municipais (81,22%), restrições incompatíveis com a dispensação (9,52%) ou falta do laudo (7,96%). A falta de acesso foi maior em prescrições para uso "se necessário" ou uso pontual, enquanto no componente especializado predominou em medicamentos de uso contínuo. Observou-se grande variabilidade no acesso entre municípios de origem, sem linearidade com porte populacional ou PIB per capita. O hospital-dia supriu apenas 2,9% dos itens não acessíveis. Orientações farmacêuticas foram registradas em 12 altas (1,1%), embora 23% dos pacientes estivessem em polifarmácia. **Conclusões:** O estudo mostra elevada falta de acesso à medicamentos na alta hospitalar, revelando necessidade de avanços no acesso e no fortalecimento da atuação farmacêutica, tanto na comissão de farmácia e terapêutica quanto na clínica.

Palavras-chave: acessibilidade aos Serviços de Saúde; acesso a medicamentos; assistência farmacêutica; serviço de farmácia hospitalar; hospital; alta do paciente

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Introduction

The National List of Essential Medicines (RENAME) constitutes a fundamental instrument for the selection and standardization of medicines considered essential, aimed at addressing the main health demands within the scope of the Unified Health System (SUS), guiding the structuring and functioning of Pharmaceutical Services (PS) in Brazil. Complementarily, the specificities of each municipality are addressed through the Municipal Lists of Essential Medicines (REMUME), prepared in accordance with RENAME and adjusted to local epidemiological particularities and health needs[1].

Access to medications within the scope of SUS Pharmaceutical Services occurs through three components: the basic component (CBAF), focused on treating the population's main health problems in primary health care (PHC); the strategic component (CESAF), intended for endemic diseases and priority programs; and the specialized component (CEAF), aimed at conditions of greater complexity, access to which depends on compliance with clinical protocols and therapeutic guidelines (PCDT) and the submission of the Medication Request, Evaluation, and Authorization Report (LME)[2]. CBAF and CESAF medications are generally the responsibility of the municipality regarding dispensing, therefore being included in the Municipal List of Essential Medicines (REMUME). CEAF medications, whose management predominantly involves state and federal spheres, are usually dispensed at specialized pharmacies, regardless of their inclusion in the municipal list[2]. It should be noted, however, that in municipalities where CEAF is decentralized, some medications from this component may also be included in REMUME and dispensed within the municipal network.

These three components aim to meet the majority of the population's demand for medications, but they do not exhaust the entire supply: there are other groups of medications, such as chemotherapy and immunobiological agents, which follow specific funding and dispensing flows. Noteworthy in this context is the Oncological Pharmaceutical Services Component, which encompasses the antineoplastic medications used in cancer treatment within the SUS and had its organization recently updated by GM/MS Ordinance No. 8,477 of 2025.

In the context of hospital discharge, the pharmacist plays a central role in promoting adequate access and the rational use of medications. Their duties include guiding patients and family members regarding dispensing locations, access criteria for the different PS components, and aspects of therapeutic safety, such as drug interactions and adverse effects. Furthermore, they work with prescribers to prevent situations that compromise access to and adherence to treatment, such as inadequate prescriptions, which include the use of abbreviations, absence of documentation required by the CEAF, and discharges on weekends[3]. Another relevant aspect refers to the identification of medications that are not accessible through the SUS and are high-cost, taking into account the individual's social condition. Based on this, it is up to the pharmacist to propose viable therapeutic alternatives to the prescriber[4-5].

However, there is a scarcity of studies that have systematically evaluated access to medications prescribed at hospital discharge and the pharmacist's role in this process, especially in emergency units. Given this context, this study aims to evaluate access, within the public network, to medications prescribed at hospital discharge for patients at the Hospital das Clínicas da Faculdade de Medicina de Ribeirão Preto – Emergency Unit (HCFMRP-UE), in addition to evaluating the pharmacist's role in discharge guidance.

