ORIGINAL ARTICLE

PHARMACEUTICAL CARE INDICATORS FOR MONITORING THE IMPLEMENTATION OF THE FARMÁCIA CUIDAR+ PROGRAM

Karin Hepp Schwambach[1], Ana Paula Rigo[2], Luizi dos Santos Mota[3]
Juliana Bergmann[4]; Vanessa Klimkowski Argoud[5]; Agnes Nogueira Gossenheimer[6]
Roberto Eduardo Schneiders[7], Carine Raquel Blatt[8]

Highlights: (1) Development and validation of a matrix for monitoring the implementation of clinical pharmaceutical services. (2) Matrix composed of 22 indicators, with values from zero to 100 in eight dimensions. (3) The matrix was applied in the initial phase of the 446 municipalities that joined the Farmácia Cuidar+ program. (4) The median score of the municipalities was 12.00 points (ranging from zero to 50.00).

[1] Municipal Health Department of Porto Alegre. Porto Alegre/RS, Brazil.
https://orcid.org/0000-0003-3271-2566

[2] Pharmaceutical Assistance Department of Rio Grande do Sul. Porto Alegre/RS, Brazil
https://orcid.org/0000-0002-9142-9421

[3] Federal University of Health Sciences of Porto Alegre. Porto Alegre/RS, Brazil.
https://orcid.org/0009-0005-6482-5575

[4] Federal University of Health Sciences of Porto Alegre. Porto Alegre/RS, Brazil.
https://orcid.org/0000-0002-5571-5471

[5] Federal University of Health Sciences of Porto Alegre. Porto Alegre/RS, Brazil.
https://orcid.org/0000-0002-6844-2038

[6] Pharmaceutical Assistance Department of Rio Grande do Sul. Porto Alegre/RS, Brazil.
https://orcid.org/0000-0002-7424-8426

[7] Pharmaceutical Assistance Department of Rio Grande do Sul. Porto Alegre/RS, Brazil.
https://orcid.org/0000-0003-0135-2844

[8] Federal University of Health Sciences of Porto Alegre. Porto Alegre/RS, Brazil.
https://orcid.org/0000-0001-5935-1196

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ABSTRACT

The objective of this study is to present the matrix of monitoring indicators for the implementation of pharmaceutical care and results of the initial phase of the Farmácia Cuidar+ program. The indicator matrix was developed, validated, and evaluated by experts, and subsequently applied in 446 municipalities in Rio Grande do Sul that joined the program. The participation of municipalities in the Farmácia Cuidar+ program comprises receiving state financial support for activities related to pharmaceutical care. The matrix comprises 22 indicators, scoring from zero to 100 within eight dimensions: Asthma treatment effectiveness, COPD treatment effectiveness, Adherence, Pharmacist's clinical services, Pharmacist's Consulta, Safety, Health education, and Continuing professional development. The median score of the municipalities that responded to the survey (n=351) during the initial phase of the program was 12.00 points, ranging from zero to 50.00, reflecting the incipient implementation of pharmaceutical care in outpatient pharmacies that dispense drugs from the Componente Especializado da Assistência Farmacêutica (CEAF) program. Municipalities with up to 500 patients' monthly appointment achieved higher scores. Guidance to transportation and storage drug were the clinical activities with the highest scores. The same matrix will be applied during the intermediate and advanced program. The instrument showed feasibility for application and identified weaknesses related to pharmaceutical care in all evaluated dimensions. These indicators are expected to monitor the results of the Farmácia Cuidar+ program implementation related to pharmaceutical care actions.

Keywords: Quality Indicators, Health Care. Pharmaceutical Services. Drugs from the Specialized Component of Pharmaceutical Care. Health Services Research.

INTRODUCTION

In 2021, the Rio Grande do Sul State Health Department (SES-RS), in the aim to encourage the provision of pharmaceutical care in pharmacies that dispense medications from the Componente Especializado da Assistência Farmacêutica (CEAF) and the State's complementary list, instituted the Farmácia Cuidar+ program, with 89.7% of municipalities joining[1]. Through the program, state financial resources were transferred to municipalities, aiming to support the structuring of Farmácia de Medicamentos Especiais (FME) in three axes: structure, visual identity and pharmaceutical care. The structure axis refers to the physical structuring of pharmacies to increase service capacity, guarantee the quality of drug storage and improve the ambience. Visual identity aims to standardise the identification of pharmacies, so that they are easily recognized by users. Pharmaceutical care aims to strengthen pharmacist clinical practices, emphasising on organising a pharmacist Consultation room or a space that is appropriate for carrying out clinical services[2].

