

Konrad Żak

ORCID: 0000-0002-2632-9782

John Paul II University in Biała Podlaska

k.zak@dyd.akademiabialska.pl

# Medication use review as a service for pharmaceutical care: Conditions for implementation in pharmacy practice

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## Abstract

Pharmaceutical care is an aggregated pharmaceutical service based on an innovative approach towards the patient's pharmacotherapy process. It was introduced into the Polish pharmaceutical law system in 2008, but it was not until the end of 2020 that the list of activities included in this innovative health service was clarified. The delayed initiation of pharmaceutical care means that implementation procedures are lacking, making it difficult to fully implement it into pharmacy practice. The initiating service for pharmaceutical care in pharmacy practice is the medication use review (MUR), which, combined with the pharmacotherapy assessment, has the task of detecting and solving patients' drug-related problems and thus ensuring safety in the pharmacotherapy process. Such important objectives for medication use review face organisational barriers that make its effective implementation difficult and practically impossible, limiting the scope of pharmaceutical care to the consultative aspect in practice. The aim of the article is to present the implementation conditions of medication use reviews in Polish pharmacy practice, which helped to identify the conditions for effective implementation of pharmaceutical care. Achieving the research objectives requires the use of a variety of research methods. To identify the conditions for effective implementation of medication use reviews, the method of analysis of legal acts was used. Apart from that, the analysis of literature and the method of examination of documents were also implemented, which made it possible to determine whether the Polish pharmaceutical law system creates conditions for effective provision of this service in pharmacy practice. The method of observation (*the mystery shopper*) was also used to indicate the territorial (subjective scope) of the provision of medication use review and to identify barriers to their implementation in Polish organisational

and legal realities. All the methods applied made it possible to determine to what extent pharmacist shortages in the pharmacy limit the implementation process. The results of the study were subjected to statistical analysis.

## 1. Introduction

The system of pharmaceutical law defines in detail the conditions for practising the profession of pharmacist by specifying the objectives around which all the service activity of pharmacists is focused – protection of the patient's health and protection of public health. The aforementioned objectives are achieved by the pharmacist through the provision of pharmaceutical care, the provision of pharmaceutical services, and the performance of professional tasks and activities (Act on the Pharmaceutical Profession, 2020, Article 4(1)). Placing pharmaceutical care at the forefront of the activities in question is a deliberate effort by the legislator to emphasise its key role in pharmacy practice, carried out as part of the social public health system. Separating pharmaceutical care as a health service provided by a pharmacist and constituting a documented process of cooperation between a pharmacist and a patient and a doctor, and optionally with representatives of other medical professions, oriented towards ensuring proper supervision of the course of individual pharmacotherapy of a patient, obliges the body running a pharmacy to create organisational conditions enabling its professional implementation.

Pharmaceutical care comprises a number of activities precisely defined by the legislator such as: providing pharmaceutical consultations, performing medication use reviews with pharmacotherapy assessment, taking into account the patient's drug-related problems, developing an individual pharmaceutical care plan, taking into account the patient's drug-related problems performing diagnostic tests, and issuing prescriptions in continuation of a medical order (Act on the Pharmaceutical Profession, 2020, Article 4(2)). Despite such a detailed indication of the scope of activity, the potential of pharmaceutical care is not fully exploited due to the concerns of pharmacists, resulting from an imprecise and inconsistent pharmaceutical law system. The lack of implementing regulations for the Act on the Pharmaceutical Profession, which clarifies the division of competences of individual healthcare professionals in the process of individual pharmacotherapy of a patient, makes a significant number of pharmacists unwilling to assume the burden of responsibility for the patients' health and life for fear of a possible escalation of patients' claims, which may lead to legal consequences for the pharmacist and can incur compensation for the pharmacy.

