

Pharmaceutical Care Plus – original scope and significance of pharmaceutical services in primary health care

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A – Study Design, **B** – Data Collection, **C** – Statistical Analysis, **D** – Data Interpretation, **E** – Manuscript Preparation, **F** – Literature Search, **G** – Funds Collection

Summary Background. Pharmaceutical care is currently an increasingly common tool facilitating the optimisation of pharmacology. Implementation of pharmaceutical care in collaboration with healthcare units, especially the Primary Health Care (PHC), will result in higher integration of the medical and pharmaceutical professions, resulting in tangible benefits for the patient. Due to this innovative approach, the scope of healthcare services provided by pharmacists has not been thoroughly researched.

Objectives. This research investigates the issue of assessing the scope of the services provided within the framework of pharmaceutical care. The paper presents an original concept created by the Medical and Diagnostical Centre in Siedlce, Poland (MCD).

Material and methods. The research methodology started with a literature analysis and systematic review. The second stage was brainstorming based on the current practical experiences of the MDC. The research and literature analysis were carried out in electronic databases to identify published studies on the scope of services provided within the framework of pharmaceutical care. Considering the practical and widely discussed nature of the subject, an Internet search was performed as a supplementary strategy to identify articles. The results were then analysed and brainstormed by the managing staff at the MDC.

Results. In the research and analysis process, the authors found, named and stated seven types of pharmaceutical services: medication review, medication consultation, pharmaceutical assistance, prophylaxis diagnosis, intervention/urgent visit, patient digitisation, internal pharmaceutical consultation. The above services together comprise the coordinated pharmaceutical care process over a patient. It has been tested in the MDC and is now in the implementation phase.

Conclusions. Identification and reinforcement of the scope of the services provided within the framework of pharmaceutical care may have a crucial influence on the quality and effectiveness of patient care. This care is provided by the pharmacy in close cooperation with the ambulatory medical facilities.

Key words: pharmaceutical services, patient care, primary health care.

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Background

Coordinated care is considered one of the most essential elements determining the existence of high-performing health care that generates great value for patients [1–3]. As demonstrated by the results of research, coordination can maximise the value of services provided to patients via facilitating the use of effective, safe and high-quality services, as well as improvement of health outcomes [4]. Owing to the coordination of care, services are provided in the right order, and the patient's care follows a specified course of action.

As the experience of many countries such as the United States, the Netherlands and the United Kingdom shows, pharmacists should also be included in effective coordinated health-care systems [5–7]. The effects of the care provided by pharmacists include the improvement of treatment outcomes and a higher degree of adherence to treatment recommendations by patients [8, 9].

Effective coordination of care is conditioned, among others, on a precise definition of team roles [10]. Unfortunately, in many countries, differences in the perception of individual team members and their roles by different health professions are ob-

served [11]. In Poland, pharmacists and general practitioners do not collaborate in terms of patient care [12]. The law on the pharmaceutical profession and the law on coordinated primary health care do not specify what the potential collaboration between different professions could entail [13, 14]. Cooperation between general practitioners and pharmacists is hindered by the existing healthcare model. The IT systems used by general practitioners and pharmacists are not compatible, which means that the data about patients' health conditions and their pharmacological treatment are dispersed, while appointments with general practitioners and visits to pharmacies are not synchronised. The primary task that pharmacists are entrusted with is the dispensing of medicines, which limits the time they could utilise to put their extensive knowledge and expertise to use. As such, it is essential to establish models that would enable collaboration between the two professions.

Objectives

The purpose of this paper is to present an original scope of services comprising pharmaceutical care, which is an essential component of coordinated health care. The solutions proposed



were developed based on the experience of the Medical Diagnostic Centre (MDC) in Siedlce (Centrum Medyczo-Diagnostyczne).

Material and methods

The research methodology was based on a literature analysis and discussions held at the Medical Diagnostic Centre in Siedlce, Poland.

First, research and a literature analysis were carried out in electronic databases to identify published studies on the scope of services provided within the framework of pharmaceutical care. Due to the absence of advanced pharmaceutical care services in community pharmacies in Poland, the analysis was performed based on the experience of other countries with varied levels of pharmaceutical development: the USA, the United Kingdom, Australia and EU member states. Taking into account the practical and widely discussed nature of the subject, as well as an analysis of local regulations, an Internet search was performed as a supplementary strategy to identify the available articles on the subject.

