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Pharmaceutical Care in the Unified Health System – Profile and Federal Financing

Cuidado farmacêutico no Sistema Único de Saúde – perfil e financiamento federal

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ABSTRACT

Introduction: In June 2024, the National Guidelines for Pharmaceutical Care in the Unified Health System (Sistema Único de Saúde, SUS) were published. Their implementation requires the engagement of professionals and the availability of resources to develop and consolidate this practice in healthcare settings. **Objective:** To characterize the profile and federal financing for outpatient pharmaceutical care in SUS. **Methods:** Data from 2022 and 2023 from SUS systems were used to evaluate clinical assistance services (CAS) and technical pedagogical services (TPS) provided by pharmacists. The analysis excluded the dispensing of medicines from the Specialized Component of Pharmaceutical Assistance and used the "Reference Instrument for Pharmaceutical Services in Primary Care" to categorize the services. The results were adjusted by the National Broad Consumer Price Index for 2023 and presented in absolute and relative frequency, and rate per 100,000 inhabitants, based on the 2022 census. **Results:** In 2022 and 2023, 13,052,476 and 13,592,014 CAS and TPS procedures were performed, with rates of 6,427 and 6,693, respectively. Federal financing increased by 3.9% during this period (from R$ 49.5 million to R$ 51.5 million). CAS accounted for 96% of the allocated funds, while TPS represented 4%, distributed regionally as follows: southeast (33%), northeast (24%), north (21%), south (14%), and central-west (8%). **Conclusion:** Despite the increase in the number of procedures and federal funding, regional inequalities persist, and the funding remains modest compared to investment in the acquisition of medicines. Expanding access and the proper use of medicines are essential for the quality of health care.

Keywords: Pharmaceutical services, Healthcare Financing, Unified Health System.

RESUMO

Introdução: Em junho de 2024, foram publicadas as Diretrizes Nacionais para o Cuidado Farmacêutico no Sistema Único de Saúde (SUS). Sua implantação demanda o engajamento de profissionais e a disponibilidade de recursos para desenvolver e consolidar essa prática nos pontos de atenção à saúde. **Objetivo:** Caracterizar o perfil e o financiamento federal para o cuidado farmacêutico ambulatorial no SUS. **Métodos:** O estudo utilizou dados de 2022 e 2023 de sistemas do SUS para avaliar serviços clínicos assistenciais (SCA) e técnico pedagógicos (STP) prestados por farmacêuticos. A análise excluiu a dispensação de medicamentos do Componente Especializado da Assistência Farmacêutica e utilizou o "Instrumento de Referência dos Serviços Farmacêuticos na Atenção Básica" para categorizar os serviços. Os resultados foram ajustados pelo Índice de Preços ao Consumidor Amplo para 2023 e apresentados em frequência absoluta, relativa e taxa por 100.000 habitantes, com base no censo de 2022. **Resultados:** Em 2022 e 2023 foram realizados 13.052.476 e 13.592.014 SCA e STP, com taxas de 6.427 e 6.693, respectivamente. O financiamento federal aumentou 3,9% no período (de R$ 49,5 para R$ 51,5 milhões). Os SCA corresponderam a 96% dos valores alocados, enquanto os STP representaram 4%, distribuídos regionalmente da seguinte maneira: sudeste (33%), nordeste (24%), norte (21%), sul (14%) e centro-oeste (8%). **Conclusão:** Apesar do aumento no número de procedimentos e no financiamento federal, persistem desigualdades regionais e o financiamento é pouco representativo quando comparado ao investimento para aquisição de medicamentos. A ampliação do acesso e o uso adequado de medicamentos são fundamentais para a qualidade do cuidado em saúde.

Palavras-chave: Atenção farmacêutica; Financiamento da Assistência à Saúde; Sistema Único de Saúde.

Introduction

According to the World Health Organization, a health system comprises a set of organizations, people, and actions whose primary objective is to promote, recover or maintain the health of a population. Developing a health system that places people at the center of their own care and utilizes all available resources effectively is a challenge for most governments, making it essential for different healthcare professionals to collaborate to meet the health needs of users.[1, 2]

In Brazil, the National Medicines Policy (PNM) was the first formal and comprehensive document from the Brazilian government regarding medicines in the context of health reform, establishing guidelines for the implementation of pharmaceutical assistance in SUS and the responsibilities of the three levels of government to ensure the safety, efficacy and quality of medicines, promoting access to essential medicines for the population and their rational use.[3]

The National Pharmaceutical Assistance Policy (PNAF) added to pharmaceutical policies the necessary integration of pharmaceutical assistance into health care, in which the medicine is an essential input for pharmaceutical practices and the patient is the central focus of the pharmacist's actions. By using the term "pharmaceutical care" to designate the direct interaction of the pharmacist with the user aimed at better health outcomes and quality of life, the PNAF reinforced the shared responsibility of the pharmacist in disease prevention, health promotion and recovery, integrated with the healthcare team.[4]

Since the creation of SUS, we have witnessed significant advances in access to essential medicines for the population, which are the main therapeutic tool.[5] In financial terms, medicines have a high representation in federal, state, and municipal funding.[6] However, challenges related to management, monitoring and adherence to medication therapy persist, impacting the effectiveness of the health system.[5,7,8] On the other hand, demographic changes (especially population aging) and epidemiological changes (the triple burden of diseases, manifested in the coexistence of infectious diseases, parasitic diseases, reproductive health issues, external causes – such as homicides and traffic accidents – and chronic degenerative diseases, whose increasing prevalence is linked to the rapid process of population aging) reiterate the need for a pharmacist profile focused on direct patient care and the rational use of medicines.[9]

