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REVIEW

Pharmaceutical Care Services in Community Pharmacies: An Umbrella Review of Global Evidence with Insights from Polish and Spanish Practices

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Background: Pharmaceutical care is currently being implemented in Polish community pharmacies, but remains unsupported by state funding, limiting its widespread adoption. In Spain pharmacists there provide a wide range of pharmaceutical care services.

Objective: The aim of the work is to understand how other countries, such as Spain, have approached pharmaceutical care, which may offer potential strategies. Given this constant evolution and the challenges they face, a comprehensive review of current pharmaceutical care practices is necessary.

Methods: The study design was guided by Newman TV et al. Chosen review type was an umbrella review, which includes systematic reviews, narrative reviews, and meta-analyses concerning pharmacist-led interventions in the field of pharmaceutical care. Utilized PRISMA framework. Used the PubMed database, which includes MEDLINE-indexed articles. Search strategy initially identified 18,076 articles and abstracts. Articles were limited to English-language, free full-text systematic reviews or meta-analyses published between January 2019 and October 2024. The dataset was reduced to 3,016 articles. Ultimately, 13 articles were selected for final analysis.

Results: Given the identified lack of funding and training gaps, Poland must address workforce shortages, strengthen interdisciplinary trust, and ensure proper remuneration for pharmacists. Drawing on Spain's experience, investing in pharmacist-led education and preventive services may significantly enhance care outcomes in community settings.

Conclusion: This review highlights key pharmaceutical services currently implemented in community pharmacies and identifies critical barriers that hinder their widespread adoption in Poland. The main tasks of pharmaceutical care are to reduce morbidity and mortality related to medications. These services are most often not provided due to the lack of additional remuneration for the pharmacist for their provision, which would serve as reimbursement for the cost of delivering these services. The results of this review will serve as a basis for developing future in-depth studies focused on the implementation and delivery of pharmaceutical care.

Keywords: pharmaceutical care, community pharmacies, pharmacists, needs of patient care, healthcare landscape

Introduction

Pharmaceutical care originated in the United States at the end of the 20th century. It was defined as the responsible provision of pharmaceutical services aimed at improving patients' quality of life by curing disease, eliminating symptoms, arresting the disease process, or preventing disease. It comprises three patient-oriented functions: identifying drug-related problems, resolving them, and preventing drug-related problems.[1]

Subsequently, pharmaceutical care began to be implemented in Europe and is now practiced in many countries. In the United Kingdom, pharmaceutical care provided in community pharmacies is part of the National Health Service (NHS). The most common service is Medication Reviews (MR), which patients taking at least two medications can access free of

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charge once a year. An intervention review is also possible in exceptional situations, such as deterioration of health, hospitalization, or the occurrence of adverse drug reactions.[2]

Another service provided in the United Kingdom is the New Medicine Service (NMS), in which the pharmacist supports the patient during the initiation of a new medicine that requires monitoring. This service usually lasts 4 weeks, during which the patient has two meetings at two-week intervals. The aim of this approach is to support the patient and encourage proper use of medicines and continuation of the new therapy, to reduce the need for hospitalization due to adverse drug reactions, as well as to detect side effects of pharmacotherapy and prepare reports.[2]

Pharmacists also provide assistance with smoking cessation — the NHS Community Pharmacy Smoking Cessation Service (SCS),[3] the Community Pharmacist Consultation Service (CPCS),[4] and the supply of a previously prescribed prescription-only medicine (POM).[5]

In the Netherlands, pharmaceutical services are provided in pharmacies that dispense prescription medicines. The scope of basic services funded by the state is quite limited. Additionally, pharmacies may offer commercial services, such as consultations regarding travel preparations or continuation of treatment after hospitalization. Educational activities, during which pharmacists organize training on self-medication and a healthy lifestyle, are also a commercial service. The development of pharmaceutical care in the Netherlands is supported by advanced IT solutions. These include, among others, automatic identification of potentially dangerous drug interactions and notifying the pharmacist when a patient fills a prescription for the first time.[6]

According to data from the Pharmaceutical Group of the European Union (PGEU), pharmacists provide diagnostic testing, medication review, and smoking cessation support in pharmacies in Austria, Denmark, France, the Netherlands, Norway, Portugal, and Sweden.[7]

In Switzerland, pharmaceutical care is highly developed, with offices located in most pharmacies. In order to provide such services, a pharmacist must obtain FPH (Formal Proof) certificates in the areas of primary care, prescribing outpatient medicines, vaccinations, blood sampling, and pharmaceutical care in healthcare facilities.[8] Pharmacists also perform allergy tests, blood glucose measurement, blood pressure measurement, and the Emergency Contraception (EC) service.[9]

In Canada, since 2012, pharmacists have had the right to vaccinate patients over the age of 5 against influenza. These services are widely available and do not require making an appointment. Pharmacists are also a source of professional knowledge for patients, which improves the vaccination rate.[10]

Pharmaceutical care discussions began in Poland in the 1990s, with early publications and conferences laying the foundation for future initiatives.

It was only after the adoption of the Act on the Profession of Pharmacist in 2020 that pharmaceutical care became a mandatory service in pharmacies.[11] In 2022, a pilot program focusing on medication reviews as a component of pharmaceutical care, funded by the Ministry of Health, was launched,[12] but the pilot did not meet expectations and slowed down decisions on financing pharmaceutical care services by Poland's sole payer, the National Health Fund (Narodowy Fundusz Zdrowia, NFZ).

Despite this, a team of experts from the Polish Pharmaceutical Society and the Pharmaceutical Care Standardization Team of the Supreme Pharmaceutical Chamber developed practice standards for pharmacists in the provision of pharmaceutical care: conducting medication reviews,[13] managing new medicines,[14] addressing minor ailments,[15] measuring blood pressure,[16] assessing basic anthropometric parameters to evaluate nutritional status,[17] and providing emergency contraception.[18] Because in Poland pharmaceutical care is at the implementation stage authors decided to conduct an umbrella review.

Therefore, understanding how other countries like Spain have addressed this could offer potential strategies. Given this ongoing evolution and the challenges faced, a comprehensive review of current pharmaceutical care practices is needed. Spain was chosen as the comparative country because pharmacists there provide a wide range of pharmaceutical care services: they promote health, provide health education, assess nutritional status, conduct screening for HIV, syphilis, colorectal cancer, cervical cancer, SARS-CoV-2, diabetes, hypertension, and hypercholesterolemia, assist with smoking cessation and drug cessation, provide vaccination education, offer minor ailment services, monitor medication safety, and support patient education and communication.[19] In Poland, for many years, the pharmacy self-government has

also organized month-long internships for pharmacists in Spanish hospitals,[20] which makes Spanish pharmacists a role model for Polish pharmacists in terms of patient care. The authors of this article also collaborate, share experiences, complete mutual internships, and have practical experience in providing pharmaceutical care in both Poland and Spain.