The provision of medication use review (MUR), together with pharmacotherapy assessment that takes into account a patient's drug-related problems, is an aggregate service initiating pharmaceutical care, which faces organisational problems at the implementation stage. These are related to the time-consuming

administrative and documentary steps involved in obtaining information from the patient on his or her health status and the medicines used, as well as the obligatory collection of personal data. The lack of an IT system that would allow this information to be automatically entered, collected, processed, and updated in the pharmacy means that these activities require additional pharmacists to be seconded to administrative activities, which entails additional costs for the pharmacy to employ additional staff.

## 2. Theoretical aspect of the research

### 2.1. Pharmaceutical care

Medication use review is the service of pharmaceutical care, which was first defined in 1975 and included all activities involved in the preparation and dispensing of medicines (Mikeal et al., 1975, 567–574). The procedural aspect of pharmaceutical care was recognised in 1980 when the feedback mechanism was introduced into its definition (Brodie, Parish and Poston, 1980, 276–278). The subjective role of the pharmacist in the process was noted in 1987 when the responsibilities of the pharmacist to the patient were defined with a remark that only the pharmacist is able to provide professional supervision of the pharmacotherapy process (Hepler, 1987, 369–385). The synthesis of pharmaceutical care was made in 1990 as a result of its identification with the responsible practice of pharmacotherapy aimed at achieving specific outcomes that improve the patient's quality of life, which included: curing the disease, eliminating or reducing the patient's symptoms, stopping or slowing the disease process, and preventing the disease or its symptoms (Hepler and Strand, 1990, 539). The procedural dimension was based on the pharmacist's co-operation with the patient and other professionals in designing, implementing, and monitoring the therapeutic plan by performing three main functions: identifying, solving, and preventing medication-related problems. The comprehensiveness of Ch. Hepler's and L. Strand's definition made it the first widely accepted foundation for initiating work on the professional management of a patient's pharmacotherapy process.

The development of a definition of pharmaceutical care was the result of years of work to define the role of the pharmacist in the patient healthcare system. Reducing his or her role solely to that of a "drug giver" represented the untapped potential of the pharmacist as a professional (McCormack, 1956, 308–315). The pharmacist should not be reduced to a salesman's role, but should be guided by patient welfare and accuracy (Wardwell, 1963; Penna, 1965, 584–586). For this reason, there began to be calls for an increase in the professional responsibility of pharmacists (Linn and Davis, 1973, 502–508). This would be done by increasing

the emphasis on education in effective communication with the patient to initiate the construction of a system of supervision of the use of medicines (Apple, 1967, 474). An important role in this system would be played by government authorities, whose responsibilities would include increasing safety guarantees in the process of providing pharmaceutical services (Knapp et al., 1969, 502).

In the Polish reality, the first systemic works describing the advantages of pharmaceutical care referred to the basic characteristics of this health service (Łazowski, 2005). This led to a redefinition of the catalogue of pharmaceutical services, to which pharmaceutical care was classified in 2008. From then on, the focus began to shift to profiling the activities that initiate pharmaceutical care, with a particular focus on the documentation aspect (Skowron, 2008, 6–7; Skowron et al., 2010, 393–402). Implementation conditions and benefits for patients and pharmacies have also been presented in relation to the ways in which quality competes (Szalotka, 2011) and the need for effective physician-pharmacist collaboration (Waszyk-Nowaczyk, Simon and Szukalska, 2013, 262–265), as well as the advantages of technological support for pharmaceutical care (Merks et al., 2013, 408–416).

The medical-pharmaceutical dimension of pharmaceutical care is extremely important from the point of view of the public health effectiveness of the patient's healthcare system. It has been characterised in terms of pharmacist-pharmacist collaboration in the supervision of pharmacotherapy of a patient with diabetic foot syndrome (Olczyk, Pluta and Tomasik, 2009, 338–349), a geriatric patient (Neumann-Podczaska, Wieczorowska-Tobis and Grześkowiak, 2014, 126–130), a patient with asthma (Rysiak et al., 2018, 184–188), and an oncology patient (Bryła et al., 2019, 164–171). Comprehensive coverage of the medical-pharmaceutical aspect of pharmaceutical care referred to symptom identification, disease entity diagnosis and treatment (Rutter, 2018), patient orientation in pharmacotherapy management (Cippole, Strand and Morley, 2012), and ways to implement pharmaceutical care in pharmacy practice (Alves da Costa, van Mil and Alvarez-Risco, 2019).