In this current scenario, in June 2024 we celebrated the publication of Ordinance GM/MS Nº 4,379 by the Ministry of Health, which established the National Guidelines for Pharmaceutical Care within the Unified Health System (SUS).[10]

The provision of pharmaceutical care in healthcare settings can help to reduce healthcare costs, improve prested care coverage and optimize medication therapy, reflecting greater patient safety and higher chances of achieving therapeutic goals. Through a set of clinical assistance services (CAS) directed at users, which encompass comprehensive and integrated health actions and aimed at preventing, identifying, and resolving problems related to pharmacotherapy, as well as technical-pedagogical activities (TPS) aimed at users and health professionals, the pharmacist's role integrated into the multiprofessional team adds quality to assistance and supports public health.[7,8,11,12]

However, the implementation of the recently published national guidelines requires the engagement of managers, pharmacists and other professionals co-responsible for health care. In management, it is essential to ensure the availability of resources – human, financial, infrastructure and technology – so that this professional practice can be developed and consolidated in healthcare settings.

This article aims to characterize the profile of pharmaceutical services – CAS and TPS – performed in an outpatient setting in SUS and analyze federal financing for outpatient pharmaceutical care in SUS. Understanding the current situation of this professional practice in SUS (as is stage), possible bottlenecks, and areas conducive to improvements can serve as a basis for planning interventions directed towards the desired ideal scenario (to be stage), where pharmaceutical care is a reality in all healthcare settings and accessible to all users of the health system.

Methods

This is a descriptive cross-sectional study, analyzing the production of outpatient procedures performed by pharmacists in the context of pharmaceutical care in SUS.

Data and values of the procedures recorded in the Outpatient Information System of SUS (SIA-SUS)[13] for the years 2022 and 2023 were collected,using the codes related to the pharmaceutical profession in the Brazilian Classification of Occupations (CBO): 223405 – Pharmacist, 223410 – Biochemical pharmacist, 223415 – Clinical Pharmacist Analyst, 223420 – Food pharmacist, 223425 – Integrative and complementary practice pharmacist, 223430 – Public health pharmacist, 223435 -Industrial pharmacist, 223440 – Pharmaceutical toxicologist, 223445 – Hospital and clinical pharmacist, 234420 – Professor of pharmacy and biochemistry.

The information on the quantity and approved value by procedure, year of care and region of Brazil were tabulated. The generated tabulations in TABNET[14] were exported in ".cvs" format and subsequently imported into Microsoft Excel® for variable management.

Initially, the group and subgroup of the procedures were identified based on the consultation of the first four digits of the procedure code in the Management System of Procedures Table, Medicines and SUS Procedures, Medicines and OPM Table Management System (SIGTAP).[15] The procedures were then classified according to the type of service provided, using the "Reference Instrument for Pharmaceutical Services in Primary Care" as a reference. The following categories were considered:

1 – Clinical-assistance services: included services performed during the pharmaceutical consultation (such as medication therapy review, medication reconciliation and pharmaceutical follow-up), therapeutic drug monitoring, health screening and other direct interactions with users, of a non-educational nature that support health care.

2 – Technical-pedagogical services: included actions of information and health education on an individual or collective basis, directed at users and/or health professionals.

3 – Dispensing of medicines from the Specialized Component of Pharmaceutical Assistance: procedures related to the dispensing of medicines from Annex III of the National List of Essential Medicines, registered in Group 06 – Medicines, Subgroup 04 – Specialized Component of Pharmaceutical Assistance (CEAF)[15] of SIGTAP.[16] According to the rules for financing and execution of the CEAF in force in SUS, maintaining the billing of the procedures is mandatory for states to receive quarterly replenishment of medicines with centralized acquisition by the Ministry of Health, (Group 1A of CEAF), receive federal reimbursement to the State Health Fund for amounts spent on the acquisition of certain medicines (Group 1B of CEAF), and for proving the administrative stages of evaluation and authorization of the dispensing of medicines, in accordance with the Clinical Protocols and Therapeutic Guidelines of the Ministry of Health, in case of audit by control agencies.[17,18]

– Other services provided by pharmacists: refers to procedures that did not fit into the previous categories and were not related to pharmaceutical care in SUS.

For data analysis purposes, only the first two categories were considered, as they encompass procedures related to pharmaceutical care in SUS.

The results of the production of outpatient procedures performed by pharmacists were presented in absolute frequency, relative frequency and rate of procedures per 100,000 inhabitants. For the rate calculation, the data from the 2022 population census were used.[19] For comparisons, the federal reimbursement values were deflated to 2023 by the National Wide Consumer Price Index (IPCA).[20]

As this is a study involving the treatment of anonymized, secondary, open-access data available on the website of the Department of Informatics of SUS (DataSUS), this research was exempt from review by the Research Ethics Committee (CEP), in accordance with Resolutions No. 466, dated December 12, 2012, and No. 510, dated April 7, 2016.[21, 22]

Results

Table 1 presents the distribution of outpatient services provided by pharmacists in SUS in the years 2022 and 2023. On average, 13,322,245 services related to pharmaceutical care (CAS and TPS) were performed annually in the country, with a 4% increase in the total number of registered procedures between 2022 and 2023.