To join the program, municipalities were divided into five sizes according to the number of people accessing the FME services, being I (up to 500), II (501 to 1,000), III (1,001 to 2,000), IV (2,001 to 3,000) and V (more than 3,000). The financial amount transferred varied from 70 to 200 thousand Brazilian Reais according to the size. Furthermore, depending on the size, pharmacists must perform clinical services for patients who receive CEAF drugs for asthma and chronic obstructive pulmonary disease (COPD), such as first dispensing and guidance for new patients, dispensing with guidance for recurrent patients and pharmacotherapeutic follow up for patients without control of the afore mentioned clinical conditions[2].

The CEAF has expanded drugs access since its implementation; however, there are many challenges in achieving the final results, such as treatment effectiveness and the control of chronic diseases[3-5]. Furthermore, although studies demonstrate benefits of clinical services provided by pharmacists, their availability is still incipient in Brazil. Pharmacists are still highly demanded for technical and managerial activities[6].

Based on the understanding that pharmaceutical services actions must be patient-centered, logistics activities should not be overvalued as the sole and exclusive responsibility of pharmacists[7]. Furthermore, given the growing demands on health, such as the ageing population, high drugs use, low adherence to treatments and disarticulation of professional practices, it is necessary for pharmacists to advance in the qualification of care offered to medication users[8].

A qualitative study on the CEAF indicates that the focus of pharmaceutical services on drugs impacts patient care in different ways and that the current way services are organised and managed does not provide continuity of care, which results in fragmented care. To change this scenario, the authors suggest that it is necessary to break the logic that the supply of the product is sufficient to achieve health outcomes, and advance the logic of comprehensive care, focusing on the patient's needs[9]. At the 1st Brazilian national meeting of pharmaceutical care managers held in 2021, political, administrative, technical and motivational barriers to implementing pharmaceutical care in the Brazilian Health System (SUS) were identified. On the other hand, planning, financial incentives, manager support, and assessing and monitoring services were identified as facilitators for implementation[10].

Considering the Farmácia Cuidar+ Program, unprecedented project in Brazil with a financial incentive oriented towards pharmaceutical care and the importance of monitoring its implementation, this study aims to present the matrix of indicators for monitoring the implementation of the pharmaceutical care and the results of the initial phase of the Farmácia Cuidar+ program.

METHODS

This study presents the development and validation of a matrix of monitoring indicators for pharmaceutical clinical services related to CEAF. This study also presents the results of the initial phase of implementation of the Farmácia Cuidar+ program in the State of Rio Grande do Sul.

Based on the literature and the program's objectives, an initial matrix of indicators was proposed. To validate its content, the indicators set was submitted to the evaluation of eight pharmacist professionals: four management specialists and four professors. The invitation and the matrix were sent via email. The experts could agree or disagree with the indicators, propose changes and/or new indicators.

After validation by experts, the matrix was reviewed by researchers. Then, a proposal to value the indicators was made, totalling score from zero to 100. This proposal was sent by email to the experts, who were able to agree or disagree with the assigned value and/or suggest new values. The objectives of the Farmácia Cuidar+ program and the possibility of progressive responses regarding the percentage of patients receiving the services were taken into account

when proposing a value to the indicators, with the aim of encouraging pharmacists to develop such services.

The final matrix was sent by email to the responsible pharmacists of the municipalities that joined the Farmácia Cuidar+ program in March 2022 as an initial phase diagnosis. The same matrix will be applied again in the intermediate and advanced program phases, scheduled for the end of 2023 and 2024, respectively.

The data analysis of the municipalities' responses was carried out using descriptive statistics using *Stata* software.

The experts who agreed to participate completed the Free and Informed Consent Form. The study was approved by the Ethics Committee of the Universidade Federal de Ciências da Saúde de Porto Alegre, CAAE number 53806421.7.0000.5345.

RESULTS

The first version of the matrix consisted of ten dimensions and 35 indicators. Eight experts validated the content and suggested the inclusion of one indicator. After summarising the suggestions, it was decided to exclude 14 indicators that were considered administrative and did not evaluate the impact of actions related to pharmaceutical clinical services. The proposing group resolved the differences by consensus.

The pharmaceutical care monitoring matrix consists of 22 indicators that are distributed across 8 dimensions: effectiveness of asthma treatment (n=1), effectiveness of COPD treatment (n=1), adherence (n=1), pharmacist's clinical services (n=11), pharmacist´s consultation room (n=1), safety (n=3), health education (n=2) and continuing professional development (n=2).