Materials and Methods

The method of the study was based on an article by Newman TV et al.[21] Based on the article, the chosen review type was an umbrella review, which includes systematic reviews, narrative reviews, and meta-analyses concerning pharmacist-led interventions in the field of pharmaceutical care. The data extraction process was also modeled accordingly, with data being extracted from the selected articles by a single author. Subsequently, information was extracted from each selected article, including the article title, journal, year of publication, first author, type of review (systematic review, narrative review, or meta-analysis), and a description of the pharmaceutical care intervention and PRISMA adherence.

Using the PubMed database, which includes MEDLINE-indexed articles. The search strategy terms were developed based on Polish guidelines for the provision of pharmaceutical care in community pharmacies and on a literature review of pharmaceutical care in Spain. The aim was to show whether such a range of services is provided by pharmacists worldwide.

The Boolean operators were used to create query strings with a high target value. The OR operator was used to determine whether a given term can be found in the document. The AND operator was also used to specify that both terms used in the query must match in the document to connect all search phrases to community pharmacies. The NOT operator was not used because it negates or removes results that match the query terms that are negated.

Articles were limited to English-language, free full-text systematic reviews or meta-analyses published between January 2019 and October 2024, because this period reflect the significant milestone in Poland's pharmaceutical practice: the introduction of the Law on the Pharmaceutical Profession in 2020. This law mandated pharmacists to deliver pharmaceutical care in pharmacies, making recent findings particularly relevant.[11] There is no direct the journal's quartile ranking in the PubMed database because it is a database of articles from biomedical fields. Quartiles were also not checked in other.

The search words are listed in Table 1.

The basic criterion for excluding articles was their connection with COVID-19, because it was a very specific time for health care and pharmacy, during which many clinics and community pharmacies in Poland were closed to direct contact with patients. Pharmacists did not have the possibility of direct contact with patients and could not fully provide traditional pharmaceutical care services. In Poland, IT tools were used on a mass scale, teleconsultation with a doctor and electronic prescription were implemented. The description of services provided by pharmacists during COVID-19 should be illustrated in a separate publication. The exclusion criterion was also the description of services provided by pharmacists in hospitals or provided in specific disease entities.

The extracted data included the period of primary research, the types of services care provided in community pharmacies by pharmacists. Also the impact of implementing pharmaceutical care services on the work environment of pharmacists, and the barriers that need to be addressed.

After analyzing the inclusion and exclusion criteria, 13 articles remained for analysis. A decision was made to develop a new article, because its aim is to collect and show how pharmaceutical care services to be implemented in Poland are provided in other countries and what difficulties pharmacists encounter in their implementation. The authors also plan to conduct their own study in Poland and Spain, so conducting this umbrella review is a prelude to further research.

Results

Our search strategy initially identified 18,076 articles and abstracts (Table 1). After applying filters to include only English-language articles from the last five years and those with full free text available, the dataset was reduced to 3,016 articles. An automated filter was subsequently applied to isolate meta-analyses, reviews, and systematic reviews, resulting in a total of 340 articles for further screening.

Table 1 Search Strategy

l.p.	Catchword	Number of Publications
1.	(pharmaceutical care medication therapy management	5894
2.	or pharmaceutical care mtm	449
3.	or pharmaceutical care pharmaceutical interview	1919
4.	or pharmaceutical care medical interview	2232
5.	or pharmaceutical care medication interview	2232
6.	or pharmaceutical care pharmacist doctor collaboration	774
7.	or pharmaceutical care pharmacist patient collaboration	1744
8.	or pharmaceutical care pharmacist doctor cooperation	359
9.	or pharmaceutical care multimorbidity	480
10.	or pharmaceutical care health service	112618
11.	or pharmaceutical care concordance	679
12.	or pharmaceutical care health promotion	2809
13.	or pharmaceutical care preventive	27671
14.	or pharmaceutical care nms	113
15.	or pharmaceutical care new medicine service	6624
16.	or pharmaceutical care clinical pharmacy service	16334
17.	or pharmaceutical care clinical pharmacy	24878
18.	or pharmaceutical care pharmacotherapy	74378
19.	or pharmaceutical care self-care	6954
20.	or pharmaceutical care self-treatment	75
21.	or pharmaceutical care self-medication	3284
22.	or pharmaceutical care drug review	20554
23.	or pharmaceutical care drug related needs	3833
24.	or pharmaceutical care polytherapy	102
25.	or pharmaceutical care polypragmasy	8
26.	or pharmaceutical care elderly person	38769
27.	or pharmaceutical care noncompliance	6418
28.	or pharmaceutical care overuse	752
29.	or pharmaceutical care health monitoring	8970
30.	or pharmaceutical care therapeutic benefit	10169
31.	or pharmaceutical care consultation	14946
32.	or pharmaceutical care conciliation	33
33.	or pharmaceutical care quality of life	6750

(*Continued*)

Table 1 (Continued).

l.p.	Catchword	Number of Publications
34.	or pharmaceutical care drug information	21712
35.	or pharmaceutical care education	29270
36.	or pharmaceutical care minor aliment	2
37.	or pharmaceutical care documentation	2618
38.	or pharmaceutical care gpp	41
39.	or pharmaceutical care goals	1876
40.	or pharmaceutical care projects	7545
41.	or pharmaceutical care health care professionals	26028
42.	or pharmaceutical care guidelines	12452
43.	or pharmaceutical care research methods	49820
44.	or pharmaceutical care quality	22716
45.	or pharmaceutical care successfu	5099
46.	or pharmaceutical care needed	16203
47.	or pharmaceutical care skills	3024
48.	or pharmaceutical care senior	1746
49.	or pharmaceutical care patient	78400
50.	or pharmaceutical care implementation	9181
51.	or pharmaceutical care evaluation	37322
52.	or pharmaceutical care development	37491
53.	or pharmaceutical care philosophy	5458
54.	or pharmaceutical care drugs without indication	1826
55.	or pharmaceutical care indication without a drug	3620
56.	or pharmaceutical care medical information	21033
57.	or pharmaceutical care medication history	4615
58.	or pharmaceutical care medication review	6732
59.	or pharmaceutical care problems with OTC	78
60.	or pharmaceutical care effectiveness issues	3972
61.	or pharmaceutical care drug- food interactions	444
62.	or pharmaceutical care adherence issues	692
63.	or pharmaceutical care unusual dosages	43
64.	or pharmaceutical care side-effects	30353
65.	or pharmaceutical care drug interactions	5024
66.	or pharmaceutical care off label	1133

(*Continued*)

Table 1 (Continued).

l.p.	Catchword	Number of Publications
67.	or pharmaceutical care ebm	89
68.	or pharmaceutical care non compliance	3179
69.	or pharmaceutical care compliance	7548
70.	or pharmaceutical care poland	1558
71.	or pharmaceutical care europe	22646
72.	or pharmaceutical care pharmacy students	2370
73.	or pharmaceutical care students	4230
74.	or pharmaceutical care teaching) and community pharmacy	23958
	Or / 1–74 / and community pharmacy	18,076
	Language EN	15,187
	Years 2019 - 2024	4,916
	Free full text	3,016
	Systematic reviews, narrative reviews, and meta-analyses	340

Following the review of abstracts, 174 articles were excluded, and an additional 123 articles were rejected after full-text evaluation. Furthermore, 28 articles focusing on the COVID-19 pandemic were excluded, as the pandemic represented a unique period for medicine and pharmacy; these articles will be analyzed separately by the authors.