There was an increase in the rate of procedures per 100,000 inhabitants from 6,427 in 2022 to 6,693 in 2023. The highest rates were obtained in the north and central-west regions, and the lowest in the southeast– **Table 2**.

The **Table 03** compares the types of CAS and TPS performed in SUS in the years 2022 and 2023. The main registered procedures include:

– Pharmaceutical consultations offered in person, at home, or via telemedicine;

– Health screenings for various conditions, such as pregnancy, syphilis, hepatitis B and C, Zika, dengue, Chikungunya, COVID-19, leprosy, malaria, tuberculosis, and blood donor screening; and

– Group educational activities in Primary, Specialized, and Mental Health Care.

Among the CAS, capillary glycemia measurements, therapeutic drug monitoring of valproic acid for mental health issues, and monitoring of ciclosporin, sirolimus, everolimus, and tacrolimus in transplant patients were also performed, along with blood pressure measurements, anthropometric assessments, dispensing of iron supplements in Primary Health Care, and Individual Complementary and Integrative Practices – acupuncture, electrostimulation, auriculotherapy, massage therapy, homeopathic treatment, herbal therapy, anthroposophical treatment, Ayurvedic treatment, thermal treatment, naturopathic treatment, osteopathic treatment, chiropractic care, and others in traditional Chinese medicine, as well as sessions of apitherapy, aromatherapy, chromotherapy, geotherapy, hypnotherapy, hands-on therapy and flower therapy.

Individual educational activities related to the National Tobacco Control Program, matrix support fPrimary Care, Emergency and Urgent Care, Hospital Care, and Worker Health Surveillance teams and group Complementary and Integrative Practices comprised the other TPS recorded by the pharmacist during this period.

The values allocated by the Federal Government for outpatient procedures related to Pharmaceutical Care in SUS are detailed in **Table 04**. There was a 3.9% increase in the reimbursement of CAS and TPS by the Ministry of Health to States and Municipalities, rising from R$ 49.5 million in 2022 to R$ 51.5 million in 2023. The CAS and TPS in groups were responsible for 96% and 4% of the approved values in both years, respectively, allocated to the five regions of the country. Regarding the distribution of values among CAS, only pharmaceutical consultations in psychosocial attention, specialized care, and for individuals in situations of sexual violence were reimbursed, along with services that involved some type of technology for their provision, such as supplies for measuring serum levels of medications and rapid tests for health screening. Minimal amounts were allocated for individual complementary and integrative practices and for matrix support in health services. For other cases, despite encouraging the registration of outpatient production by pharmacists in SIA-SUS, SIGTAP does not foresee values for federal reimbursement of the services offered.

Discussion

This study is pioneering in characterizing the profile and federal financing for pharmaceutical care in the Unified Health System and contributes to understanding the current situation of this professional practice.

In Brazil, the bibliographic production in the area focuses on literature reviews,[23] development and validation of instruments for implementing services[24] and studies that portray local experiences in implementing pharmaceutical care[25] in healthcare settings, highlighting its benefits for care quality, as well as challenges and opportunities for integrating the pharmacist professional into multiprofessional health teams and for producing care. Among the existing publications, the National Survey on Access, Use, and Rational Use of Medicines (PNAUM) – Services 2015 stands out by portraying a national panorama of clinical activities developed by pharmacists in primary health care units and their participation in educational activities for health promotion, based on information collected from a representative sample of municipalities.[26] The present article differentiates itself for analyzing the production of outpatient procedures recorded by pharmacists in national health information systems, encompassing different levels of health care, the five regions of the country, and the current structure of financing at the national level in SUS.

Chart 01. Distribution of outpatient pharmaceutical services provided by pharmacists in SUS.

Services provided by pharmacists in SUS	2022 – Absolute frequency						2023 – Absolute frequency						Annual average	Annual variation
	Total	Central West	North	Northeast	Southeast	South	Total	Central West	North	Northeast	Southeast	South		
Total	**1,658,904,599**	**116,481,161**	**61,644,921**	**309,768,671**	**841,147,220**	**329,862,626**	**1,817,741,386**	**128,678,680**	**63,667,826**	**325,794,815**	**917,894,316**	**381,705,749**	**1,738,322,993**	**10%**
Services related to pharmaceutical care	**13,052,476**	**1,776,440**	**2,558,609**	**3,072,697**	**4,059,231**	**1,585,499**	**13,592,014**	**1,540,430**	**2,360,465**	**3,249,391**	**4,730,934**	**1,710,794**	**13,322,245**	**4%**
Clinical-assistance services	12,358,675	1,217,694	2,538,736	3,039,699	3,987,849	1,574,697	12,861,873	1,016,483	2,333,377	3,205,245	4,605,280	1,701,488	12,610,274	4%
Technical-pedagogical services	693,801	558,746	19,873	32,998	71,382	10,802	730,141	523,947	27,088	44,146	125,654	9,306	711,971	5%
Services not related to pharmaceutical care	**1,645,852,123**	**114,704,721**	**59,086,312**	**306,695,974**	**837,087,989**	**328,277,127**	**1,804,149,372**	**127,138,250**	**61,307,361**	**322,545,424**	**913,163,382**	**379,994,955**	**1,725,000,748**	**10%**
Dispensing of medicines from the Specialized Component of Pharmaceutical Assistance	1,241,107,721	82,648,734	20,842,988	197,899,305	702,767,306	236,949,388	1,372,010,893	93,425,094	22,121,885	209,916,936	766,780,538	279,766,440	1,306,559,307	11%
Other services provided by pharmacists	404,744,402	32,055,987	38,243,324	108,796,669	134,320683	91,327,739	432,138,479	33,713,156	39,185,476	112,628,488	146,382,844	100,228,515	418,441,441	7%

Source: Prepared by the author, based on data from the Outpatient Information System of SUS (SIA-SUS)[13]13

Table 02. Pharmaceutical care in SUS – Rate of procedures per 100,000 inhabitants, by region of Brazil.