The final matrix with the indicator dimension, name, description, indicator calculation method, data source, answers assessment method and score can be seen in Table 1. Regarding assessment, indicators 1 and 2 are not applied to municipalities of size I, II, III and IV, which have a maximum of 80 points. However, the final score is calculated weighted to allow a comparison between all municipalities.

Table 1 - Matrix of pharmaceutical care indicators prepared to monitor the implementation of the Pharmaceutical Care in context of Farmácia Cuidar+ program.

DIMENSION	NUMBER	INDICATOR NAME	DATA SOURCE	INDICATOR DESCRIPTION	ANSWERS	ASSESSMENT	SCORE
Asthma	1	Effectiveness of asthma treatment	AME	Percentage of patients taking drugs to control asthma with the disease under control (Asthma Control Test-ACT scale).	5 - 15 "Uncontrolled asthma" 16 - 19 "Partially controlled asthma" 20 - 25: "Controlled asthma"	50% controlled asthma=100%	10
						25% controlled asthma=50%	5
						< 25%=0	0
COPD	2	Effectiveness of COPD treatment	AME	Percentage of patients taking drugs to control COPD with the disease having a low impact (COPD Assessment Test™ - CAT scale).	>20: "High impact" 10 -20: "Medium impact" <10: "Low impact"	50% low impact=100%	10
						25% low impact=50%	5
						< 25%=0	0
Adherence	3	Patient adherence to treatment	AME	Percentage of adherence to drugs treatment considering	Total drug amount withdrawn in a year divided by the	average >= 70% adherence	8

				the dates of medication withdrawal over a one-year period.	amount prescribed in a year for each drug	average < 70% adherence	0
Pharmacist's clinical services	4	First asthma/COPD drugs dispensing by the pharmacist	FME Pharmacist	In the last year, did the pharmacist perform the first dispensing to patients with asthma and COPD?	( ) more than 75% of patients	more than 75% of patients=100%	8
					( ) from 50 to 74.99% of patients	from 50 to 74.99% of patients=50%	4
					( ) no ( ) less than 10% of patients ( ) from 10 to 24.99% of patients ( ) from 25 to 49.99% of patients	< 50% of patients = 0	0
	5	Asthma/COPD drugs dispensing by the pharmacist	FME Pharmacist	In the last year, has the pharmacist dispensed to patients with asthma and COPD drugs?	( ) more than 75% of patients	more than 75% of patients=100%	4
					( ) from 50 to 74.99% of patients	from 50 to 74.99% of patients=50%	2
					( ) no ( ) less than 10% of patients ( ) from 10 to 24.99% of patients ( ) from 25 to 49.99% of patients	< 50% of patients= 0	0

	6	Guidance for the drug's use process	FME Pharmacist	In the last year, did the pharmacist provide guidance on the drug use process (schedule, administration with or without food, route of administration, duration of treatment, preparation, what to do if you forget a dose, etc.)?	( ) more than 75% of patients	more than 75% of patients=100%	4
					( ) from 50 to 74.99% of patients	from 50 to 74.99% of patients=50%	2
					( ) no ( ) less than 10% of patients ( ) from 10 to 24.99% of patients ( ) from 25 to 49.99% of patients	< 50% of patients= 0	0
	7	Guidance for drugs outcomes	FME Pharmacist	In the last year, did the pharmacist provide guidance on the drugs outcomes to FME patients?	( ) more than 75% of patients	more than 75% of patients=100%	4
					( ) from 50 to 74.99% of patients	from 50 to 74.99% of patients=50%	2
					( ) no ( ) less than 10% of patients ( ) from 10 to 24.99% of patients ( ) from 25 to 49.99% of patients	< 50% of patients = 0	0
	8	Guidance for transporting drugs			( ) more than 75% of patients	more than 75% of patients=100%	4