Ultimately, 13 articles[22–34] were selected for final analysis (Table 2). The detailed search process is visualized in the PRISMA flow diagram (Figure 1).

Type of Service (Table 2)

The publications studied described pharmaceutical services such as: indicated are medication therapy management (MTM),[22] Pharmaceutical Care Interventions (PhC),[23] Economic, Clinical and Humanistic outcomes calling the acronym ECHO,[24,32] pharmacist intervention for geriatric population,[25] Pharmacist-Led Screening,[20] sexual and reproductive health services, calling the acronym SRH,[27] services for women in perimenopause and after menopause,[28] Interventions to target antibiotic use,[29] medication reviews, known as MR, provided to patients who have left hospital by pharmacists in primary care,[30] Professional Practice Standards (PPS medication adherence, medication management, and collaborative care),[31] pharmacist care for a patient suffering from depression,[33] impact on patient treatment of cooperation between pharmacists and other medical personnel in primary care.[34]

It should be noted that the analyzed articles did not directly address the costs of providing pharmaceutical care or its cost-effectiveness for pharmacists and the entire healthcare system. However, they did highlight the ECHO model as a tool for assessing clinical, economic, and humanistic outcomes in patient therapy. The prepared article did not focus on demonstrating the cost-effectiveness of pharmaceutical care, as this is not the aim of the study, which is to present the challenges faced by Polish pharmacists. Nevertheless, the cost-effectiveness of services for the entire healthcare system cannot be overlooked, as it is the basis for the reimbursement of services by payers and for decision-making on implementation by government-level policymakers.

Table 2 Services Provided by Pharmacists in Community Pharmacies, Integration Within the Pharmacy Workflow and Challenges with an Indication of the Dates, Outcomes and Sizes of Studies Conducted

Country	Author	Date of Primary Research	A Type of Service	Pharmacy Workflow	Challenges	Selected Studies' Design and Size of Included Studies for Each	Outcomes
USA	Ferreri SP et al, 2020[22]	From January 1, 2008 to September 25, 2019	Medication therapy management (MTM).	There are limited organizational and staff structures supporting MTM in community pharmacies.	Description of pharmacists' attitudes when working with patients, lack of time to provide services, lack of trained support staff, lack of support from the pharmacy manager resulting in excessive workload, inappropriate layout of the pharmacy premises (lack of space).	The narrative review methodology. Identified 41 articles meeting inclusion criteria.	Specifically, identified challenges in the following areas: 1) integration of MTM within the pharmacy workflow; 2) integration of MTM within the health care team; 3) technology; 4) business model for MTM; and 5) patient engagement.
Sudan	Eldooma I et al, 2023[23]	The period between 1996 to 2022	Pharmaceutical Care Interventions (PhC) Within Community Pharmacies (CP).	Services provided: vaccinations, health promotion and education, hospital referral, screening, follow-up visits, adherence monitoring, medication reviews, diagnostics for minor conditions.	MR features - overcoming barriers in contact with the patient, building trust in vaccinations, implementing health programs; building strong relationship with the patient, good communication, providing the best care.	Searched semi-systematically through the PubMed and Google Scholar electronic databases and summarized the literature on outcomes of pharmacist-led PhC interventions within CPs. Identified 15 articles meeting inclusion criteria.	Pharmacist-led PhC interventions within community pharmacy settings are effective and could result in optimized medication use (objective PhC services), improving patients' quality of life.

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Table 2 (Continued).

Country	Author	Date of Primary Research	A Type of Service	Pharmacy Workflow	Challenges	Selected Studies' Design and Size of Included Studies for Each	Outcomes
United Kingdom	Weir NM et al, 2022[24]	Published from 2010 to 2020	Economic, clinical, and humanistic outcomes, referred to as the acronym ECHO.	Clinical goals, service delivery, medication adherence, therapy costs.	Different terminology used to describe pharmaceutical services across countries makes comparisons difficult. Humanistic outcomes described medication use and adherence. Economic outcomes described the costs of therapy.	An umbrella literature review was conducted. MEDLINE, EMBASE, The Cochrane Library and PsycINFO were searched. A total of 24 reviews were included.	This review identified the clinical, service, humanistic and economic outcomes associated with pharmacy-led clinical services delivered in primary care settings.
Portugal	Rodrigues AR et al, 2022[25]	Publications from 2018 to 2022	Description of distinguishable pharmacist intervention, subjects geriatric population.	Helping older patients take their medications, use them correctly, and follow doctor's recommendations.	Chronic disease management problems are mainly caused by older patients not following their medication instructions. Pharmacists can help when patients forget to take their medications, have difficulty taking their medications, and experience side effects.	Four databases that most commonly cite quality studies on pharmacist work were searched: PubMed/Medline, Google Scholar, and Medscape. A brief review. Total of 157 publications were evaluated and included.	Pharmacists are in an ideal position to monitor these patients and help to identify drug-related problems and patients at risk of underlying chronic diseases and nutritional, functional, and social issues, such as loneliness and lack of support.
Australia	El-Den S et al, 2022[26]	Publications published between 2002 and 2020	Pharmacist-Led Screening.	Patients found the community pharmacy a good place for screening and found the knowledge and information provided by pharmacists helpful.	Barriers noted by pharmacists during screening include too little time for screening and too much documentation. Pharmacists who begin screening have an overly high opinion of their skills, which is verified over time.	A systematic search was conducted in Embase, MEDLINE, International Pharmaceutical Abstracts, and Scopus. A total of 44 studies met the inclusion criteria.	Pharmacist-led screening for various medical conditions/risk factors is acceptable to both patients and pharmacists and that screening results are accepted by other HCPs.