Region	2022 Population	Clinical assistance and technical pedagogical services provided by pharmacists in SUS				
		2022		2023		Annual variation
		Absolute frequency	Rate per 100,000 inhabitants	Absolute frequency	Rate per 100,000 inhabitants	
Brazil	**203,080,756**	**13,052,476**	**6,427**	**13,592,014**	**6,693**	**4%**
North	17,354,884	2,558,609	14,743	2,360,465	13,601	-8%
Central West	16,289,538	1,776,440	10,905	1,540,430	9,457	-13%
Northeast	54,658,515	v3,072,697	5,622	3,249,391	5,945	6%
South	29,937,706	1,585,499	5,296	1,710,794	5,715	8%
Southeast	84,840,113	4,059,231	4,785	4,730,934	5,576	17%

Source: Prepared by the author, based on data from the Outpatient Information System of SUS (SIA-SUS) and the Population Census of the Brazilian Institute of Geography and Statistics – 2022.[19]

The analysis revealed that, on average, 0.6% of pharmaceutical services recorded in SIA-SUS between 2022 and 2023 were related to pharmaceutical care, indicating low institutionalization of this practice in the daily routine of SUS, even though regulatory advances in the country have occurred over the last decade. In 2013, through the Brazilian Classification of Occupations (CBO), the Ministry of Labor and Employment recognized the clinical role of pharmacists. In the same year, the Federal Pharmacy Council (CFF) regulated the clinical responsibilities of pharmacists. The recognition of the pharmacy as a health establishment by Law No. 13,021 occurred in 2014. Since 2018, the Ministry of Health has linked the pharmacist code of the CBO to various clinical and technical-pedagogical procedures in the SUS table, potentially allowing for reimbursement from fund to fund based on registered production.[27-30]

The difficulties faced by professionals in implementing this practice in health services may be one of the justifications for the observed scenario, as evidenced in studies with other methodological approaches (qualitative or mixed).

In the PNAUM – Services 2015, 285 pharmacists from the five regions of Brazil were interviewed. Of these, 79 (21.3%) reported performing clinical activities. It was identified that the provision of clinical services faced mainly structural challenges, particularly the lack of adequate physical spaces that ensured the privacy and confidentiality necessary privacy and confidentiality for care provision, in addition to limitations related to work organization, as professionals reported excessive workload.[26]

A narrative literature review proposed an approach to pharmaceutical assistance in primary health care by constructing a conceptual logical model that incorporates clinical management of medications and technical management activities of pharmaceutical assistance that support medication prescriptions (selection, scheduling, acquisition, and distribution of medications).[18, 31] In a study with fifty pharmacists from the municipality of Belo Horizonte (Minas Gerais), aimed at mapping the activities developed and the conditioning factors for implementing pharmaceutical care, the authors identified that the work overload due to technical demands consumed a large part of professionals' work hours, limiting the time available for clinical activities. Gaps in professional training specific to health care and devaluation of the pharmacist's role in multiprofessional teams were also among the barriers to offering pharmaceutical care in that municipality. These results demonstrate the need for restructuring work processes and investing in professional training to enable the integration of pharmaceutical assistance into health care, as suggested in the logical model. These studies point to the complexity of the pharmacist's role in SUS, which requires a balance between technical and clinical competencies, as well as their integration with other health team professionals.[18, 31]

Table 03. Pharmaceutical care in SUS – Absolute and relative frequency according to the type of service provided and region of Brazil.