Methods

Study location and design

This is a cross-sectional analytical study based on the retrospective analysis of data from electronic medical records and medical prescriptions of patients admitted to the HCFMRP-UE. Located in the municipality of Ribeirão Preto, the hospital is a reference for tertiary complexity cases for the 26 municipalities within the Regional Health Directorate of Ribeirão Preto (DRS XIII), although it receives patients from various regions of Brazil. It is a reference center for the treatment of polytrauma, accidents with venomous animals, stroke, acute myocardial infarction, burns, and sexual violence, among several other acute exacerbated chronic health conditions.

Some patients discharged with a prescription for home use may obtain medications directly from the institution through the day-hospital (DH). This involves dispensing by the hospital's pharmacy service to assist patients in situations involving the completion of short-term/specific therapies (e.g., antibiotics) or dispensing quantities of medications for short periods to allow patients not to interrupt chronic treatment until they can effectively access it. This resource enables, for example, facilitating discharges on weekends and holidays, and ensuring immediate access to CEAF medications while awaiting dispensing according to established procedures.

Sample size calculation

The sample size was estimated considering the calculation for cross-sectional studies with simple random sampling and an infinite population[6]. Aiming to maximize the sample size, the prevalence of the investigated event (inadequate discharge prescriptions) was considered equal to 50%. A 95% confidence coefficient and an absolute precision of 3% for the proportion estimate were considered, thus estimating a minimum sample size of 1,068 subjects.

Data collection and variables

The database included 11,041 discharge records from the period of January 1st to December 31st, 2023, for patients originating from municipalities within the DRS XIII. For patients hospitalized more than once during the year, the first registered discharge was considered, excluding subsequent ones. Patients under 18 years of age, deaths, transfers, dropouts, and those deprived of liberty were excluded, leaving 5,068 records. From these, 1,068 were randomly selected for data collection, without restriction by hospital sector.

Collected data included: sex, age, municipality of origin, primary hospitalization diagnosis, medications prescribed at discharge, with dosage regimen and modality [continuous use, occasional use, or if necessary (PRN)], whether or not the LME was completed, and presence of DH dispensing. Diagnoses were grouped based on the type of disease or health condition. Those that were less frequent and did not align with other groups were classified as "Others."

The REMUMEs of the municipalities belonging to DRS XIII were obtained through official city hall websites and contacts via email and/or telephone. These lists were compared with the discharge prescriptions to verify access to medications via the CBAF in the

patients' municipalities of origin. Some medications prescribed in this study belonged to more than one PS component, according to consultation with the Brazilian RENAME. For this reason, they were classified and analyzed separately, ensuring an accurate assessment of access and use within each component.

Medications were considered not accessible through the SUS when absent from the REMUME of the municipality of origin, subject to restrictions incompatible with dispensing [for example, when the medication is available for managing a condition different from that presented by the patient, with a different ICD code (International Classification of Diseases)], in the absence of the LME for CEAF medications, or when prescribed by brand name. Conversely, medications were considered accessible if they were listed in the municipality's REMUME, without restrictions or with restrictions compatible with dispensing, and if the LME was completed for CEAF medications. The presence of DH was considered only to assess temporary access to medications.

The frequency of prescription of non-accessible medications was calculated as the ratio between the number of prescriptions for non-accessible medications and the total number of prescribed medications, multiplied by 100.

Pharmacist participation was assessed through clinical progress notes recorded in medical records. In the absence of these records, the need for pharmaceutical guidance was verified, considered in this study as essential for patients on polypharmacy, defined as the use of four or more medications[7].

To classify the population size of the municipalities included in the study, data from the 2022 demographic census were consulted on the "Cities and States" portal of the Brazilian Institute of Geography and Statistics (IBGE). The criterion commonly used in Brazilian literature was adopted, considering municipalities with up to 50,000 inhabitants as small-sized.

Statistical analysis

Data were tabulated using Microsoft Excel software. Categorical variables were presented using absolute and relative frequencies, while continuous variables were described using means and respective standard deviations (SD).