			FME Pharmacist	In the last year, did the pharmacist provide guidance on how to transport drugs?	( ) from 50 to 74.99% of patients	from 50 to 74.99% of patients =50%	2
					( ) no ( ) less than 10% of patients ( ) from 10 to 24.99% of patients ( ) from 25 to 49.99% of patients	< 50% of patients= 0	0
	9	Guidance for storing drugs	FME Pharmacist	In the last year, has the pharmacist guided FME patients on how to store medicines at home?	( ) more than 75% of patients	more than 75% of patients=100%	4
					( ) from 50 to 74.99% of patients	from 50 to 74.99% of patients =50%	2
					( ) no ( ) less than 10% of patients ( ) from 10 to 24.99% of patients ( ) from 25 to 49.99% of patients	< 50% of patients= 0	0
	10	Exams results monitoring	FME Pharmacist	In the last year, has the pharmacist monitored patients exams results?	( ) more than 75% of patients	more than 75% of patients=100%	2
					( ) from 50 to 74.99% of patients	from 50 to 74.99% of patients =50%	1

					( ) from 25 to 49.99% of patients	from 25 to 49.99% of patients=25%	0,5
					( ) no ( ) less than 10% of patients ( ) from 10 to 24.99% of patients	< 25% of patients= 0	0
	11	Medication reconciliation	FME Pharmacist	In the last year, has the pharmacist performed medication reconciliation for patients?	( ) more than 75% of patients	more than 75% of patients=100%	2
					( ) from 50 to 74.99% of patients	from 50 to 74.99% of patients =50%	1
					( ) from 25 to 49.99% of patients	from 25 to 49.99% of patients=25%	0,5
					( ) no ( ) less than 10% of patients ( ) from 10 to 24.99% of patients	< 25% of patients= 0	0
	12	Evaluation of drug interactions	FME Pharmacist	In the last year, has the pharmacist assessed drug interactions?	( ) more than 75% of patients	more than 75% of patients=100%	2
					( ) from 50 to 74,99% of patients	from 50 to 74.99% of patients =50%	1

					( ) from 25 to 49.99% of patients	from 25 to 49.99% of patients=25%	0,5
					( ) no ( ) less than 10% of patients ( ) from 10 to 24.99% of patients	< 25% of patients= 0	0
	13	Guidance on possible drug adverse effects	FME Pharmacist	In the last year, has the pharmacist provided guidance on safety (possible adverse effects) regarding the use of medications to FME patients?	( ) more than 75% of patients	more than 75% of patients=100%	4
					( ) from 50 to 74.99% of patients	from 50 to 74.99% of patients =50%	2
					( ) no ( ) less than 10% of patients ( ) from 10 to 24.99% of patients ( ) from 25 to 49.99% of patients	< 50% of patients= 0	0
	14	Recording in the health record	FME Pharmacist	In the last year, did the pharmacist make any records in the health records of the clinical services?	( ) more than 75% of patients	more than 75% of patients=100%	4
					( ) from 50 to 74.99% of patients	from 50 to 74.99% of patients =50%	2

					( ) no ( ) less than 10% of patients ( ) from 10 to 24.99% of patients ( ) from 25 to 49.99% of patients	< 50% of patients= 0	0
Pharmacist's Consultation Room	15	Pharmacist's Consultation room	FME Pharmacist	In the last year, did the pharmacist have access to a private room with a table and chairs to provide care to patients?	( ) yes, a consultation room exclusive for pharmacists ( ) yes, but the consultation room was not exclusive for pharmacists	yes, to both (Yes to any)	2
					( ) No, the areen´t a provante room to patients attendance	No score=0	0
Safety	16	Adverse drugs effects	FME Pharmacist	In the last year, when the pharmacist identified any suspected adverse drug effect registered on Vigimed?	( ) more than 75% of complaints	more than 75% of complaints=100%	4
					( ) from 50 to 74.99% of complaints	50 to 74.99% of complaints =50%	2
					( ) never ( ) less than 10% of complaints ( ) from 10 to 24.99% of complaints ( ) from 25 to 49.99% of complaints ( ) None suspected drug adverse effects were identified.	< 50% of complaints= 0	0

	17	Drug Dispensing errors	FME Pharmacist	In the last year, has the pharmacist identified, received or recorded complaints of drug dispensing errors?	( ) we receive complaints about drug dispensing errors and record them on a specific form ( ) We receive complaints about drug dispensing errors and record them on the FME form ( ) We have not had any complaints of drug dispensing errors but we do have a registration service	score=100%	4
					( ) We received complaints about drug dispensing errors, but the service does not have a registration system ( ) We have had no complaints of drug dispensing errors, and we do not have a registration service.	no score=0	0
	18	Dispensing Double check	FME Pharmacist	In the last year, was the double-checking system applied for drug dispensing (one person separates, and another person checks and dispenses the medications)?	( ) more than 75% of drug dispensations	more than 75% of drug dispensations =100%	4
					( ) from 50 to 74.99% of drug dispensations	from 50 to 74.99% of drug dispensations =50%	2