Related to pharmaceutical care services	2022								2023							
	Type of procedures	Total		Central-West	North	Northeast	Southeast	South	Type of procedures	Total		Central-West	North	Northeast	Southeast	South
		n	%	n	n	n	n	n		n	%	n	n	n	n	n
Total	**120**	**13,052,476**	**100%**	**1,776,440**	**2,558,609**	**3,072,697**	**4,059,231**	**1,585,499**	**116**	**13,592,014**	**100%**	**1,540,430**	**2,360,465**	**3,249,391**	**4,730,934**	**1,710,794**
Clinical-assistance services	**100**	**12,358,675**	**95%**	**1,217,694**	**2,538,736**	**3,039,699**	**3,987,849**	**1,574,697**	**96**	**12,861,873**	**95%**	**1,016,483**	**2,333,377**	**3,205,245**	**4,605,280**	**1,701,488**
Pharmaceutical consultation	43	7,263,200	56%	540,913	1,638,382	1,549,686	2,786,788	747,431	40	8,085,214	59%	503,668	1,627,903	1,782,158	3,336,269	835,216
Individual care	29	6,893,313	53%	532,739	1,628,751	1,481,700	2,612,206	637,917	26	7,720,587	57%	489,879	1,617,616	1,720,171	3,169,876	723,045
Home care	9	38,295	0%	478	456	14,445	21,660	1,256	9	45,164	0%	1,750	722	1,819	39,134	1,739
Group care	2	16,661	0%	1,617	651	3,790	8,367	2,236	2	37,447	0%	5,604	967	6,776	19,314	4,786
Family care	1	69,206	1%	770	8,034	49,415	10,776	211	1	74,192	1%	1,347	8,479	51,729	12,020	617
Teleconsultation	1	6,472	0%	100	0	259	5,980	133	1	6,209	0%	104	2	54	5,767	282
Initial triage in health services	1	239,253	2%	5,209	490	77	127,799	105,678	1	201,615	1%	4,984	117	1,609	90,158	104,747
Health screening	23	4,421,691	34%	659,751	890,442	1,383,981	736,058	751,459	23	4,099,597	30%	484,493	691,757	1,303,129	839,940	780,278
Capillary glycemia	1	456,526	3%	7,013	4,586	58,902	378,007	8,018	1	361,163	3%	12,802	8,390	55,178	267,545	17,248
Therapeutic drug monitoring	5	104,556	1%	1,137	191	14,175	29,708	59,345	5	106,442	1%	1,307	168	15,642	28,883	60,442
Blood pressure measurement	1	30,607	0%	7,186	263	12,602	9,329	1,227	1	83,078	1%	7,532	1.007	24,497	47,356	2,686
Anthropometric assessment	1	6,846	0%	293	1	403	1,291	4,858	1	7,843	0%	574	33	1,327	4,390	1,519
Dispensing of medicines	1	127	0%	40	0	0	70	17	0	0	0%	0	0	0	0	0
Individual complementary and integrative practices	21	39,643	0%	321	1,343	942	35,391	1,646	21	77,574	1%	3,307	1,072	5,157	65,648	2,390
Others	4	35,479	0%	1,040	3,528	19,008	11,207	696	4	40,962	0%	2,800	3,047	18,157	15,249	1,709
Technical-pedagogical services	**20**	**693,801**	**5%**	**558,746**	**19,873**	**32,998**	**71,382**	**10,802**	**20**	**730,141**	**5%**	**523,947**	**27,088**	**44,146**	**125,654**	**9,306**
Group educational activity	4	685,973	5%	558,467	18,617	31,588	66,758	10,543	4	714,094	5%	522,036	26,629	42,632	113,655	9,142
Individual educational activity	1	2,496	0%	0	4	276	2,170	46	1	4,165	0%	132	0	492	3,476	65
Matrix support	4	2,898	0%	117	162	1,132	1,389	98	4	3,703	0%	171	449	995	2,011	77
Integrative and complementary group practices	11	2,434	0%	162	1,090	2	1,065	115	11	8,179	0%	1,608	10	27	6,512	22

Source: Prepared by the author, based on data from the Outpatient Information System of SUS (SIA-SUS).[13]

Table 04. Pharmaceutical care in SUS – Values allocated by the Ministry of Health for reimbursement of procedures to States and Municipalities, according to type of service provided and region of Brazil.

Services related to pharmaceutical care	2022							2023						
	Total		Central-West	North	Northeast	Southeast	South	Total		Central-West	North	Northeast	Southeast	South
	R$	%	R$	R$	R$	R$	R$	R$	%	R$	R$	R$	R$	R$
Total	**9,524,839.63**	**100%**	**5,413,181.03**	**10,365,611.07**	**11,515,389.14**	**15,353,480.51**	**6,877,177.88**	**51,465,657.93**	**100%**	**4,676,939.40**	**9,966,313.98**	**12,756,697.93**	**17,380,721.43**	**6,684,985.20**
Clinical-assistance services	**47,554,723.54**	**96%**	**3,745,464.89**	**10,301,051.14**	**11,405,995.66**	**15,241,111.05**	**6,861,100.79**	**49,565,387.51**	**96%**	**3,181,550.11**	**9,873,893.03**	**12,678,780.08**	**17,170,402.37**	**6,660,761.92**
Pharmaceutical consultation	41,311,582.18	83%	3,477,920.95	10,077,223.68	10,413,856.15	13,736,676.95	3,605,904.46	43,644,228.98	85%	2,982,877.71	9,674,260.05	11,597,662.82	15,760,244.27	3,629,184.13
Individual care	41,251,929.58	83%	3,477,122.93	10,076,486.95	10,403,764.24	13,690,547.77	3,604,007.70	43,585,653.79	85%	2,982,010.16	9,672,865.56	11,588,336.36	15,715,198.43	3,627,243.28
Home care	13,105.52	0%	100.78	736.73	7,599.88	4,433.24	234.89	14,779.22	0%	182.07	1,381.30	5,813.07	7,327.21	75.56
Group care	858.82	0%	-	-	167.12	-	691.71	249.00	0%	-	-	249.00	-	-
Family care	597.64	0%	-	-	519.06	28.78	49.80	2,912.65	0%	-	-	2,908.47	4.18	-
Teleconsultation	45,090.62	0%	697.24	-	1,805.86	41,667.16	920.36	40,634.32	0%	685.48	13.18	355.92	37,714.45	1,865.29
Initial screening in health services														
Health screening	1,284,746.79	3%	247,599.37	216,402.23	303,689.69	232,736.94	284,318.55	1,173,671.00	2%	177,272.62	196,861.36	320,827.96	226,979.16	251,729.90
Capillary glycemia														
Therapeutic drug monitoring	4,940,466.00	10%	19,733.85	3,308.19	687,058.93	1,260,509.05	2,969,855.98	4,724,157.08	9%	21,399.78	2,750.70	751,633.12	1,168,868.84	2,779,504.64
Blood pressure measurement														
Anthropometric assessment														
Dispensing of medicines														
Individual complementary and integrative practices	13,399.82	0%	210.72	-	1,383.15	11,188.11	617.84	19,978.39	0%	-	-	5,325.05	14,310.10	343.25
Others	4,528.75	0%	-	4,117.05	7.75	-	403.96	3,352.06	0%	-	20.92	3,331.14	-	-
Technical-pedagogical services	**1,970,116.09**	**4%**	**1,667,716.13**	**64,559.93**	**109,393.48**	**112,369.46**	**16,077.09**	**1,900,270.42**	**4%**	**1,495,389.28**	**92,420.95**	**77,917.85**	**210,319.06**	**24,223.28**
Group educational activity	1,970,070.71	4%	1,667,716.13	64,559.93	109,393.48	112,369.46	16,031.71	1,900,270.42	4%	1,495,389.28	92,420.95	77,917.85	210,319.06	24,223.28
Individual educational activity														
Matrix support	45.38	0%	-	-	-	-	45.38	-	0%	-	-	-	-	-
Integrative and complementary group practices														
% Total by Region	**NA**	**NA**	**11%**	**21%**	**23%**	**31%**	**14%**	**NA**	**NA**	**9%**	**19%**	**25%**	**34%**	**13%**