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Canada	Navarrete J et al, 2021[27]	Publications from January 2007 to July 2020	Pharmaceutical services, known by the acronym SRH, covering areas of sexual and reproductive health.	Women accept injections of contraceptives in pharmacies. Not all locations in the US allow pharmacies to vaccinate adolescents. However, a pharmacy is a good place to do this because of location, availability of appointments, and pharmacist qualifications. Pharmacists have the knowledge to provide preconception health education, recommend folic acid use, and provide information about vaccinations during pregnancy.	Chlamydia screening – low patient awareness, concerns about confidentiality and privacy. HIV screening – integration into daily work, additional remuneration for pharmacists and costs for patients and reimbursement. HVP vaccination service – convincing parents to vaccinate their teenage children, training pharmacists, information about services. HCV screening – motivating patients to take the test, time management in the pharmacy, workload and additional remuneration for pharmacists. Injectable contraceptives – women identified access to pharmacists as a barrier.	Six health- science databases were searched for relevant peer-reviewed literature: Medline (Ovid), EMBASE (Ovid), CINAHL (Ebsco), Web of Science Core Collection (Clarivate), Scopus (Elsevier) and Cochrane Library (Wiley). Searched ProQuest Dissertations & Abstracts for grey literature, and hand searched the reference lists of selected papers to identify any additional studies. A total of 41 studies met the inclusion criteria.	Given that accessibility to SRH services remains an issue in many countries, it is relevant to recognise pharma cists as SRH providers. Pharmacists' roles have expanded beyond traditional product-focused services and the delivery of professional pharmacy services in a number of SRH areas is feasible and highly accepted by users.
United Kingdom, Ireland	Chow H et al, 2024[28]	Publications from 2004 to 2006	Services for perimenopausal and postmenopausal women.	Community pharmacies are an advantageous setting to promote and offer interventions that improve health outcomes. Perimenopausal and postmenopausal women can benefit from screening and education in a pharmacy.	Since knowledge about menopause is limited, further research is needed to determine what forms of education provided by pharmacists would be most acceptable and effective for women.	Four databases, EMBASE, MEDLINE, Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Cochrane Library were searched. In total, 2 studies were included in the final review.	The findings showed preliminary evidence of benefits of health screening and educational programmes being provided by community pharmacies to menopausal women.

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Table 2 (Continued).

Country	Author	Date of Primary Research	A Type of Service	Pharmacy Workflow	Challenges	Selected Studies' Design and Size of Included Studies for Each	Outcomes
The Netherlands, Hungary, Spain, Denmark	Lambert M et al, 2022[29]	Search the database from inception to January 11, 2021.	Services provided by pharmacists in community pharmacies to reduce antibiotic use.	Additionally, pharmacists should ensure better consumer understanding of antibiotics and tailor patient advice according to patient health literacy. This might suggest that pharmacist interventions could be more successful in developed countries than in developing countries.	The effect of educational interventions is, however, not the same for different therapeutic areas. Most studies on community pharmacist interventions include chronic diseases and long-term treatment, while the studies presented focused on short-term antibiotic administration. Perhaps a pharmacist should be a member of the multidisciplinary team.	PubMed, EMBASE and the Cochrane Central Register of Controlled Trials were searched. A total of 17 studies met the inclusion criteria.	Some of the studies suggest possible positive effects of pharmacist-led interventions in the community setting, especially on symptom assessment, dispensing first-line antibiotics and decreasing OTC dispensing of antibiotics. Nevertheless, the evidence presented in this review does not point clearly towards improved patient-focused outcomes.

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Australia, United Kingdom	Luetsch K et al, 2020[30]	Search the database from inception until 2020	Provision of medication reviews, known as MR, for patients who have left hospital; services performed by pharmacists in pharmacies.	Increased flexibility for the reviewing pharmacist to conduct MR at a location and time which suits patients' preferences.	Doctors have to perceive a benefit for patients and trust the pharmacist's professional expertise. It is not possible to assume that any profession, including pharmacists, is inherently trustworthy. Trust must be built through communication, collaboration. There was no change in healthcare use when pharmacists sent unsolicited reports to prescribers.	Systematic search of PubMed, EMBASE, International Pharmaceutical Abstracts and Cumulative Index of Nursing and Allied Health Literature. 66 documents were included.	Programmes which offer flexibility in MR location and timing, are attuned to patients' priorities and preferences and facilitate coordination and information exchange between all participants increase uptake and participation. Coordination and collaboration between HCPs and pharmacists taking responsibility for MR outcomes seem to create conditions in which the MR leads to patient-relevant outcomes, for example, reductions in hospital readmissions.

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Table 2 (Continued).

Country	Author	Date of Primary Research	A Type of Service	Pharmacy Workflow	Challenges	Selected Studies' Design and Size of Included Studies for Each	Outcomes
Australia	Ali ZZ et al, 2024[31]	From January 2013 to May 2024	Professional practice standards (PPS) cover medication management, multidisciplinary team care, and adherence to medication recommendations.	Pharmacists received support in providing additional services, including training, continuing education and professional development, case studies, use of modern educational tools and expert coaching.	The pharmacist rarely interested in the clinical condition of patients, so they are not used to it providing information about optimising medicine use. Interpersonal, individual, institutional, and public policy factors all influence the scope of practice of community pharmacists.	The following databases were searched to inform the scoping review: Medline (ALL), Web of Science, Scopus, CINAHL Complete, Cochrane Library, Embase (OVID) and Emcare (OVID). This resulted in 14 studies being included.	Help to address the common barriers community pharmacists often rate highly as deterrents to practice, including a lack of compensation, time constraints, low acceptability from other healthcare professionals in collaborative opportunities, and a lack of training opportunities. By expanding community pharmacists' scope of practice, this may reduce the cost burden on the healthcare system because pharmacists will be better utilised in their roles.
Malaysia, Nepal, United Kingdom	Sunil S et al, 2022[32]	From inception to 20th September 2021.	To assess and evaluate how pharmaceutical services impact ECHO, ie on economic, clinical and humanistic outcomes.	The challenge is for other healthcare professionals to recognise the clinical role of pharmacists.	To overcome barriers, you need to collaborate, build trust, demonstrate the value of pharmacists in multidisciplinary teams, and engage legal professionals. Pharmacists must be kept up to date with the latest healthcare guidelines through continuing professional education.	Searched PubMed/Medline, Scopus, EMBASE, CINAHL, and Cochrane Library. 20 studies were included in this review.	Interventions by the pharmacist have shown a positive impact on ECHO, but the impacts of their interventions on patients' long-term health outcomes are yet to be explored in-depth, as most of the studies reported only the short-term outcomes.