The keywords used in two electronic databases (PubMed and Scopus) were pharmacist, pharmacy, pharmaceutical care, services, management, programmes. Exclusion criteria were languages other than Polish and English, evaluation of potential new services, countries other than those selected for analysis or no full text or abstract available. The databases searched 1,613 articles, of which 4 were selected on the basis of the analysis of titles and abstracts. Google search yielded further 25 publications, reports or regulations that have been used to identify pharmaceutical services.

Next, the results were analysed and discussed with key stakeholders at the MDC, i.e. managing staff and community pharmacists, as well as leading medical doctors and nurses at the MDC.

The opinion of the Ethics Committee was not needed and, therefore, was not obtained for the study.

Results

The most common services available as part of pharmaceutical care identified in the literature analysis include repeated dispensing of chronic long-term medications, medication review, dose administration aids (DAA), instruction on the use of therapeutic or self-monitoring devices, needle/syringe exchange, pharmacist-delivered vaccination, directly observed treatment/supervised consumption of drugs, first time dispensing intervention, therapeutic adherence support. What is more, some countries provide additional services, such as smoking cessation, chronic disease management, health education, teleconsultations with pharmacists, minor ailment management schemes and weight management [15].

Collaboration between pharmacists and general practitioners is organised differently in the countries studied. For instance, in the USA, collaborative practice agreements (CPAS) are used to formally authorise pharmacists to initiate, modify or terminate drug therapy in connection with a particular medicinal product or disease unit, repeated dispensing of long-term chronic medications and arrange for and interpret diagnostic tests for patients [16, 17].

The planned pharmaceutical care services included in the Ministry of Health report developed in April 2021 are the following:

- medication review for adults who take 5 or more medicines simultaneously, aimed at identifying any medicines-related problems, such as incorrect pharmacotherapy, interactions between drugs, improper dosing, adverse effects and non-adherence to treatment recommendations;
- the New Drug service, providing support to patients starting treatment with a new drug to be taken chronically for a chronic condition;

- the Minor Ailments programme, enabling the pharmacist to treat or formulate recommendations in the case of 162 specified diagnoses;
- repeating prescriptions to continue treatment administered by physicians in the case of chronic diseases;
- prophylaxis programmes, such as the prevention of cardiovascular diseases by blood pressure measurements in the pharmacy or calculation of BMI;
- flu vaccinations;
- assistance in setting up patient accounts in the Online Patient Account system [IKP] [18].

Proposed service scheme for MDC Pharmacies

This paper features an original determination of this paper features an original determination of areas and services for implementation of pharmaceutical care. This selection addresses the recommendations of the Ministry of Health but also includes additional services that would holistically allow for the integration of pharmaceutical care into the process of coordinated health care implemented in out-patient health care. Individual services were selected based on a scientific analysis of literature and during the course of internal discussions held at the Medical Diagnostic Centre, where the idea of pharmaceutical care is being implemented. Eventually, seven types of pharmaceutical services were identified and are presented in the table below. The table also features additional detailed information on the execution of the individual pharmaceutical services.

Services have been classified using the traffic light system to highlight their priority. The colour red in the classification has been used to code services crucial for pharmaceutical care, critical to provide high-level care for patients. Yellow codes services with a lower priority that would affect significant amount of patients but are not as critical for care provision. Green was used to indicate low priority, non-urgent services.

The main service rendered by pharmacists as part of the proposed model is the **medication review**. Its objective is to collect information on the patient's pharmacotherapy, his/her health and to identify and solve any drug-related problems. The general practitioner refers the patient to a medication review during a comprehensive visit, but the pharmacist can decide to perform the review as well. A medication review is performed once a year based on an original medication review questionnaire at the MDC. The next service pertains to **medication consultation**, and it is aimed at educating the patient on the manner of use of medicines and their effects on the given illness they were administered to treat. The patient is referred for a medication consultation session by the general practitioner if the physician finds that the patient would benefit from additional support. As part of the **pharmaceutical assistance** service, selected patients will be provided with sets of medicines. The **prophylaxis diagnosis** service consists of educating patients in terms of basic health prophylactics and in verifying patients based on the specified prophylaxis plans of diagnostic tests for the purpose of setting up appointments for the patients with the prophylaxis project coordinator. As part of this service, the pharmacist also gives vaccinations and evaluates the approach of patients to vaccinations, and he or she assists patients on combatting addictions. The **intervention/urgent visit** is a service during which the pharmacist assesses the patient's health during the latter's visit to the pharmacy in connection with a temporary ailment (e.g. infection). The pharmacist has the option of setting up an appointment with the general practitioner for the patient if he or she finds it necessary. The **patient digitisation** service consists in providing the patient with support in handling basic technical issues related to the coordination of care. As part of the service, the patient will be assisted by the pharmacist in setting up an account in the Online Patient Account (IKP) and on the MDC websites. The **internal pharmaceutical consultation** is a consultation by and between the general practitioner