Source: Prepared by the author, based on data from the Outpatient Information System of SUS (SIA-SUS).[13] The values were deflated to December 2023 by the National Broad Consumer Price Index (IPCA). Legend: NA - Not applicable.

A study described the practical experience of implementing pharmaceutical care in a tertiary hospital in the municipality of Ribeirão Preto (São Paulo). The need to develop institutional protocols to guide professional practice was highlighted. As a product of the research, they proposed an instrument tailored to the pharmacotherapeutic needs of the geriatric population. The tool aimed not only to standardize practices but also to promote patient safety and optimize therapeutic efficacy. Currently, there are no national documents that meet this need. The protocol, now published, serves as a reference for institutions that intend to implement or improve their clinical services aimed at the elderly.[32]

Studies highlight operational difficulties in providing clinical services. Facing the challenges imposed by the COVID-19 pandemic, pharmaceutical telecare emerged as a strategy to ensure continuity of care for chronic patients. In the State of Rio Grande do Sul, this remote service was structured and implemented at the Special Medicines Pharmacy in Porto Alegre, aimed at people with chronic respiratory diseases. The service was provided by phone, offering guidance on the proper use of medications, encouraging therapeutic adherence, and clarifying doubts related to the pandemic, thus integrating pharmaceutical assistance into the public health context. However, as highlighted by the authors, the implementation of this type of service faced operational challenges such as outdated registrations that hindered contact with users and the unavailability of patients for phone care due to technological, physical, or cognitive limitations.[33]

The volume of clinical-assistance and technical-pedagogical services offered may also be influenced by the availability of professionals working in SUS. According to data from CFF, the total number of pharmacists in Brazil in 2023 was 326,118 professionals.[34] Of these, 74,856 worked in health establishments, but only 42,542 (13%) in SUS.[14] It should also be considered that some municipalities in the country do not have pharmacists in their workforce. In a recent national diagnosis, 483 of the 2,262 vulnerable and extremely poor municipalities in the country were in this situation.[35]

There was variation in the rates of procedures related to pharmaceutical care per 100,000 inhabitants among regions of the country. The highest rates were observed in the north and central-west regions, the two least populous regions of the country and with the lowest absolute number of pharmacists in SUS, while the lowest was in the southeast, despite concentrating both the largest population and the highest number of professionals.

When PNAUM – Services 2015 was carried out, reported carrying out activities of a clinical nature in primary health care: 47.5% of pharmacists interviewed in the northeast, 29.8% in the north, 20.2% in the central-west, 21.2% in the southeast, and 6% in the south. Except for the northeast, the regions that showed the highest rates of procedures per 100,000 inhabitants in this study correspond to those where there was a higher report of performing clinical activities in the survey conducted in 2015. It is possible that there was an understanding among the professionals in the northeast region interviewed in the PNAUM – Services 2015 that the clinical activities they reported performing were mainly the dispensing of medications. In this study, the only procedure related to the dispensing of medications included in the sample was code 0101040067 (dispensing of iron supplement), and no billing was presented to SIA-SUS by managers in the northeast region during the analyzed period. Eventually, the composition of clinical procedures eligible for registration by pharmacists may justify the third place of the northeast region concerning the rate of clinical procedures performed.[26]

Periodically, the Brazilian Institute of Geography and Statistics (IBGE) in partnership with the Ministry of Health conducts population-based household surveys to produce data on the health situation and lifestyles of the Brazilian population. The results of the National Health Survey 2019 reinforced that the southeast, south, and central-west remain the regions where the population has the greatest access to health services. These regions reported the highest proportions of people who consulted a doctor and dentist in the last 12 months, who obtained all the prescribed medications in their last appointment by any means, who obtained at least one of the prescribed medications in their last appointment through the Popular Pharmacy Program, and who remained hospitalized for 24 hours in the last year in public or

private health services.[36] These indicators contrast with the rates of clinical procedures identified in this research, which suggest lower access to pharmaceutical care in the south and southeast regions. Complementary research is necessary to elucidate the factors that justify this discrepancy.