Statement on the use of artificial intelligence

Generative artificial intelligence (ChatGPT, OpenAI) was used exclusively to support the reformulation and improvement of the manuscript's writing. No part of the data analysis, interpretation of results, or conceptual formulation of the study was carried out with the aid of AI tools. The authors are fully responsible for the content and guarantee the originality and intellectual integrity of the work.

Protection of study participants

The study was submitted for consideration by the Human Research Ethics Committee of HCFMRP-USP and approved under CAAE 77929324.0.0000.5440. All procedures adopted followed the ethical principles of the Declaration of Helsinki, ensuring the anonymity and confidentiality of participant data.

Results

Among the 1,068 medical records analyzed, 449 (42.0%) corresponded to female patients and 619 (58.0%) to male patients. The mean age was 53 years (± 18.4), with a predominance of individuals under 60 years of age (n=648; 60.7%). The three most prevalent diagnosis groups were biomechanical injuries (n=259; 24.3%), cardiovascular diseases (n=192; 18.0%), and pain complaints without a specific diagnosis (n=93; 8.7%) (Table 1).

Table 1. Sex, Age Group, and Main Admission Diagnoses (n = 1,068)

Variables	Absolute frequency	Relative frequency
Total patients	1,068	100.0%
Sex		
Female	449	42.0%
Male	619	58.0%
Age group		
≤ 59 years	648	60.7%
≥ 60 years	420	39.3%
Main admission diagnosis		
Biomechanical injuries	259	24.3%
Cardiovascular diseases	192	18.0%
Pain complaints without specific diagnosis	93	8.7%
Bleeding	67	6.3%
Complications due to neoplasms	65	6.1%
Gastrointestinal diseases	41	3.8%
Infections	36	3.4%
Skin diseases	21	2.0%
Burn	17	1.6%
Seizure crisis	17	1.6%
Urinary tract diseases	17	1.6%
Animal-related accidents	15	1.4%
Pulmonary diseases	14	1.3%
Hematological disorders	14	1.3%
Psychiatric episode	14	1.3%
Device-related care	14	1.3%
Others	172	16.1%

Regarding the patients' municipality of origin, it was observed that Ribeirão Preto concentrated approximately half of the hospital discharges (48.3%) and showed a similar proportion regarding access to medications prescribed at discharge (46.8%) (Table 2).

Of the 27 municipalities in DRS XIII analyzed, 24 (88.9%) have a population of less than 50,000 inhabitants, characterizing the sample as predominantly composed of small-sized municipalities.

Figure 1 presents, in detail, the analysis of access to prescribed medications within the SUS. In total, 4,229 prescribed medications were identified, of which 2,026 (47.91%) corresponded to medications present in the respective REMUME, without requiring specific conditions for dispensing via CBAF or CESAF.

Table 2. Municipalities of the DRS XIII identified in the sample (n = 1,068) and access to medications by municipality