					( ) never ( ) less than 10% of drug dispensations ( ) from 10 to 24.99% of drug dispensations ( ) from 25 to 49.99% of drug dispensations	< 50% of drug dispensations= 0	0
Health education	19	Health literacy material	FME Pharmacist	In the last year, has the pharmacist used any support material (booklets, folders, schedules, instructions for use, application, disposal) to guide patients?	( ) Yes, including different clinical conditions and drugs ( ) Yes, including one or two pathologies or drugs	yes, to both (Yes to any) =100%	4
					( ) No	no score=0	0
	20	Health Literacy Group	FME Pharmacist	In the last year, has there been any health literacy group for FME patients in the health service?	( ) Yes, and the pharmacist attended all the meetings.	always = 100%	4
					( ) Yes, and the pharmacist participated a few times.	sometimes = 75%	3
					( ) Yes, but the pharmacist did not participate. ( ) There is no health literacy group for these patients.	never=0	0
	21	Continuing professional		In the last year, have you taken any continuing	( ) Yes, short-term ( ) Yes, with more than 200h	yes = 100%	4

Continuing professional development		development for pharmacists	FME Pharmacist	professional development courses or activities that could be applied within the context of FME?	workload ( ) Yes, within a *stricto* or *latu senso* postgraduation course		
					( ) No	no=0	0
	22	Continuing professional development for team members	FME Pharmacist	In the last year, has the pharmacy team carried out any continuing professional development courses or activities for the team within the FME?	( ) Yes, related to administrative processes ( ) Yes, related to drug dispensing ( ) Yes, related to drugs storage ( ) Yes, related to AME registers system ( ) Others. Describe: _.	any = 100%	4
					( ) No	no=0	0

Observation: Municipalities of Size V; Final score = 100 points; Maximum score 100 points.
Municipalities of Size I, II, III and IV; do not apply Indicators I and II; Final score = 80 points; Maximum score 100 points.

Abbreviations: FME= Farmácia de Medicamentos Especiais; AME= Information System on storage and distribution of medicines; Vigimed = National Information System on Pharmaco-surveillance.

Source: made by the authors.

The Rio Grande do Sul State has 497 municipalities, of which 446 joined the Farmácia Cuidar+ program and are distributed according to the number of patients monthly appointments and pharmacists, as in Table 2. Among the 351 municipalities evaluated in the initial stage, 26 did not answer this question, 188 (53.6%) have a pharmacist with a 40-hour weekly workload and 57 municipalities (16.2%) have more than one professional.

Table 2 - Number of pharmacists 40h distributed by municipal size (n=325)

		Municipalities by size							
		I (n=179)		**II (n=63)**		**III (n=57)**		**IV ou V (n=26)**	
		n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Number of pharmacists 40h	None/<1	41	22,9%	13	20,6%	20	33,9%	6	23,1%
	1	113	63,1%	38	60,3%	26	46,4%	11	42,3%
	More than 1	25	14,0%	12	19,0%	11	19,6%	9	34,6%

Description: Size I (up to 500), II (501 to 1000), III (1001 to 2000), IV (2001 to 3000) and V (more than 3000) patients' monthly appointments.
Source: Made by the authors

The assessment of clinical pharmacist services revealed deficiencies in all dimensions. The median score for the municipalities' indicators was 12.00 points, with the minimum score being zero and the maximum score being 50.00, as seen in Table 3. Better scores were observed in size I municipalities, which have less than 500 patients' monthly appointments.

Table 3 - Results of the indicator matrix for monitoring clinical pharmacist services applied in the initial phase of the Farmácia Cuidar+ program in the municipalities that joined the program, distributed by the health macro-region and size (n=351).

Category	Number	Median score	Interquartile range	Minimum score	Maximum score
Health macro-region					
South	18	16.00	12.00	2.00	31.00
North	91	12.00	14.00	0.00	50.00
Midwest	29	10.00	10.00	4.00	42.00
Missioneira	56	8.50	11.00	0.00	35.50
Metropolitan	59	12.00	13.00	0.00	50.00
Vale	59	12.00	10.00	0.00	46.00
Serra	39	11.00	10.00	0.00	48.00
Size (number of patient appointments/month))					
Size I (up to 500)	199	12.00	14.00	0.00	50.00
Size II (501 to 1000)	66	8.00	10.00	0.00	42.00
Size III (1001 to 2000)	61	10.00	10.00	0.00	35.50
Size IV (2001 to 3000)	10	11.00	8.00	2.00	18.00
Size V (more than 3000)	15	16.00	15.00	4.00	32.00
Total	**351**	**12.00**	**12.00**	**0.00**	**50.00**

Source: Made by the authors

In the “pharmacist’s clinical services” dimension, the indicators “transportation guidance” and “storage guidance” received the highest scores. In the “continuing professional development” dimension, 58.1% of the pharmacists who responded to the survey reported having completed some complementary training activity, most of them in short-term courses promoted by the coordination of the Farmácia Cuidar+ program.