One of the factors potentially related to this behavior is the characteristics of the labor market.[14, 37]

In the southeast, the concentration of pharmaceutical and technology industries attracts professionals to specialized areas, creating a greater supply of specialists and, consequently, a distancing from the generalist clinical work of pharmacists.In the north and northeast, training is more oriented to meet the needs of the public health network, especially in primary care. The scarcity of clinical specialists stimulates greater ties between generalist health professionals and multiprofessional teams in health services. The teaching and practice structures in SUS of undergraduate pharmacy courses and multiprofessional residencies can contribute to the integration of graduates into the public health workforce. A career policy, with competitive remuneration, would encourage the retention of professionals.[38-40]

Consultations with health professionals are one of the main care resources in SUS,[41] and pharmaceutical consultations were the procedures recorded most frequently during the evaluated period. In this encounter between the professional and the person seeking or needing care, the pharmacist's actions focus on medication therapy review (evaluation of the medications used by the user, aimed at identifying and resolving problems related to pharmacotherapy and contributing to positive medication-related outcomes),medication reconciliation (evaluation and guidance regarding the use of medications prescribed by professionals from different health services in the network, aimed at minimizing unintentional discrepancies), and pharmaceutical follow-up, when possible for successive meetings (management of pharmacotherapy and the health conditions of the user aiming for better outcomes associated with pharmacotherapy and improvement in the quality of life).[12] Studies demonstrate that pharmaceutical consultations also facilitate access to medications, especially when interventions align prescriptions with the National, State, and Municipal Lists of Essential Medicines and with the recommendations of the Clinical Protocols and Therapeutic Guidelines of SUS that regulate the dispensing of medications by public pharmacies.[42]

Regarding CAS, the billing data from SIA-SUS also evidenced the clinical pharmacist's role in screening different health conditions. This issue is still little explored in national publications. Some reports of experiences in primary care have been disclosed by the professional council, such as the case of the Family Health Unit in Maceió (AL),[43] where pharmacists screened 84 suspected cases of type 2 diabetes mellitus, of which 31 were referred to the physician for diagnostic clarification over a nine-month period in 2019; or the experience during the coronavirus pandemic in the municipality of Aracaju (SE), when pharmacists were allocated to provide rapid tests, performing about 600 daily consultations with the referral of users with active infections to reference units for influenza-like syndromes for evaluation by specialized health teams, in addition to guidance regarding isolation.[44]

International evidence, in turn, suggests that the close collaboration of pharmacists with other health professionals for the identification of diseases in asymptomatic individuals contributes to the effectiveness of health systems, especially regarding non-communicable chronic diseases. To this end, in addition to professional training, protocols for referral and management of detected cases are essential tools.[45, 46]

The development of pharmaceutical care protocols to guide assistance practices, based on the best available scientific evidence, presents an opportunity for SUS. In addition to improving and qualifying the activities developed and contributing to the adoption of effective and safe practices for patients and professionals involved, this serves as a facilitator for the implementation of pharmaceutical care in health services, especially due to the limitation of human resources in public health services already discussed.[35, 47, 48]

Recently, methodological guidelines for the development of pharmaceutical care protocols were published by a municipal health department; however, it would be ideal for the Ministry of Health to take the lead, considering that it is that agency, assisted

by the National Commission for the Incorporation of Technologies in SUS (CONITEC), that is responsible for the establishment or alteration of assistance protocols.[49, 50]

The development of pharmaceutical care protocols requires the dedication of a multidisciplinary team with diverse skills (public health professionals, experts in methodology, and clinical sciences), time for gathering and analyzing evidence, as well as translating this knowledge to ensure its practical application in the daily operations of health services.[51-53] Processes for adapting international protocols to the Brazilian context also demand specific skills to systematically search for documents and evaluate their methodological quality, although this can be feasible in a shorter time frame.[54, 55]

Additionally, the federal sphere has a greater capacity to mobilize specialized resources than states and municipalities, as exemplified by the project "Pharmaceutical Assistance in Primary Care," developed under the Support Program for Institutional Development of the Unified Health System (PROADI-SUS), which offered distance learning courses for training pharmacists in the implementation and management of pharmaceutical care in primary care.[56]

The availability of educational content to support the provision of technical-pedagogical services by pharmacists would also contribute to the dissemination of pharmaceutical care in SUS, substantially reducing the time needed to prepare pharmacists to conduct these activities, which accounted for about 5% of the procedures performed by pharmacists during the period.

Since these are instruments for pharmaceutical intervention, it is essential that the process of developing educational materials is conducted carefully. The experience in creating educational material aimed at caregivers and pediatric patients diagnosed with Acute Lymphoblastic Leukemia was described in a study. The authors emphasize the need to align the content with clinical guidelines, use reliable bibliographic references for its development, and employ text considered simple, aiming for ease of understanding by the target audience (readability analysis). Additionally, although they did not carry out these steps, they reinforce that usability testing and the evaluation of the impact of using these instruments among patients and caregivers are recommended to understand their effectiveness and the users' experience with the educational material, as well as the need for improvement.[57] Adding to the contributions of these authors, it is highlighting that local initiatives, even if developed adequately, have low reproducibility if not published in scientific journals or other forms of dissemination.