## **2.2. Implementation of pharmaceutical care into the Polish pharmaceutical law system**

The definition of pharmaceutical care was introduced into the system of Polish pharmaceutical law as a result of the amendment to the Regulation of the Minister of Health of 22 March 2007 on continuous training of pharmacists employed in pharmacies and pharmaceutical wholesalers (Regulation of the Minister of Health, 2007, § 2(1)(1)). In the aforementioned regulation, pharmaceutical care was understood as “the pharmacist's participation in ensuring the correct course of pharmacotherapy aimed at curing, eliminating or alleviating the symptoms of a disease, halting or delaying a pathological process or preventing a disease”. In a normative

act with the rank of law, the definition of pharmaceutical care appeared as a result of the amendment of the Act on Chambers of Pharmacy (Act amending the Act on Chambers of Pharmacy, 2008, art. 1 item 2). It was made more specific and defined as “a documented process in which the pharmacist, in cooperation with the patient and the doctor and, if necessary, with representatives of other medical professions, supervises the correct course of pharmacotherapy with a view to achieving its specific effects improving the patient’s quality of life”. Pharmaceutical care acquired its current shape as a result of the enactment of the Pharmaceutical Profession Act in 2020, which shows that its provision is assigned to the pharmacist and not the pharmacy (Zimmermann, 2021, 50). It is regarded as a “health service provided by the pharmacist and constituting a documented process in which the pharmacist, working together with the patient and the patient’s treating physician and, if necessary, with representatives of other health professions, ensures the correct course of individual pharmacotherapy” (Act on the Pharmaceutical Profession, 2021, Article 4(2)).

### **2.3. Medication use review – the significance and basic characteristics**

Medication use review with pharmacotherapy assessment, taking into account the patient’s drug-related problems, is a service provided as part of pharmaceutical care, but not defined in the pharmaceutical law system. It is aimed at detecting and solving drug-related problems, and ensuring safety in the pharmacotherapy process (Act on the Pharmaceutical Profession, 2020, Article 4(2)(2)). Such an objective set by the legislator requires that the person who provides this newly introduced service has specialised knowledge. Therefore, it can only be provided by a pharmacist who has the relevant competence and practical experience in working with an individual patient. This is intended by the legislator to guarantee that the patient receives the maximum therapeutic benefit (Drozd, 2021, 60).

Medication use review is aimed at people taking more than one medicine, i.e. patients being treated for chronic diseases. Its purpose is to obtain the following information from the pharmacist: how many professionals the patient is being treated by, how he/she is using the medication, and whether he/she perceives a correlation between pharmacotherapy and improvement in health and quality of life. In practice, the medication use review is based on the identification of drug-related problems, which could be pharmacotherapy inefficacy and adverse drug events. The reasons for the drug-related problem could be drug-drug and drug-food interactions, patient’s nonadherence to therapeutic recommendations, or improper professional recommendations. The essence of MUR is to ensure the safety and effectiveness of pharmacotherapy. In addition to this, it should take into account the cost-effectiveness of pharmacotherapy on the basis of an analysis of the patient’s

individual drug requirements, in order to counteract the waste resulting from excessive patient stockpiling.

Medication use review and prescription intervention (PI) are services performed by qualified pharmacists who identify a problem in a prescription or conduct an annual interview with patients with identified polypharmacy over an extended period of time (Merks, Świeczkowski and Jaguszewski, 2018). As a new service provided as part of pharmaceutical care, medication use review can be performed in Poland on the basis of the guidelines of the Polish Pharmaceutical Society, which include, among others: selected legal aspects of conducting a medication use review, stages of performing a medication use review, rules for qualifying a patient for a medication use review, rules for conducting a pharmacist interview, analysing data and determining interventions, and preparing a report for the prescriber and patient (Drozd et al., 2023). The medication use review in daily practice can also be implemented by taking into account case studies prepared by professionals, including templates and charts to facilitate the process of obtaining information from the patient and documenting it (Neumann-Podczaska and Wieczorowska-Tobis, 2022)<sup>1</sup>.