The “adherence” indicator considered the total amount of drugs withdrawn from the FME and the amount prescribed for each medication, over a one-year period. The average adherence rate was 63.47%, ranging from 41.76% to 81.31%.

Regarding the indicators of effectiveness of asthma and COPD treatment, the Asthma Control Test (ACT) scale showed that patients had controlled asthma (17.8%), partially controlled asthma (41.6%) and uncontrolled asthma (40.6%). Using the Chronic Obstructive Pulmonary Disease Assessment Test (CAT) instrument that measures the impact of COPD on the patient's life, the disease caused low impact (1.5%), medium impact (43.3%) and high impact (55.2%).

DISCUSSION

The matrix, composed of eight dimensions and 22 indicators, was developed and validated for monitoring pharmaceutical care within the scope of the Farmácia Cuidar+ program. Despite being a state program, the indicators can be applied in all pharmacies that dispense CEAF drugs, or they can be adjusted according to regional context or the degree of implementation of clinical pharmacist services.

A systematic review to identify strategies for implementing patient care services in community pharmacies reported the following strategies: infrastructure change, financing, patient engagement, clinical support, training and education of decision-makers, adaptation to the context, development of interrelationships with stakeholders, use of evaluation strategies, and provision of interactive assistance[11]. In 2023, the Ministry of Health (Brazil) announced the guidelines for the implementation of pharmaceutical care within the scope of the SUS, among which we can mention the definition and establishment of services model to be offered according to the demands and needs of the population; the development of monitoring and evaluation mechanisms, as well as the provision of a workforce with a professional profile and training[12]. Many of these strategies were applied in the planning of the Farmácia Cuidar+ program. In addition, a strategic action was to include the promotion of the implementation of pharmaceutical care in Rio Grande do Sul as a goal of the 2020-2023 and 2024-2027 State Health Plan[13].

The municipalities median score was 12.00 points and it reflects the Brazilian municipal public context in which management activities are prioritised and the clinic remains fragmented and insufficient[14,15]. Furthermore, the insufficient number of pharmacists or pharmacy staff makes it difficult to prioritise clinical services. This proposal can serve as a subsidy for municipalities to understand their reality and plan actions to overcome their weaknesses.

There is a gap in the care process developed by pharmacists through the provision of clinical services. In this regarding, it is necessary to evaluate the structure, the process and, in particular, the results obtained through these actions[4]. The proposed indicators address a broad range of pharmacist clinical services aspects, including registration of care practices, guidance on medication use, and monitoring of adherence and effectiveness of treatments.

In relation to the “effectiveness of treatment of asthma and COPD” dimensions, we consider it urgent to monitor these outcomes. More than R$21 billion were invested in the

acquisition of medicines in 2022, which represents 16.6% of the market in Brazil[16]; however, the results are far below expectations. Asthma and COPD are listed as priority diseases in the Farmácia Cuidar+ program for the implementation of pharmaceutical care. Both have a significant economic and social impact on the population, and lack of control can lead to avoidable hospitalizations, a drop in productivity at work and, consequently, increased healthcare costs[17,18].

Regarding "adherence to treatment", the proposed indicator is an indirect measurement, which relates the withdrawal of drugs from the pharmacy and the quantity of drugs prescribed. It is simple to apply in health services that serve a large number of people[19]. One of the limitations of this measure is that regularly collection of the drugs does not mean that the patient uses them properly, since failure to collect them may be related to several factors such as shortages, changes in health status, death or change of address. Regardless, this indicator demonstrates a fragility in the care process since an average of 40% of drugs are not collected. Failure to collect the drugs, however, is a strong marker of non-adherence. This result may imply poor control of chronic diseases and impact in the management[20]. Analysis of data from the National Survey on Access, Use and Promotion of Rational Use of Medicines (PNAUM) also demonstrated low adherence to pharmacological treatment for chronic diseases in Brazil (30,8%)[21].