Municipality	Number of inhabitants (IBGE 2022)	GDP per capita (IBGE 2021)	Patients n (%)	Prescribed medications n (%)	Accessible medications n (%)
Altinópolis	16,818	51,377.61	26 (2.4)	92 (2.2)	56 (60.9)
Barrinha	32,092	18,630.66	15 (1.4)	64 (1.5)	45 (70.3)
Batatais	58,402	38,097.08	37 (3.5)	148 (3.5)	75 (50.7)
Brodowski	25,201	34,947.50	36 (3.4)	64 (1.5)	49 (76.6)
Cajuru	23,830	28,623.20	12 (1.1)	61 (1.4)	27 (44.3)
Cássia dos Coqueiros	2,799	117,809.94	1 (0.1)	1 (0.02)	0 (0)
Cravinhos	33,281	48,891.09	46 (4.3)	169 (4.0)	122 (72.2)
Dumont	9,471	33,647.69	10 (0.9)	41 (1.0)	32 (78.0)
Guariba	37,498	27,783.09	25 (2.3)	93 (2.2)	75 (80.6)
Guatapará	7,320	31,618.94	12 (1.1)	56 (1.3)	24 (42.9)
Jaboticabal	71,821	46,151.86	25 (2.3)	133 (3.1)	75 (56.4)
Jardinópolis and Jurucê district	45,282	34,708.42	49 (4.6)	188 (4.4)	127 (67.6)
Luís Antônio	12,265	99,603.69	19 (1.8)	63 (1.5)	46 (73.0)
Monte Alto	20,078	47,713.32	13 (1.2)	58 (1.4)	40 (69.0)
Pitangueiras and Ibitiuva district	33,674	34,369.55	11 (1.0)	31 (0.7)	19 (61.3)
Pontal and Candia district	37,607	28,285.96	15 (1.4)	76 (1.8)	28 (36.8)
Pradópolis	17,078	49,306.42	11 (1.0)	58 (1.4)	9 (15.5)
Ribeirão Preto and Bonfim Paulista district	698,642	55,484.91	516 (48.3)	1,981 (46.8)	1,058 (53.4)
Santa Cruz da Esperança	2,116	29,296.72	2 (0.2)	9 (0.2)	6 (66.7)
Santa Rita do Passa Quatro	24,833	29,877.17	12 (1.1)	49 (1.2)	28 (58.3)
Santa Rosa de Viterbo	23,411	30,914.10	23 (2.2)	92 (2.2)	31 (33.7)
Santo Antônio da Alegria	6,775	30,114.17	13 (1.2)	63 (1.5)	51 (81.0)
São Simão	13,442	32,456.75	12 (1.1)	42 (1.0)	37 (88.1)
Serra Azul	12,746	12,785.98	22 (2.1)	81 (1.9)	62 (76.5)
Serrana	43,909	29,221.73	47 (4.4)	197 (4.7)	112 (56.9)
Sertãozinho and Cruz das Posses district	126,887	55,352.42	58 (5.4)	237 (5.6)	73 (30.8)
Total			1068 (100)	4229 (100)	2307 (54.5)

DRS XIII: Regional Health Department of Ribeirão Preto. * Presence in the REMUME and completion of the LME.

Another 1,561 (36.91%) were not included in REMUME or CEAF, therefore being considered not accessible through the SUS. In 23 cases (0.54%), although the medication was included in REMUME, there was prescription by brand name (n=21) or an error in the pharmaceutical form (n=2), making dispensing unfeasible.

Furthermore, 240 medications (5.67%) were present in the REMUME via CBAF or CESAF, but with restrictions, meaning their dispensing depended on meeting specific clinical criteria. Of these, 57 (23.75%) met the requirements and could be dispensed, while 183 (76.35%) did not meet the requirements, being classified as not accessible to the patient through the SUS.