### 3. Methodology of the study

#### 3.1. The aim and methodology of the empirical study

The aim of this article is to present the implementation conditions of medication use reviews in Polish pharmacy practice, which allows us to determine the conditions for effective implementation of pharmaceutical care. The realisation of the research objectives requires the use of a variety of research methods. To identify the conditions for effective implementation of medication use reviews, the method of analysis of legal acts was used, as well as the analysis of literature and the method of document research, which allowed to determine to what extent the Polish pharmaceutical law system creates conditions for effective provision of this service in a general pharmacy. The analysis included the Pharmaceutical Law Act (Journal of Laws 2022, item 2301) and the Pharmaceutical Profession Act (Journal of Laws 2021, item 1873), as well as the *Guidelines of the Polish Pharmaceutical Society for the conduct of health care provision – medication use review* (Drozd et al., 2023).

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<sup>1</sup> Support for the pharmacist in the implementation of the social mission of protecting public health can be campaigns implemented by non-governmental organizations, such as the “Refill the medicine cabinet” campaign aimed at seniors, who take the most medicines. This campaign includes live and virtual educational activities based on periodic publication of materials promoting the campaign. During specially organized events, the organization helps anyone willing to clean out their medicine cabinets (Obywatele Zdrowo Zaangażowani).

*The mystery shopper* (observation) method was used to indicate the territorial (subjective) scope of medication use reviews and to identify barriers to their implementation in Polish organisational and legal realities. Participatory and non-participatory observations were used for this purpose. This made it possible to determine the extent of medication use reviews conducted and to identify how pharmacist shortages in the pharmacy limit the implementation process. The results of the study were subjected to statistical analysis. A statistical measure based on a correlation table was used for this purpose with the application of the Cramer convergence coefficient.

### 3.2. Selection, characteristics of the research sample, and research procedure

The research procedure was based on the opinions of pharmacy professional staff (pharmacists), including owners and managers of general pharmacies (questionnaire method), and on the observation of their behaviour during daily work (*the mystery shopper* method). The target-quota selection of the research sample for the implementation of the empirical study was carried out on the basis of the following selection criteria:

- selection of general pharmacies located in Poland based on the criterion of administrative division, allowing the study to be carried out in three provinces, selected on the basis of:
  - one of the highest values of the indicator of population per one pharmacy (Pomeranian Province: 3558),
  - one of the lowest population per pharmacy (Lublin Province: 2766),
  - the highest number of general pharmacies registered and operating (Masovian Province: 1619);
- conducting surveys on a sample of at least 20% of general pharmacies registered and operating in a given province.

For the purpose of the analyses, reference was made to statistical data published by the Central Statistical Office and the Statistical Office of Kraków (Główny Urząd Statystyczny and Urząd Statystyczny w Krakowie, 2022, Table 76). The study was carried out in the morning, in the afternoon (after 4 p.m.) and at weekends (Saturday and Sunday) to identify entities with inadequate pharmacist staffing. The percentage of pharmacies surveyed is shown in Table 1.

During the implementation of the empirical study (April–May 2023), it was possible to achieve the assumed level of conducting research on a sample of at least 20% of general pharmacies registered and operating in the territory of a given province. This was due to the specificity of the adopted research method – observation conducted according to *the mystery shopper* methodology (*the mystery shopper* method).