Bulgaria, Poland	Kamusheva M et al, 2020[33]	All databases were searched from inception until 2020	The Impact of the pharmacist on patients with depression.	The pharmacist should play the dominant role during the conversation, applying using simple and short sentences and an appropriate tone of voice and body language without discussing several issues simultaneously – a focus should be made on a specific problem through a variety of technical and non-technical skills.	Communicating with patients with mental health problems is a challenge for pharmacists. Patients suffering from depression should be given additional information on the following topics: what are the first symptoms of depression, how to avoid complications by consulting a psychiatrist, and how to take medications.	A search was conducted in the Internet based scientific data base PubMed as well as in other sources, such as paper-based journals and scientific books. 38 articles were summarized.	Application of pharmaceutical care services for patients with depression is effective and leads to condition improvement, reduction of the side-effects, timely identification of and the overcoming of potential or actual DRPs, and improvement of patients' quality-of-life. Collaboration between psychiatrists, pharmacists, and the active inclusion of the affected and their relatives in the therapy could optimize and improve the complex care for patients with depression and achieving the targeted therapeutic outcomes.
France	Angibaud M et al, 2024[34]	From inception to July 2021.	The participation of a pharmacist in the work of interdisciplinary teams in primary health care and its impact on patient treatment outcomes.	Most studies concerned a physician-pharmacist collaboration. All studies included a standard pharmacist intervention involving medication review, patient interview, and recommendations to the physician.	Standard pharmacist intervention including medication review, patient interview and prescription recommendations for the physician. The challenge is to assess the impact of the pharmacist on the patient's quality of life and their satisfaction with pharmacotherapy in a situation where the pharmacist is a member of an interdisciplinary team caring for the patient.	A systematic review of randomized controlled trials cited in the MEDLINE, EMBASE, PsycInfo and CINAHL in English and French. 19 papers were included in the review.	Pharmacists are mainly responsible for medication review, interview with patients and recommendations to physicians, and most commonly collaborate with physicians. Pharmacist collaboration particularly improved blood pressure and cholesterol control.

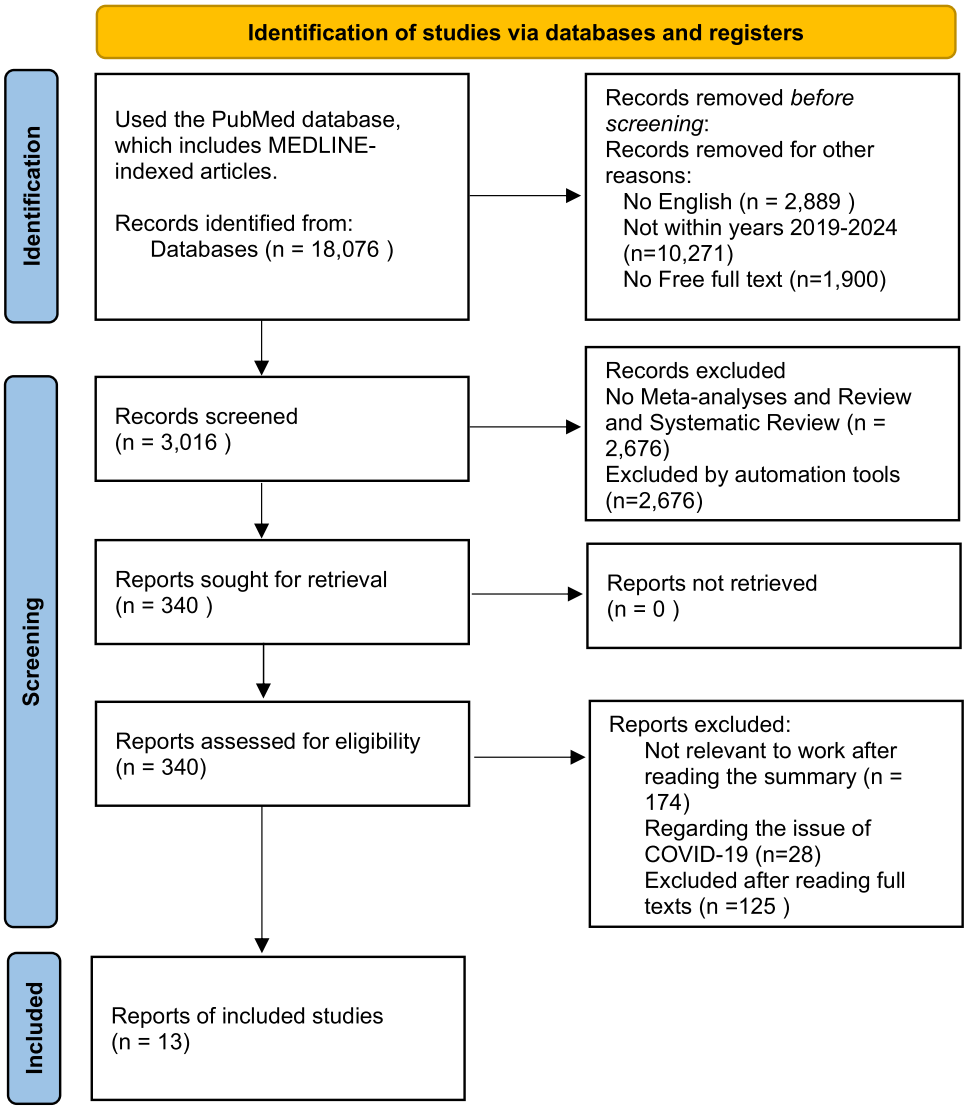

Figure 1 PRISMA 2020 flow of information through the successive phases of a systematic review.
Notes: PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only. This work is licensed under CC BY 4.0. To view a copy of this license, visit https://creativecommons.org/licenses/by/4.0/.

Pharmacists' Working Environment (TABLE 2)

The working environment of pharmacists, particularly in community pharmacies, presents both opportunities and constraints to the implementation of pharmaceutical care services. For example, Ferreri SP et al identified formal constraints such as organizational and staffing structure issues that impact the implementation of MTM.[22]

Support mechanisms pharmacists providing additional services include training modules, ongoing professional development, simulated case scenarios, educational tools, and coaching by field experts, as highlighted by Ali ZZ et al.[31] Additionally, Luetsch K et al found that patient expectations often require flexibility in service delivery, suggesting that pharmacists conduct services at times and locations convenient for the patient.[30]

IT tools that assist pharmacists' clinical decisions can simultaneously simplify and complicate their work. For instance, excessive alerts about drug interactions, both relevant and irrelevant, can create confusion, as noted by Sunil S et al.[32] Compounding this challenge, other healthcare professionals often struggle to fully recognize the clinical role of pharmacists. However, Angibaud M et al observed that most studies on pharmacist roles in multidisciplinary teams involved physician collaboration, encompassing interventions like medication reviews, patient interviews, and physician recommendations.[34]

According to Eldooma I et al, the most common pharmaceutical care services provided in community pharmacies include medication reviews, improving adherence, follow-up visits, counseling, disease assessment and screening, referrals, health promotion, vaccination, health education, and dispensing of diagnostics.[23]