Table 1. Pharmaceutical services overview

No.	Name of service	Service characteristics	Estimated duration of the service	Service priority	Manner of recording in the system	Frequency	Comments/ documents for the pharmacist	Person providing the service	General comments
1	Medication review	Aimed at the assessment of the pharmacotherapy and a general overview of the patient's health	60 min	red	Medication review questionnaire	1 x year	Medication review questionnaire	Only persons holding an MA in Pharmacy	The general practitioner refers the patient for a medication review The pharmacist may also decide whether to perform the review The review should be performed in a dedicated room at the pharmacy
2	Medication consultation	Educating the patient on the use of medicines administered to treat a given illness	15 min	yellow	Memo in the system	When needed	–	Only persons holding an MA in Pharmacy	Supplements the Medication Review The pharmacist decides whether to perform it
3	Pharmaceutical assistance	Preparing medicine sets for selected patients	10 min	green	Memo in the system	When needed	–	Pharmacy Technician (recommendation) Person holding an MA in Pharmacy	
4	Prophylaxis diagnosis	Educating patients about basic prophylaxis Assessment of the feasibility of vaccinations and the patients' approach to them Assistance in combatting addictions	20 min	red	Memo in the system Option of setting up an appointment with the prophylaxis programme coordinator	Every time patient visits the pharmacy	List of prophylactic tests with dedicated patient groups	Pharmacy Technician Person holding an MA in Pharmacy	Verification of patients against established plans of prophylactic tests
5	Intervention/urgent visit	Health assessment performed by the pharmacist during the patient's visit to the pharmacy, typically in connection with a temporary ailment (e.g. infection, flu)	15 min	yellow	Memo in the system Option of setting up an appointment with a general practitioner	When needed	–	Only persons holding an MA in Pharmacy	
6	Patient digitisation	Assisting the patient in terms of the main technical issues related to care coordination, including setting up the patient's account in the IKP or on the MDC websites	15 min	red	Memo in the system	When needed	–	Pharmacy Technician (recommendation) Person holding an MA in Pharmacy	
7	Internal pharmaceutical consultation	Consultation on patient pharmacotherapy by and between: • general practitioner and pharmacist • specialist and pharmacist • nurse and pharmacist	15 min	yellow	Memo in the system	When needed	–	Only persons holding an MA in Pharmacy	Potential consultation methods: • phone calls • questions and answers online • on-site appointment

and the pharmacist held as a phone conversation, through the question-answer method available online or as an on-site appointment. The consultation may be initiated by the pharmacist (e.g. in connection with the recommendations for the patient's pharmacotherapy) or by the physician. The use of the IT tool in the daily activities of general practitioners and pharmacists has guaranteed efficient communication between the professions and limits the dispersion of patient information.

Conclusions

As a member of a coordinated primary healthcare system, the pharmacist provides pharmaceutical care as component of comprehensive care over the patient. Although the law on the pharmaceutical profession extends the competencies of phar-

macists and pilot programmes planned by the Ministry of Health take into account the most common pharmaceutical services in place around the world, the models of pharmaceutical services developed based on the experience of the Medical Diagnostic Centre allow for the determination of the position and role of the pharmacist within a coordinated care team. As part of the proposed services, the pharmacist collaborates with the team to prevent and solve medication-related problems and thus improve the quality of a healthy life for chronic, non-chronic and rare disease patients [19–21]. They communicate with patients and the coordinated care team on pharmacotherapy using the IT system and documenting their activities and recommendations. Owing to the use of the IT system, the pharmacist may document his/her impact on patient care and the value of the services provided.

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