The results of this work showed that federal transfers apply to certain procedures related to pharmaceutical care offered to specific populations – in primary or specialized health care or for health screening. The trend analysis is limited due to the data analysis period; however, it is possible to assert that the values allocated to clinical activities were not significant compared to the annual amounts allocated to the acquisition of medications in SUS.[6]

At the time this study was conducted, the national agreements on pharmaceutical assistance did not foresee specific resources for pharmaceutical care. The National Program for the Qualification of Pharmaceutical Assistance in SUS (QUALIFAR-SUS), established in 2012 to improve the quality of pharmaceutical assistance in Brazil, included the Care Axis. However, this has not been implemented, which may indicate low prioritization by the Federal Manager in this area.[58]

From another perspective, it is important to highlight that fund-to-fund transfers are correlated to the volume of procedures performed and recorded by managers in the information systems of SUS. This means that the values may have been insignificant because pharmaceutical care was not offered to the population due to the barriers already discussed – limitations in the number of pharmacists, prioritization of technical management activities in pharmaceutical assistance by the workforce, structural and operational issues in health services, in addition to a lack of knowledge and/or clinical skills among pharmacists working in SUS (training and qualification in the area).[18, 26, 31-35]

It is public knowledge that SIGTAP is an important part of the financial and operational management of SUS, but it does not represent the entirety of the services that SUS offers. Therefore, in the realm of primary health care, it is possible that municipalities allocate a portion of per capita, resour-

ces, and resources conditioned to the implementation of strategies and programs in Primary Care, such as the Family Health Support Centers where pharmacists are expected, for structuring and providing pharmaceutical care.[59] On the other hand, given that promoting the structuring of pharmaceutical assistance, carrying out among other activities, the encouragement of the rational use of medications is a shared responsibility of the three federative entities in SUS,[60] there may be allocation of own resources from States and Municipalities to support local initiatives, such as the "Farmácia Cuidar+" Financing Program, initiated in 2021 in Rio Grande do Sul.[61]

Medications are one of the main therapeutic instruments currently used in the health-disease process. Between 2012 and 2020, 179 medications were incorporated into SUS, of which 101 (56.4%) were indicated for cases of refractoriness or intolerance to the first or second line of treatment. Polypharmacy is also a reality and may be related to the excessive or inappropriate use of medications.[62] According to the National Survey on Access, Use and Promotion of Rational Use of Medicines (2015), the prevalence of polypharmacy among users of medications in Primary Health Care in 2015 was 9.4% (IC95% 7.8–12.0) in the general population and 18.1% (IC95% 13.6–22.8) in individuals over 65 years old.[63] This scenario is compounded by medication-related poisonings and adverse drug events, which are still underreported in the country.[64, 65] These elements exemplify the complexity of clinical medication management today and reinforce the relevance of coordinated efforts from all three levels of government for the implementation of the National Guidelines for Pharmaceutical Care.[8]

Finally, it is important to note that the SIA-SUS and other computerized health systems in Brazil face challenges related to the quality of records and data integration, which can impact data reliability. This limitation, inherent to the use of secondary databases as a source of information, is pertinent to this study.[66-68] Despite its weaknesses, the SIA-SUS database is one of the main tools for planning and evaluating health actions and services in Brazil, which is why it is also employed in research on public policies.

Conclusion

This study provides contributions by presenting a novel analysis of the implementation of pharmaceutical care based on secondary data in SUS.

The provision of pharmaceutical care in SUS, while recognized as fundamental for qualifying access to and the safe use of medications, remains unequal and limited in the country. Despite the data from SIA-SUS showing a slight increase in billing for clinical procedures and direct patient care actions, investment is still disproportionately higher in the acquisition of medications, which totals billions of reais each year. Regulatory advances in the area over the past decade are acknowledged; however, the results of this work reinforce that the existence of a regulation alone does not ensure implementation.

The data analysis revealed that only 0.6% of the pharmaceutical procedures recorded between 2022 and 2023 were related to clinical-assistance or technical-pedagogical services, indicating low institutionalization of this practice in the daily routine of the health system. Additionally, regional differences in the provision of these services were observed, with higher rates in the North and Central-West regions compared to the Southeast, even though the latter concentrates most professionals and historically has better health indicators.

It can be inferred that the observed scenario reflects the challenges already described in the literature, including the scarcity of pharmacists allocated in SUS, the prioritization of technical activities over clinical care, the lack of adequate infrastructure and funding for services, and the need for greater professional training.

Investment in hiring, retaining, and training pharmacists, the articulation of inter-federative agreements in the area, and the encouragement of recording services rendered for reimbursement by the Ministry of Health can contribute to their expansion in public health. The provision of Pharmaceutical Care Protocols and educational materials to support technical-pedagogical services is timely to guide practices and subsidize effective and safe conduct, as well as contribute to greater homogeneity and ease in implementing pharmaceutical services in Brazil.

In addition to access, the proper use of medications, guided by the best available scientific evidence, is fundamental for the quality of health care. In this sense, the findings are concerning. Should it be time to discuss once again the reorientation of pharmaceutical assistance, this time prioritizing the clinical management of medications?

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SIMONE, ALM and SALDANHA, TF: data collection, analysis, and interpretation, as well as writing and critical revision of the manuscript. MELO, DO: critical revision of the manuscript. SIMONE, ALM, MELO, DO, and SALDANHA, TF: approved the final version for publication.

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The authors declare that there are no conflicts of interest.

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