Weir NM et al categorized pharmaceutical services using the ECHO framework, dividing them into clinical indicators (disease management and monitoring), services related to drug use and healthcare utilization, humanistic indicators (patient compliance with medication recommendations), and economic indicators (healthcare cost reduction).[24] Similarly, Kamusheva M et al emphasized that pharmacists should dominate patient interactions using clear, concise communication, effective body language, and a focus on specific problems through both technical and non-technical skills.[33]

Europe's aging population underscores the critical role of pharmacists in helping the elderly understand their medications and adhere to medical recommendations. By providing appropriate pharmaceutical care, pharmacists can significantly improve health outcomes in this demographic.[25] One notable service provided by pharmacists is health screening, with patients rating the information provided as helpful and useful. Community pharmacies are widely perceived as suitable locations for such services.[26]

Convenience, location, short waiting times, the absence of appointments, and a non-judgmental approach make community pharmacies ideal for services related to reproductive health, as noted by Navarrete J et al.[27] However, some limitations exist. For example, in some regions of the United States, HPV vaccinations for adolescents are not offered in community pharmacies. Conversely, administering contraceptives via injection is a well-received service, offering women convenient access with high acceptance rates.[27]

To expand reproductive health services, pharmacists could provide targeted drug reviews to educate patients before conception. The topics covered by the pharmacist include the use of folic acid, indication of medications that may harm fetal development and attention to vaccinations during pregnancy, especially those recommended.[27] Chow H et al highlighted that peri-menopausal and postmenopausal women also benefit significantly from pharmacist interventions. Public pharmacies are ideally positioned to offer health screenings and educational services tailored to this demographic, improving overall health outcomes.[28]

Focusing on antibiotic therapy in mainstream pharmacies is another area of potential impact, as noted by Lambert M et al. While pharmacists typically advise on long-term therapies, they can also help patients better understand antibiotics and adapt their advice to individual health literacy levels.[29]

Challenges for Pharmacists (TABLE 2)

Challenges faced by pharmacists in conducting medication therapy management (MTM) include lack of time, insufficient trained support staff, excessive workloads, inadequate management support, and issues with pharmacy premises such as layout, lack of space, and insufficient privacy. These constraints were highlighted by Ferreri SP et al.[22]

Effective counseling during medication reviews requires strong communication skills and trust-building with patients. Pharmacists can overcome these barriers by offering accessible service points, promoting immunization programs, and conducting health awareness campaigns in community pharmacies.[23]

Conducting international research within the ECHO (Economic-Clinical-Humanistic Outcomes) model poses challenges due to inconsistent terminology for pharmaceutical services, which complicates cross-comparisons. Humanistic outcomes tend to focus less on patients' quality of life than on treatment adherence, while economic outcomes are least taken into account, primarily addressing healthcare costs, as indicated by Weir NM et al.[24]

Standard pharmacist interventions, including medication reviews, patient interviews, and physician recommendations, are well-established. However, Angibaud M et al pointed out the challenges associated with assessing patient quality of life and contentment when pharmacists are part of interdisciplinary care teams.[34]

Non-adherence to medications is a significant issue among the elderly, particularly for managing chronic diseases. Rodrigues AR et al identified common factors contributing to non-compliance, such as forgetfulness, difficulty managing medications, and concerns about side effects. Pharmacists play a crucial role in addressing these issues.[25]

Communication with patients experiencing mental health challenges presents another difficulty. Kamusheva M et al highlighted that pharmacists should provide additional information on recognizing early symptoms of depression, the importance of consulting a psychiatrist, and proper medication use to mitigate risks.[33]

Pharmacists often show initial confidence in conducting health screenings in mainstream pharmacies, but post-screening comfort levels sometimes decline. This is attributed to overestimated confidence before the screening process and challenges such as time constraints and extensive documentation requirements, as reported by.[26]

Barriers during chlamydia screening in community pharmacies include low patient awareness, privacy concerns, and logistical issues like sample return. Similarly, Navarrete J et al observed challenges in HIV screening, such as integrating it into daily workflows, reimbursement policies, and pharmacist compensation.[27]

During HPV vaccination services, challenges included parental beliefs, awareness of pharmacists' vaccination training, and access to service information. For HCV screening, difficulties involved motivating patients to undergo testing and managing pharmacists' workloads alongside compensation concerns.[27]

Patients noted limited pharmacist availability as a barrier to accessing injectable contraceptive services. Chow H et al further emphasized the need for better education methods to address women's health issues, particularly menopause, to enhance both pharmacist and patient knowledge.[28]

The impact of educational interventions by pharmacists varies across therapeutic areas. Most research focuses on chronic disease management, while studies on short-term therapies like antibiotic use are rare. This gap may stem from pharmacists' limited involvement in multidisciplinary teams, as highlighted by Lambert M et al.[29]

Physicians' recognition of pharmacists' contributions is crucial. Luetsch K et al emphasized that trust in pharmacists' expertise must be actively cultivated through communication and collaboration. Without this trust, unsolicited reports from pharmacists to prescribers about patient interventions rarely influence healthcare utilization.[30]

Patients are also unaccustomed to pharmacists inquiring about their clinical conditions or providing guidance on medication optimization. Ali ZZ et al demonstrated that the scope of pharmaceutical practice depends on factors at individual, interpersonal, institutional, and public policy levels.[31]

To overcome these barriers, pharmacists should collaborate with other healthcare professionals in healthcare facilities, build trust, and demonstrate their expertise. Stakeholder engagement is crucial for the development of collaborative processes. In addition, continuous professional development programs are needed to ensure that pharmacists are kept informed about evolving healthcare systems, as emphasized by Sunil S et al.[32]

When providing pharmaceutical care, pharmacists must always remember to identify "red flags", meaning the identification of patients who are at high risk of serious conditions. This enables early referral for further tests and consultations with specialists, increasing the chances of effective treatment. Although this topic was not discussed in detail in the reviewed articles, it is very important, particularly in the context of the minor/common ailment service, when a patient presents to a pharmacist with a minor ailment that must be diagnosed, assessed, and where the pharmacist must decide whether they are able to help the patient or whether the patient should be referred to a specialist. Early recognition of "red flags" by the pharmacist is crucial for the success of therapy and the patient's prognosis.

Trends (TABLE 3)

The results of the above-mentioned review have been compiled in Table 3, which presents pharmaceutical care services in individual countries. Based on the collected data, it can be concluded that the most commonly provided services are Pharmacist-Led Screening (5 countries), Interventions to target antibiotic use (5 countries), education (5 countries), medication reviews (4 countries), and health promotion (4 countries). For comparison, the services that are currently being implemented in Poland are marked in bold.