**Table 1.** Number of pharmacies selected for the survey

Category  Unit of administrative division	Pharmacies			Pharmacist			Pharmacy without a pharmacist	
	L <sub>aw</sub>	L <sub>ab</sub>	% (1)	L <sub>fw</sub>	L <sub>fb</sub>	% (2)	L <sub>abf</sub>	% (3)
Masovian Province	1619	<b>330</b>	2038	3961	<b>150</b>	3.79	<b>180</b>	54.55
Pomeranian Province	663	<b>148</b>	22.32	1725	<b>69</b>	4.00	<b>79</b>	53.38
Lublin Province	737	<b>156</b>	21.17	1672	<b>71</b>	4.25	<b>85</b>	54.49
Total	3019	<b>634</b>	21.00	7358	<b>290</b>	3.94	<b>344</b>	54.26

L<sub>aw</sub> – number of pharmacies in the province; L<sub>ab</sub> – number of pharmacies participating in the survey; L<sub>fw</sub> – number of pharmacists in the province; L<sub>fb</sub> – number of pharmacists taking part in the survey; L<sub>abf</sub> – number of pharmacies without a pharmacist; % (1) – percentage of pharmacies in relation to the number of pharmacies in the province; % (2) – percentage of pharmacists in relation to the number of pharmacists taking part in the survey; % (3) – percentage of pharmacies without a pharmacist in relation to the number of pharmacies taking part in the survey. A pharmacy without a pharmacist identifies an entity in which, during the empirical study, there was no pharmacist during the working hours of the pharmacy, which is a violation of Article 92 of the Pharmaceutical Law.

Source: compiled from own research.

### 3.3. Results of the empirical study

The analysis of the legal acts – the Pharmaceutical Law Act (Journal of Laws, 2022, item 2301) and the Pharmaceutical Profession Act (Journal of Laws, 2021, item 1873) – has made it possible to identify the catalogue of pharmaceutical services permitted to be provided in a pharmacy. The legislator in the Pharmaceutical Law defined a pharmacy as “a public health care facility where authorised persons provide, in particular, pharmaceutical services referred to in paragraph 2” (Pharmaceutical Law, 2001, Article 86(1)). The use of the phrase “in particular” indicates the possibility of pharmaceutical care referred to in Article 4(2) of the Act on the Pharmaceutical Profession, the provision of pharmaceutical services referred to in Article 4(3) of that Act and the performance of professional tasks which are specifically indicated in that Act in Article 4(4)(1), (2), (4) to (10) and (13) to (16) (Pharmaceutical Law, 2001, Article 86(2)). The reference to the Pharmaceutical Profession Act is intended to clarify the types of activities that can be carried out in a pharmacy.

In paragraph 1 of Article 4 of the Act on the Pharmaceutical Profession, the legislator indicated the purpose of the pharmacist profession, which is to protect the health of the patient and to protect public health, and the scope of activities, limiting it to providing pharmaceutical care referred to in paragraph 2, providing pharmaceutical services referred to in paragraph 3, performing the professional tasks referred to in paragraph 4, and performing the activities referred to in para-



graph 5. The medication use review together with the assessment of pharmacotherapy, taking into account the patient's drug-related problems, has been qualified as an activity falling within the scope of pharmaceutical care (Act on the Pharmaceutical Profession, 2022, Article 4(2)(2)). The legislator, in singling out this activity, indicated only the purpose of its performance – detecting and solving drug-related problems and ensuring safety in the process of pharmacotherapy, without specifying in detail the forms and principles. The forms and principles in question have been defined in the *Guidelines of the Polish Pharmaceutical Society for the conduct of health services – medication use review* (Drozd et al., 2023, 11–62). The analysis of the literature and the method of document examination selected with regard to the specificity of the Polish public health system indicate that the following types of medication use review can be performed: simple review (without patient participation), intermediate review (with and without patient participation), and advanced review (Drozd et al., 2023, 12–13). Medication use review according to the *Guidelines of the Polish Pharmaceutical Society for the conduct of health services – medication use review* constitutes a service provided in a process aspect, as it consists of 10 consecutive stages (Drozd et al., 2023, 29):

- STAGE 1: collection of data for analysis,
- STAGE 2: identification of drug-related problems,
- STAGE 3: identification of causes of drug-related problems,
- STAGE 4: development of a proposal to solve the detected drug-related problems,
- STAGE 5: preparation and issuance of a report to the physician,
- STAGE 6: preparation and issuance of a report for the patient,
- STAGE 7: development of educational materials for the patient,
- STAGE 8: development of a post medication use review management plan,
- STAGE 9: document the activities performed as part of the medication use review,
- STAGE 10: determine the anticipated effects of the medication use review and its impact on the patient's health status.