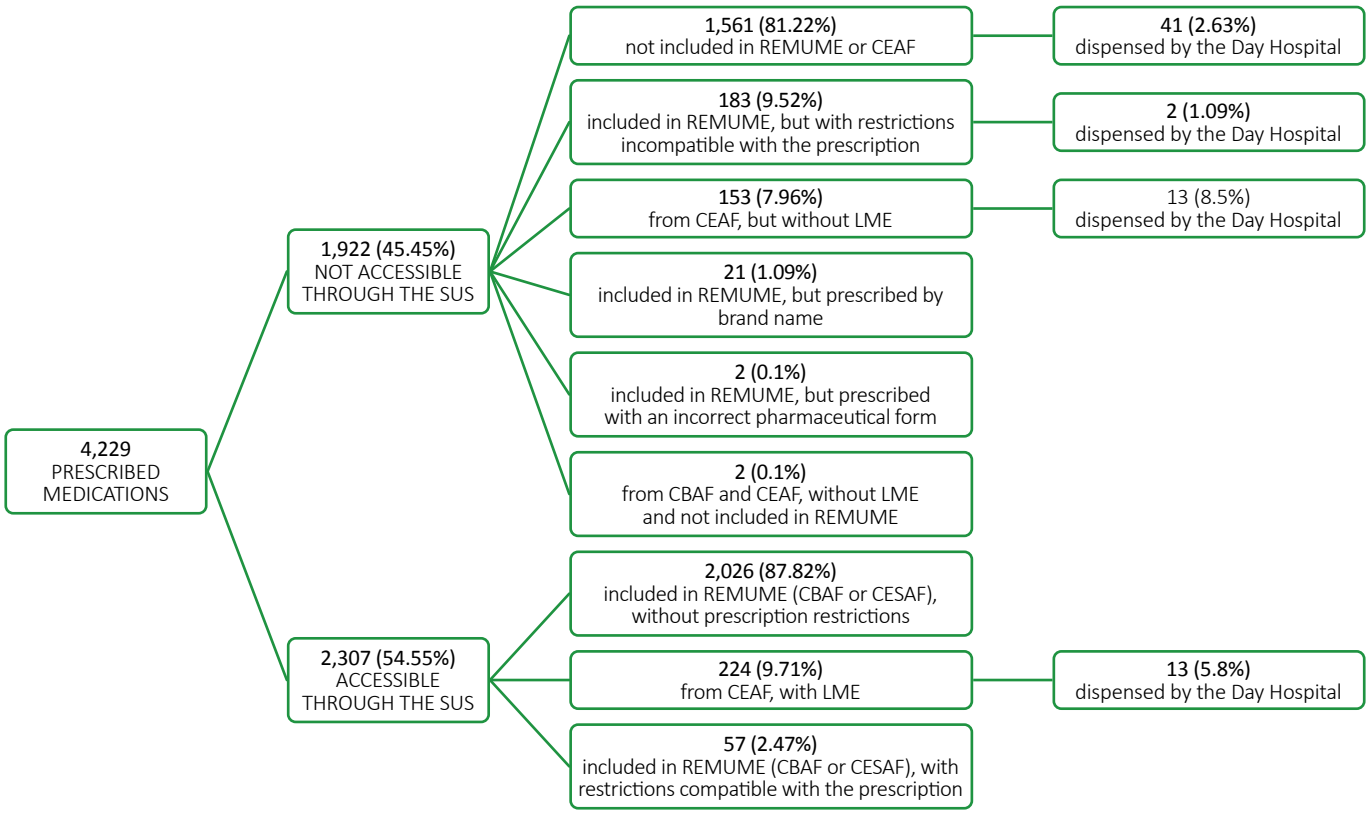
In the group of medications belonging to the CEAF (n=377), 224 (59.42%) had the LME completed, while 153 (40.58%) did not have the document, which rendered them not accessible. Among the medications simultaneously classified as CBAF and CEAF, the two cases observed referred to the prescription of acetazolamide for the treatment of idiopathic intracranial hypertension, an indication considered off-label. Therefore, they were classified as not accessible, considering both components (absent from REMUME and without LME).

Summing all non-accessible medications, whether due to absence from REMUME, incompatible restrictions, or lack of LME, a total of 1,922 was obtained, corresponding to an inaccessibility frequency of 45.45%. However, 56 (2.91%) of these were provided by the DH: 41 absent from REMUME or CEAF, 13 belonging to CEAF without LME, and two with restrictions incompatible with the dispensing criteria. The remaining 1,866 medications (44.12%) were not covered by the DH. Among the 224 CEAF medications with LME, 98 (43.75%) also had a DH prescription.

Regarding the treatment modality, of the 4,229 prescribed medications, 1,691 (39.99%) were for continuous use, 805 (19.04%) for occasional use, and 1,733 (40.98%) for use only when necessary.

Considering only the medications not accessible through the SUS, excluding those from CEAF without LME, the total analyzed was 1,767, of which 546 (30.9%) were for continuous use, 341 (19.3%) for occasional use, and 880 (49.8%) for use only when necessary. Among those not accessible because they were from CEAF and did not have an LME (n=153), 115 (75.16%) were for continuous use, 30 (19.61%) for occasional use, and 8 (5.23%) for use only if necessary.

Figure 1. Flowchart of the analysis of access to prescribed medications through the Brazilian Unified Health System (SUS).



CEAF: Specialized Component of Pharmaceutical Services. CBAF: Basic Component of Pharmaceutical Services. CESAF: Strategic Component of Pharmaceutical Services. LME: Medication Request, Evaluation, and Authorization Form. REMUME: Municipal List of Essential Medicines.