As of today, there are no plans in Poland to implement services such as medication therapy management, Pharmaceutical Care Interventions, ECHO, pharmacist intervention for the geriatric population, Pharmacist-Led Screening, services for women in perimenopause and after menopause, Interventions to target antibiotic use, pharmacist care for patients suffering from depression, health promotion, education, or services for patients with HIV, although, as indicated by the results of the review, these services are provided in other countries.

In Poland, health promotion and education are elements of the new medicine service, medication reviews, and sexual and reproductive health services. Pharmacist intervention for the geriatric population is intended to be performed as part of the medication reviews service, which will also be dedicated to younger patients. Sexual health care focuses on the emergency contraception service and does not cover postmenopausal women. There are also no specific services for

Table 3 Pharmaceutical care services in individual countries

Country	Pharmaceutical care services																	
	Medication Therapy Management (MTM)	**Pharmaceutical Care Interventions (PhC)**	**ECHO**	**Pharmacist intervention for geriatric population**	**Pharmacist-Led Screening**	**Sexual and reproductive health services (SRH)**	**Services for Women in perimenopause and after menopause**	**Interventions to target antibiotic use**	**Medication Reviews (MR)**	**New Medicine Service (NMS)**	**Pharmacist care for a patient suffering from depression**	**Vaccinations**	**Health promotion**	**Education**	**Patients with HIV**	**High blood pressure screening/ measuring blood pressure**	**Minor ailment service**	**Assessing basic anthropometric parameters to evaluate nutritional status**
Australia[26,30,31]					Yes								Yes	Yes				
Bulgaria[33]											Yes							
Canada[7,27]	Yes					Yes								Yes				
Denmark[29]								Yes										
France[34]									Yes									
Hungary[29]								Yes										
Italy[7]					Yes				Yes									
Malaysia[32]			Yes															
Nepal[32]			Yes															
The Netherlands[29]								Yes										
Portugal[7,25]				Yes								Yes						
Spain[19,29]					Yes			Yes					Yes	Yes	Yes	Yes	Yes	
Sudan[23]		Yes			Yes				Yes			Yes	Yes	Yes				
UK/ Ireland[7,24,28,30,32]			Yes		Yes		Yes		Yes	Yes			Yes	Yes				
USA[22]	Yes																	
Totally	2	1	3	1	5	1	1	5	4	1	1	2	4	5	1	1	1	0

Notes: The pharmaceutical care services that are currently being implemented in Poland are marked in bold.

Table 4 Current Pharmacy Services Provided in Spain and in Poland Under Contract, Agreement, Regulation

Country	Pharmaceutical care services															
	Night Services	Emergency and Urgent Supply of Prescription-Only Medicines Without Prescription	Repeat Dispensing (Chronic Long-Term Medications)	Generic Substitution	Refusal to Dispense Due to Safety Reasons	Needle/ Syringe Exchange	Pharmacist-Delivered Vaccination	Screening Individuals at-Risk Not on Medication	Pharmacovigilance for Medicines Under Additional Monitoring	Referral to Other Healthcare Providers	Directly Observed Treatment	Instruction on Use of Therapeutic, Self-Monitoring Device or Medical Aid	Therapeutic Adherence Support	Medication Review	Therapeutic Substitution	High-Cost Therapy Dispensing and Management
Poland[35]	Yes	Yes		Yes			Yes		Yes							Yes
Spain[35]	Yes		Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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patients with depression or various infections, eg, HIV. In the case of Pharmacist-Led Screening, only blood pressure measurement guidelines have been developed so far.

The results illustrate what is lacking in Poland and what Polish pharmacists should strive for in the care of patients in community pharmacies. However, the first step should be to implement and enable reimbursement of the costs for patients for services with developed procedures, and subsequently to develop and specify pharmaceutical care further.

The results indicate that Spain[19,29] and the United Kingdom[7,24,28,30,32] are leaders in Europe in providing pharmaceutical care. Polish pharmacists can draw inspiration from pharmacists in these countries when implementing medication reviews, new medicine service, high blood pressure screening, and minor ailment service.

To compare Polish challenges with Spanish practices (qualitatively), Table 4 current pharmacy services provided in Spain and in Poland under contract, agreement, regulation is prepared.

Discussion

The community pharmacy in Spain is officially called a public health facility, which is supervised by the health authority. Its main function is to provide care to patients, dispensing medicines and cosmetic products. It also promotes prevention and health education.[19]

In Poland, the Pharmaceutical Law is in force, which states that a pharmacy is a health care facility in which pharmacists provide pharmaceutical services.[36]

While Spain has a higher pharmacist-per-pharmacy ratio than Poland, this may contribute to more efficient service delivery and patient engagement, even in the absence of additional remuneration, especially since in Spain, all community pharmacies are private, but only pharmacists can own pharmacies.[37]

In Poland also all community pharmacies are private, but constitutes 57% of individual pharmacies and 43% of chain pharmacies which may make it difficult to implement pharmaceutical care in pharmacies that are not owned by an individual pharmacist, especially when the provision of services is not mandatory and the costs of their provision are not reimbursed to the pharmacist.[38]

The results highlight both shared and distinct challenges in pharmaceutical care between Spain and Poland, but including only 13 articles may limit the comprehensiveness of findings.

The study's findings were complemented by insights from Spain, where pharmaceutical care has been offered in mainstream pharmacies for many years.

Medication therapy management (MTM) services can be constrained by organizational and staffing issues, such as limited pharmacy space (lack of space and privacy), pharmacists' lack of time, excessive workload, insufficient management support, and a shortage of trained support staff.[22]

Polish pharmacists face similar challenges. Public pharmacies that are tasked with providing pharmaceutical care must adjust their premises. Additionally, implementing pharmaceutical care will increase the workload, making it necessary for community pharmacies to hire more pharmacy staff or train existing support staff for specific tasks, which also requires management's support.[39]

Since pharmaceutical care is in the implementation stage in Poland, it is possible to conduct a study among pharmacists providing these services regarding workload and the impact of these services on their professional quality of life, as well as among pharmacists who do not provide these services, to assess their expectations.

In a Spanish community pharmacy, on average, there are about 2·5 pharmacists working per pharmacy. Despite the fact that pharmacies provide numerous pharmaceutical services, they do not receive additional remuneration for this, so some of them are paid for by patients.[19]

The findings presented by Ferreri SP et al[22] can be applied to Polish conditions, offering valuable insights for pharmacists to diagnose issues more effectively and expedite their resolution.