The categorisation of a pharmacist-led medication use review as a pharmacy practice activity links it to the pharmacist and not to the entity where this service is provided (community pharmacy, hospital ward, long-term care facility in which the patient is cared for on a permanent or intermittent basis, a primary care practice, an outpatient specialist care practice in which the patient is cared for in relation to his or her chronic condition, a pharmaceutical care practice, a community nurse's practice, in a coordinated care situation). Therefore, there may be a significant limitation in the implementation of medication reviews in those entities where there is a shortage of pharmacists.

The empirical study using the observation method (*the mystery shopper*) involved 290 pharmacists and 344 pharmacy technicians employed in 634 general pharmacies operating in three provinces (Masovia, Pomerania, Lublin). The possi-

bility of conducting medication use reviews in three organisational forms (at the counter, in a separate position within the dispensing room, and in a separate room) in relation to pharmacist staffing is presented in Table 2.

**Table 2.** Pharmacy medication use review versus pharmacist presence

No.	Province  Category	Masovia			Pomerania			Lublin			Overall		
		AF	ABF	$\chi^2_{Yates}$	AF	ABF	$\chi^2_{Yates}$	AF	ABF	$\chi^2_{Yates}$	AF	ABF	$\chi^2_{Yates}$
		$\frac{Tak}{Nie}$	$\frac{Tak}{Nie}$	$C_{xy}$	$\frac{Tak}{Nie}$	$\frac{Tak}{Nie}$	$C_{xy}$	$\frac{Tak}{Nie}$	$\frac{Tak}{Nie}$	$C_{xy}$	$\frac{Tak}{Nie}$	$\frac{Tak}{Nie}$	$C_{xy}$
1	Carrying out drug screening at the checkout counter (window)	2	0	0.71	2	0	0.66	2	0	0.71	6	0	5.15
		148	180	B	67	79	B	69	85	B	284	344	0.09
2	Carrying out a drug review in a dedicated station in the dispatching room	2	0	0.71	1	0	0.00	1	0	0.01	4	0	2.83
		148	180	B	68	79	B	70	85	B	286	344	0.07
3	Conducting a drug review in a separate room	1	0	0.01	0	0	0.00	0	0	0.00	1	0	0.01
		149	180	B	69	79	B	71	85	B	289	344	B
4	Conducting a drug review (in total)	5	0	4.06	3	0	1.66	3	0	1.76	11	0	11.15
		145	180	0.11	66	79	B	68	85	B	279	344	0.13
		150	180		69	79		71	85		290	344	
	Weak (low) dependency [01–03]												
B	No statistically significant relationship (value $\chi^2_{Yates} < \chi^2_{0,05,1}$ )												
	Ambiguous decision, with a different, theoretically acceptable level of significance $\alpha = 0.1$ , value $\chi^2_{0,1,1} = 2.7055$ ; for $\chi^2_{Yates} \in (2,7055, n)$ the correlation relationship is significant												

AF – pharmacy staffed by pharmacists; ABF – pharmacy without a pharmacist;  $\chi^2_{0,05,1} = 3.8415$ .

Source: compilation based on own research.

The observation method using *the mystery shopper* methodology does not allow for a detailed determination of the stages of the medication use review, as analytical activities can be performed without the presence of a patient. Therefore, it is only possible to indicate whether medication use reviews are performed in a given pharmacy (participant observation supported by relevant queries), but the type of medication use review cannot be precisely determined.