Pharmaceutical guidance was recorded in only 12 hospital discharges (1.1%). In these cases, 98 medications were prescribed, with 72 (73.5%) belonging to CBAF/CESAF and 26 (26.5%) to CEAF. Among the 72 CBAF/CESAF medications, 40 (55.6%) were available in the REMUME and 32 (44.4%) were not accessible. Of the 26 CEAF medications, 4 (15.4%) did not have an LME; in one of these cases, it was a medication for occasional use. Considering the polypharmacy criterion adopted in this study, it was identified that 246 hospital discharges (23.0%) presented a need for pharmaceutical guidance.

Discussion

The findings of this study regarding the sociodemographic and clinical profile of hospitalized patients are consistent with national data. A higher risk of hospitalization among men, associated with the presence of multimorbidities, mainly cardiovascular diseases, has been previously described[8]. Similarly, a significant increase in the proportion of hospitalizations due to chronic diseases was observed, rising from 36.76% to 57.61% between the 2013 and 2019 editions of the National Health Survey (PNS)[9]. Such evidence reinforces the representativeness of the analyzed sample in relation to the current profile of hospitalizations within the Unified Health System.

Access to medicines, recognized as an essential human right, was included in the goals of the United Nations (UN) Millennium Development Goals and remains a priority in the UN 2030 Agenda, under Goal 3: ensure healthy lives and promote well-being for all at all ages. In Brazil, the National Medicines Policy (PNM), approved by Ordinance No. 3,916 of 1998 and established to guarantee access and rational use of medicines, has as one of its guidelines the adoption of RENAME to achieve this objective. Complementarily, the National Pharmaceutical Services Policy (PNAF), approved by Resolution No. 338 of 2004, reinforces this alignment by defining, among its strategic axes, the use of RENAME, periodically updated, as a rationalizing instrument for actions within the scope of pharmaceutical services.

However, recent data show that access to medicines in Brazil still faces limitations. Between 2003 and 2015, free access to medicines through the SUS remained, on average, around 50%[10-11]. Despite advances since the implementation of the National Medicines Policy, this rate is still considered low to medium according to WHO criteria, revealing limitations in the effectiveness of public policies and persistent challenges in the supply of medicines within a universal health system such as Brazil's[11]. The study based on the 2019 National Health Survey estimated that only 30.4% of the population aged 15 years or older obtained access through the SUS to medicines prescribed within the system itself[12]. Public access was more prevalent among low socioeconomic status Black women.

These findings corroborate the role of the SUS as the main source of medicines for vulnerable populations, but also highlight that the public provision of medicines still represents a major challenge in the face of social inequalities.

The results demonstrate restricted access to prescribed medications, with 45.45% of items not accessible to patients through the SUS. It is noted that lack of accessibility was higher among medications prescribed for "if necessary" or occasional use. This pattern may be related to factors not explored in this study, including clinical and organizational aspects of the prescription process at hospital discharge, such as the expectation that the patient may purchase these medications with their own resources, given the limited duration of therapy. Although this conduct minimizes the immediate impact of medication absence on quality of life, it reveals a selective logic in the prescription process, which tends to prioritize free access for continuous-use therapies. This scenario contrasts with that observed in the CEAF, where lack of accessibility was more associated with continuous-use medications without the proper LME, revealing different patterns of vulnerability in access depending on the pharmaceutical services component involved.

The absence of the LME for CEAF medications may result from multiple factors, such as lack of knowledge of the completion criteria by prescribers, limited time during hospital discharge to gather necessary tests and reports, failures in integration between hospital systems and the primary or specialized care network, existence of a recent and valid LME prior to hospitalization, as well as clinical indications not covered by the PCDT. Thus, the absence of the LME does not necessarily reflect inappropriate prescribing, but rather structural and procedural weaknesses that, when not overcome, result in additional barriers to patient access to more complex therapies. It should be noted that this study did not evaluate the referral flow of patients after hospital discharge, making it impossible to identify whether there was direct referral to specialized services or to primary care to facilitate the LME. The analysis focused on the presence or absence of the document at the time of discharge.