Regarding the "pharmacist's clinical services" dimension, nine indicators were proposed. The first dispensing performed by the pharmacist is a strategy adopted in different services where patient demand is much higher than the pharmacist's capacity to serve, a reality in most Brazilian municipalities that have a single pharmacist to act in all management and clinical demands[22,23]. In the study sample, 22.5% of the municipalities do not have a pharmacist working 40 hours a week, which demonstrates the need for strategies to increase human resources to meet demands.

The first dispensing by the pharmacist contributes to raising awareness among patients about the correct use of medicines, adherence and recognition of the pharmacist as a health professional, and it also helps to establish a professional-patient bond. Indicators for assessing the management capacity of the CEAF were applied in 22 municipalities in Santa Catarina, and, in the clinical aspects dimension, the pharmacist's participation in the first dispensing of CEAF patients stood out in most of the units[24].

Drugs may be responsible, in part, for the treatment outcomes; however, their availability and distribution alone are not sufficient to meet patients' needs[25]. Many patients leave the doctor's appointment without knowing the drug name, the indication, the treatment time or the adverse effects[26]. Thus, guidance on the use process, expected results of pharmacotherapy, storage, transportation, most frequent and/or most serious drug adverse effects are key points for the effectiveness, rational use of the medication and patient safety. In the results of PNAUM - services, 74.8% of patients received guidance on medications at the pharmacy and, furthermore, in services that reported the presence of a pharmacist with a workload equal to or greater than 40 hours per week, there was a 1.82% greater chance of providing guidance on how to use medications[27].

Due to the prevalence of chronic diseases and the use of over-the-counter medications, polypharmacy is common in patients using CEAF drugs. As a result, drug interactions may occur that can be serious and clinically relevant[19,28]. Therefore, pharmacists are encouraged to assess drug interactions. In addition, monitoring exam results is included in the clinical protocols for many CEAF drugs, as they can cause significant biochemical and hematologic changes that include dose adjustment, treatment interruption, and/or additional treatment[22].

Medication reconciliation is an incipient clinical activity in health services and is often restricted to the hospital environment. This activity seeks to reduce prescription discrepancies, such as duplications, omissions of medications or drug interactions of clinical importance, by obtaining a complete, accurate and updated list of medications that each patient uses at home (including name, dosage, frequency and route of administration), to compare with medical prescriptions at different levels of health care. Patients who use medications on an outpatient basis consult with doctors of different specialities, in addition to the possibility of using over-the-counter medications, supplements and herbal remedies[19,29]. Limiting factors for the development of this activity include: the demand for time, since it is necessary to compile and analyse the information; the information provided by the patient, subject to memory lapses or omission; and the need to consult medical prescriptions and/or packaging of medications in use.

Recording clinical care is essential for continuity of care, as it systematises patient monitoring and assessment of pharmacotherapy[14]. The recording of the pharmacist's clinical services is an incipient practice in the Brazilian context[23,24]. The demands met and the perceived needs must be recorded in the patient's health records, as this way the information is accessible to the whole healthcare team[14]. The logic of recording the quantity of drug dispensed is

important for logistical control, in addition to being an indirect measure of treatment adherence. Recording clinical care goes beyond that, it involves identifying the patient's needs, ensuring continuity of care and contributing to the efficiency and effectiveness of health services.

The availability of a consulting room is important for the development of clinical activities. Still, there is no need for this space to be exclusive to the pharmacist, but it should allow for a certain degree of privacy to welcome the patient, identify their needs, make referrals and record the care provided. Most public pharmacies have problems with their structure, standing out inadequate physical space[31]. This inadequate infrastructure makes it difficult to contact and connect with patients, what can compromise the dispensing and effectiveness of care[22,30].

PNAUM data based on visits to 1,175 dispensing units found that 53.8% had less than $10m^2$ of space for dispensing medications, 23.8% had grids or barriers between patients and the dispenser, 41.7% had a computerised system, and 23.7% had counters for individualised service[31]. In another approach, the majority of pharmacists who stated that they carried out clinical activities also stated that they did not have a specific place to carry them out, an essential condition for preserving privacy and confidentiality in activities with the service user[14].

Regarding patient safety, the proposed indicators seek to identify the recording of drug adverse effects and dispensing errors, since these actions should be part of the scope of pharmacovigilance. Many of the CEAF drugs have potential adverse effects and, when suspected, the pharmacist must provide guidance to the patient and the healthcare team and also register it in the Vigimed system. Suspected drug adverse reactions reported undergo an investigation process that aims to clarify whether there is a cause-and-effect relationship between the use of the drug and the occurrence of the adverse event[32]. Dispensing errors can occur and not be identified by the patient, family member, caregiver or health professionals. When the service is notified of this event, the record must be made so that we can identify strategies for preventing dispensing errors[32].