## 4. Conditions for the implementation of medication use reviews in pharmacy practice – analysis of the study results

The implementation of medication use reviews in pharmacy practice is a major challenge for the pharmacy provider and professional staff. Increasing the responsibility of the pharmacist in the management of the patient's pharmacotherapy is a step in the right direction. However, such measures should be linked to an appropriate education system in pharmacy studies while supporting a system of continuing professional development based on specialisation training, qualification courses, and postgraduate studies. Medication use review as a pharmaceutical service is provided as a part of the pharmacist's pharmaceutical care, based on the pharmacist's collaboration with the patient's treating physician and, if necessary, with representatives of other health professions. For this reason, it is important to precisely allocate and demarcate responsibilities among the designated medical professions, which should be done within the system of medical and pharmaceutical law. The lack of legal regulations in this regard is an element that hinders the implementation of pharmaceutical care in pharmacy practice (Žak, 2018, 76–77).

The professional preparation of the pharmacist is facilitated by the precisely prepared guidelines of the Polish Pharmaceutical Society, which fill the cognitive and legal gap in the education system and the pharmaceutical law system. Despite this, performing medication use reviews in community pharmacies together with pharmacotherapy assessment, taking into account the patient's drug-related problems, may encounter implementation difficulties due to:

- Shortage of pharmacists – 54.26% of the pharmacies surveyed do not have enough pharmacists employed, which in practice precludes the performance of medication use reviews and pharmaceutical care in these entities (the performance of medication use reviews and pharmaceutical care is linked to the pharmacist's profession and not the place where this service is provided).

- The need to allocate space and prepare an adequately equipped workstation, together with the allocation of additional pharmacists for the practical implementation of the medication use review – documenting the process is time-consuming (requiring the dedication of approximately 1–1.5 hours per person) and cost-intensive, as it requires additional costs related to the preparation and equipping of the consultation workstation (e.g. costs related to the allocation of space for the workstation, the purchase of a computer with appropriate software and licence fees, and the costs of employing additional pharmacists, which may be difficult due to staff shortages in the labour market).

- Lack of connection with the reimbursement system, resulting in the transfer of the entire cost of organising a drug review to the pharmacy entrepreneur (es-

timated cost of performing a drug review is PLN 150–160 per patient – Waligórski, 2022).

– Lack of widespread interest on the part of patients – low demand generating a low supply of such services – medication use reviews can be observed in 1.74% of the public pharmacies surveyed.

Analysing the results of the empirical study, it should be noted that the low percentage of pharmacies performing medication use reviews (1.74%) is due to pharmacists waiting for the results of the government's medication use review pilot programme and for the concretisation of implementation recommendations and the projection of tangible benefits for pharmacies, based on a system of various incentives. The lack of a government support system for pharmacists may significantly delay the full implementation of medication use reviews in pharmacy practice. Comprehensive implementation of medication use reviews with pharmacotherapy assessment, taking into account the patient's drug-related problems, can improve safety in the pharmacotherapy process by minimising or even eliminating adverse drug interactions, thereby significantly reducing the number of hospitalisations associated with polypragmasy.

## 5. Conclusions

The practical implementation of medication use reviews in a community pharmacy is a major challenge for the pharmacy authority due to the high implementation costs. These are related to the need to reorganise the work of the pharmacy, as professional implementation of medication use reviews requires preparation of a consultation position (point) and allocating an adequate number of pharmacists to consultations, which may require additional staff. Despite these limitations, conducting medication use reviews together with pharmacotherapy assessment, taking into account the patient's drug-related problems, can bring tangible benefits to the pharmacy in the future, related to optimising competitive capabilities as part of building a competitive advantage. This is because pharmacy customers, in the process of choosing a particular facility, are guided by the possibility of receiving additional services related to the management of their drug therapy (Brooks et al., 2007, 4–27). The low interest in the practical implementation of medication use reviews in pharmacy practice has to be justified by the initiation of the pilot programme and waiting for its results.

The effective implementation of medication use reviews in pharmacy practice should be periodically examined not only using *the mystery shopper* methodology, but also with the support of diagnostic survey methods. This will help to identify implementation barriers and make suggestions for optimisation measures. Without the implementation of medication use reviews in pharmacy practice, it will not be possible to implement pharmaceutical care effectively. In doing so, it should be

emphasized that pharmaceutical care and the involvement of pharmacists are essential for improving the efficiency of the healthcare system.

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