Another aspect to be considered refers to prescriptions made by brand name, although in small numbers (n=21). This practice makes dispensing via REMUME unfeasible and may reflect both the continuity of treatments initiated in other services and failures in adherence to SUS standardization policies.

The high proportion of non-accessible CBAF and CESAF medications highlights the challenges faced by municipal networks in guaranteeing pharmaceutical supply, compromising treatment continuity after hospital discharge. In this context, temporary supply through the DH functions as a contingency resource, aimed at specific situations, such as discharges on weekends or the need to avoid readmissions. Although it represents an important strategy for meeting immediate demands, the DH should not be understood as a regular supply mechanism, since its operation is sporadic and limited by stock availability and the institution's internal workflows.

The comparison between the Pharmaceutical Services components reveals distinct access challenges: while the CBAF is more directly subject to municipal budget limitations and the organization of local lists, the CESAF, although primarily funded by the federal sphere, may face barriers related to the scheduling and organization of dispensing at the municipal level. In the CEAF, lack of accessibility stems mainly from the absence of the LME, highlighting the need for solutions that articulate municipal and state spheres. It is worth noting that access to medicines is not limited to gratuity but involves multiple factors, such as physical availability, patient acceptability, ability to pay, geographic accessibility, and access to information[13-14]. Structural aspects such as insufficient funding, lack of infrastructure, shortage of pharmacists, organization and training of pharmaceutical services, and inadequate storage conditions directly impact supply, especially in smaller municipalities[15]. This study focused on verifying whether medications prescribed at hospital discharge were available for dispensing within the SUS, making it impossible to evaluate other dimensions of access. However, the analysis according to population size revealed great heterogeneity among small municipalities: some presented very low accessibility rates (such as Pradópolis, with 15.5%), while others achieved high proportions, even higher than those observed in Ribeirão Preto. Similarly, consideration of per capita GDP does not show linearity with medication accessibility, since municipalities with greater economic capacity, such as Ribeirão Preto, presented lower results than smaller localities with lower GDP, such as São Simão (88.1%) and Santo Antônio da Alegria (81.0%). These findings demonstrate that factors such as population size and economic capacity, in isolation, do not explain access, with local management and the organization of pharmaceutical services being more relevant determinants for guaranteeing medication accessibility. In this context, the strategic role of the pharmacist in municipal pharmacy and therapeutics committees is highlighted, as a central agent for promoting appropriate medication selection and expanding equity in access.

The results also indicate the need to strengthen REMUMEs, continuously train health teams, and achieve greater alignment between the prescription process and the access criteria established for each Pharmaceutical Services component, with the aim of expanding access to medications prescribed at hospital discharge. It is noteworthy that, although most prescriptions were directed to patients from Ribeirão Preto (46.8%), only 53.5% of the medications were included in the municipal REMUME. This mismatch is particularly relevant, considering that the municipality hosts the hospital where prescriptions originate and concentrates a large part of the clinical staff, which, a priori, could indicate greater articulation between services and greater alignment with the local pharmaceutical care network.

Prescribers' lack of knowledge of the REMUME is one of the factors contributing to reduced access to medications in municipal networks. In another study, active dissemination of the REMUME and CEAF medications to health teams, combined with the recommendation of therapeutic alternatives by pharmacists, reduced the rate of prescription of non-accessible medications from 19.7% to 4.2%[16]. Thus, strategies such as pharmacist-led hospital discharge programs have shown effectiveness in reducing readmissions through more appropriate and personalized guidance[17]. The low participation of pharmacists in discharges (1.1% compared to 23% of patients on polypharmacy), found in this study, indicates a clear mismatch between need and practice and reinforces the urgency of expanding the clinical role of these professionals during care transition moments.