In the health education dimension, it is expected to identify educational strategies for individuals and/or groups, which are important from the perspective of the drug rational use. Educational strategies can make individuals an active part in the care process, since the role of the health team is not only to provide access to medicines but it also is to ensure their correct use[33].

The continuing professional development dimension involves educational actions for both the pharmacist and the assistant team. There is a need for continuous learning, whether for updates in the area, resolution of real problems or to act on new demands. Continuing professional development increases the knowledge of professionals and generates greater confidence for both the worker and the patient, improving the relationship with patients and the quality of dispensing and care for patients, reflecting in better pharmacotherapy results[34].

To overcome the weaknesses observed in the initial stage of the Farmácia Cuidar+ program, actions are necessary, such as expanding the number of pharmacists and developing training activities focused on "changing the philosophical, organisational and functional focus of the pharmacies, raising its level of responsibility and of the pharmacist professional"[22].

The limitations of this study include the use of data from service information systems, which depends on the quality of the records, and the use of responses reported by the pharmacists responsible for implementing the program in the respective municipalities as a data source, which may lead to sampling and measurement biases. However, in the absence of pharmaceutical clinical services records, the pharmacist's report is still the most reliable source available. In addition, the objectives of the Farmácia Cuidar + program were presented to the pharmacists when the municipality joined the program. The pharmacists were informed that this was an initial assessment and that the program would be followed up with training and future assessments, seeking to reinforce the importance of developing pharmaceutical clinical services actions and commitment to responding when filling out the form.

The quality and/or lack of records of the clinical services performed by the pharmacists was reflected in the scores of the indicators in the proposed matrix. This diagnostic stage is essential for evaluating the changes. The next stages - intermediate and final - may provide information on whether or not the pharmacist's practice have changed after the implementation of the Farmácia Cuidar+ program.

Based on the indicators of clinical pharmaceutical services, it will be possible to monitor the implementation of the Farmácia Cuidar+ program and assess the impact of unprecedented funding to encourage care in dispensing CEAF drugs used to control chronic diseases in Brazil. In addition, through the longitudinal profile of the study, it will be possible to monitor the improvements implemented in the municipalities. The challenge of this project is to maintain monitoring and propose actions for continuous improvement in work processes. As a

perspective of encouraging pharmaceutical care actions, the matrix applied in the State of RS can be adapted to other regions of the country and other health conditions.

FINAL CONSIDERATIONS

The instrument proposed in this study was feasible to apply, as the indicators identified weaknesses related to clinical services of pharmacists in dispensing drugs to control chronic diseases that are part of the CEAF. This initial stage pointed out deficiencies in all evaluated dimensions. Better scores were observed in municipalities with up to 500 patients monthly appointments, and the clinical services with the best scores were guidance on drug transportation and storage drugs.

Finally, we highlight that the Farmácia Cuidar+ program is innovative in creating subsidies to expand clinical services in the Brazilian Unified Health System (SUS), as well as for Clinical Pharmacy. Monitoring the impact of this program in the state of Rio Grande do Sul can guide actions directly related to Pharmaceutical Services in Brazil and indicate the results of clinical pharmacist services in treatment adherence and patient safety.

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Author contributions:

Karin Hepp Schwambach: Conceptualization, Data curation, Formal analysis, Methodology, Validation, Visualization, Writing – original draft, Writing – review & editing.

Ana Paula Rigo: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Luizi dos Santos Mota: Investigation, Visualization, Writing – original draft.

Juliana Bergmann: Investigation, Visualization, Writing – original draft.

Vanessa Klimkowski Argoud: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Agnes Nogueira Gossenheimer: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Roberto Eduardo Schneiders Conceptualization, Supervision, Writing – review & editing.

Carine Raquel Blatt: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

All authors approved the final version of the text.

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Author contributions:

Karin Hepp Schwambach

Municipal Health Department of Porto Alegre

Largo Teodoro Herzl, s/nº - Bom Fim, Porto Alegre/RS, Brasil. CEP 90040-192

karinhsch@yahoo.com.br

Editor: Christiane de Fátima Colet. Ph.D

Editor-in-chief: Adriane Cristina Bernat Kolankiewicz. Ph.D