In discharge prescriptions guided by pharmacists, 55.6% of CBAF and CESAF medications were available in the REMUME and 15.4% of CEAF medications were prescribed without the proper LME, a situation that contrasts with the expectation of greater access, considering the presence of the pharmacist. Factors such as the medical team's acceptance of substituting medications with available alternatives and the training of pharmacists to identify and promote appropriate prescriptions may have influenced

these results, in addition to the reduced sample size limiting the possibility of more in-depth analyses. Thus, pharmaceutical guidance should be provided by qualified professionals, inserted into integrated teams that strengthen trust and increase the acceptance of interventions.

In this context, it is highlighted that the hospital pharmacist must understand the functioning of the Health Care Network (RAS) as a whole, including the organization of Pharmaceutical Services in Primary Health Care and specialized services. Adequate guidance at hospital discharge depends on knowledge of access flows, administrative criteria, and medication availability at different points in the network. This scenario reinforces the need for permanent education and continuous training of these professionals, in order to qualify them to act in an integrated manner in care transition processes.

Among the study limitations, the absence of individualized assessment stands out, since only electronic prescriptions were considered, which made it impossible to identify planning and decisions based on negotiations between the team, patients, and family members regarding access through the private network. Furthermore, due to difficulties in accessing the institutional system, the LME could not be fully analyzed, preventing the verification of possible completion errors or ICDs not covered. Generally, municipalities that have services serving patients with health conditions that are part of the CESAF mention such medications in the REMUME; however, smaller municipalities may not include such medications in the list, as dispensing occurs in another reference municipality. Additionally, this study did not evaluate medications that could be accessed through the Farmácia Popular do Brasil Program. Thus, municipal particularities that may influence dispensing, beyond what is electronically recorded, were not considered.

Finally, it is worth noting that, in addition to the formal inclusion of medications in municipal lists, physical availability in health units constitutes a fundamental dimension of access. National evidence indicates that the availability of essential medications in Primary Health Care still presents significant limitations in different contexts of the country, constituting an additional barrier to the implementation of pharmaceutical care public policies[18-19]. Although the present study focused on normative eligibility for access, it is recognized that the actual availability of medications in dispensing units may represent an additional challenge not captured in this analysis.

This study used a substantial sample of prescriptions and current data, enabling a robust analysis of access to medications at hospital discharge. The integrated approach between the pharmacist's role, the REMUME, and local conditions also stands out, providing relevant subsidies to improve pharmaceutical services and public policies.

Conclusion

It is concluded that approximately half of the medications prescribed at discharges from HCFMRP-UE in 2023 were not accessible through the SUS. The need for training pharmacists to provide discharge guidance is evident, as well as the implementation of integrated strategies among teams to expand knowledge about medications available in the REMUMEs, flows for obtaining them in the public system, and pharmaceutical guidance. The central role of the pharmacist in promoting access through the organization of municipal pharmaceutical services, participation in municipal pharmacy and therapeutics committees, and strengthening REMUMEs is reinforced, as these are determining factors for expanding equity, regardless of the economic capacity or population size of the municipalities of origin. The importance of continuous qualification of prescribers is also highlighted, considering their central role in aligning prescriptions with access possibilities in the Health Care Network. Strengthening the articulation between the hospital and other points in the network is fundamental to expand equity and effectiveness of pharmaceutical services in the SUS.

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Collaborators

LMF and MOBZ were responsible for all stages of the study, including project conception, data analysis and interpretation, article writing, and critical review of intellectual content. FRV participated in project conception, article writing, and critical review relevant to intellectual content. TZO, JPVR, JCD, AALM, and LRLP contributed to article writing and critical review relevant to intellectual content. All authors approved the final version of the article to be published and take responsibility for all information contained therein, ensuring the accuracy and integrity of any part of the content.

Conflicts of interest

The authors declare no conflicts of interest regarding this article.

Use of artificial intelligence

Generative artificial intelligence (ChatGPT, OpenAI) was used exclusively to support the reformulation and improvement of the manuscript's writing. No part of the data analysis, interpretation of results, or conceptual formulation of the study was carried out with the aid of AI tools. The authors are fully responsible for the content and guarantee the originality and intellectual integrity of the work.

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