Medication review (MR), a key component of pharmaceutical care, is one of the most commonly performed services.[23] In addition to MR, pharmacists in mainstream pharmacies also focus on ensuring patient compliance, providing follow-up visits, offering counseling, conducting disease assessments and screenings, referring patients to hospitals or clinics, promoting health education, administering vaccines, and distributing diagnostic agents for specific conditions.[23]

In Poland, pharmacists are ready to provide many pharmaceutical services, among others drug reviews, advice on new therapies, diagnosis of minor ailments, therapy management, blood pressure measurements, assessment of patients' nutritional status based on anthropometric parameters, and consultation for patients using emergency contraception.[13–18]

While pharmacists in both Poland and Spain are engaged in medication reviews and health promotion, Polish pharmacists often face structural limitations such as lack of private space, which is less commonly reported in Spain. Often, during a medication review, other services are performed, such as: health promotion, nutritional assessment, health information, health education.[19,37]

However, as noted by Eldooma Iet al, the effective execution of drug reviews requires strong communication and trust-building with patients to ensure optimal care and knowledge transfer. Overcoming barriers involves fostering trust, promoting pharmacists' role in immunizations, increasing patient awareness of health promotion programs, and ensuring a comfortable environment in pharmacies for patient interaction.[23]

Pharmacists in Poland face a significant challenge in encouraging patients to embrace pharmaceutical care services. While pharmacists enjoy a high level of public trust—90% of people trust pharmacists, and many seek them out first in urgent situations—this trust is often limited to drug sales and prescription fulfillment.[40] Many patients are not used to the fact that a pharmacist can monitor and check their clinical condition or provide advice on optimizing their medication use.[31]

As Luetsch Ket al point out, physicians must recognize the value of the services provided by pharmacists and trust their expertise, which does not happen automatically because trust is specific to individuals and issues, and pharmacists must actively build trust through communication and collaboration with both patients and doctors. For instance, the study authors found no increase in the use of pharmaceutical care when pharmacists sent unsolicited and unannounced reports to physicians about their interventions with patients.[30] This highlights the importance of cultivating collaborative relationships within the healthcare system.

To address the barriers identified in the study by Luetsch Ket al, the professional pharmacy self-government in Poland plays a crucial role. It must work closely with the medical professional self-government.

Barriers can also be overcome by fostering collaboration among healthcare professionals, building partnerships, and indicating that pharmacists should be permanent members of interdisciplinary teams in health care.[32]

Researches shows that in Spain patients use the services offered in community pharmacies, even though they have to pay for some of them themselves, eg the health education program, the campaign about good hygiene, the campaign for preventing childhood obesity, blood pressure measurements, testing for diabetes and hypercholesterolemia which indicates trust in pharmacists.[19,37]

Non-compliance with medication is a significant challenge, especially for elderly patients, as pointed out by Rodriguez AR et al. With the aging European population, the demand for elderly care is increasing. One important aspect of such care involves pharmacists assisting with medication-related problems and helping patients adhere to their doctor's recommendations.[25]

When patients adhere to their medication, their ability to optimally use their medication improves. A study in Spain involving patients with hypertension, asthma and chronic obstructive pulmonary disease showed that patients adhere to their medication, have better outcomes and a better quality of life when patients monitor their adherence. This service is not additionally paid for by the public National Health System (SNS Sistema Nacional de Salud) or any regional health system.[19,37]

The most common reasons for non-adherence to medication include concerns about adverse drug reactions, forgetfulness, and difficulties managing pharmacotherapy.[25]

This issue is increasingly recognized in Poland. Efforts have been underway to implement personalized pharmaceutical care tailored to the individual needs of patients.[41]

Communication with patients experiencing mental health challenges is another area where pharmacists face difficulties. By observing a patient's behavior, pharmacists also play an important role in informing patients about the early signs of depression.[33]

Community pharmacists in Spain promote a healthy lifestyle and psychological well-being among patients. They help with lifestyle choices, which contributes to increasing patient knowledge.[29]

The General Pharmaceutical Council of Spain (CGCOF Consejo General de Colegios Oficiales de Farmacéuticos) promotes different health campaigns at national level, among patients, which is also carried out by local pharmaceutical associations. Examples of health campaigns include: the mental well-being campaign "Tell me" in Andalusia in 2019–2021.[19]

When providing pharmaceutical care, the pharmacist should take an active role in the conversation. It is essential to use an appropriate tone of voice, adapt language to the patient's intellectual capacity, and communicate in short, clear sentences. Equally important is the pharmacist's body language and overall demeanor. A welcoming, open attitude is key to building trust and establishing a strong rapport with the patient. These principles are highlighted in the work of Kamusheva M et al.[33]

The guidelines for pharmaceutical care, developed for Polish pharmacists, emphasize the importance of proper conduct and attitude during patient interactions. These guidelines align with the recommendations set forth by Kamusheva M et al.[13,33]

As noted by El-Den Set al, and Navarrete Jet al, screening for conditions such as chlamydia, HIV, HPV, and HCV is also conducted in community pharmacies.[26,27] Initially, pharmacists were enthusiastic about offering these services, demonstrating high confidence. However, once the screening process was underway, there was a noticeable decline in comfort and satisfaction among pharmacists. They cited several barriers, including time constraints and the extensive documentation required for the screenings.[26]

Despite these challenges, community pharmacies remain well-suited to conduct such screenings. Patients appreciate the short waiting times for consultations, the absence of appointment requirements, the convenient location of the pharmacy, and the empathetic, non-judgmental approach of pharmacists, which all contribute to the appeal of these services.[26,27]

However, several barriers continue to hinder the success of these screenings. A lack of patient awareness about the screenings and what to expect from pharmacists is a key challenge. Additionally, pharmacists reported difficulties related to remuneration, the need to balance these duties with their daily workload, and the lack of reimbursement for the tests performed.[27]

HIV tests have been offered in public pharmacies in the Basque Country since 2009. These tests have a co-payment for patients and are covered by the regional health system.[19,37]

Other programs are also being implemented, such as screening for: cervical cancer, SARS-CoV-2 infection, diabetes and hypercholesterolemia and high blood pressure (point-of-care testing). Special programs also include methadone supplies, syringe exchange for people on parenteral nutrition and assistance in quitting smoking.[19,37]

Spanish pharmacists are not authorized to vaccinate patients, but vaccines are distributed through community pharmacies.[19]

In Poland, while pharmacists are not authorized to conduct screening tests, they are permitted to perform diagnostic tests aimed at assessing the effectiveness and safety of a patient's pharmacotherapy. Pharmacists are also trained to analyze drug-related issues and propose appropriate diagnostic methods and tests. Current guidelines in Poland now include the conduct of blood pressure measurements and basic anthropometric assessments, which can be used to evaluate a patient's nutritional status.[16,17]

Starting in 2021, pharmacists in Poland have been authorized to vaccinate patients against COVID-19 and influenza, as well as qualify patients for vaccination.[42]

In 2024, they also gained the ability to provide reproductive health services. They are now able to dispense emergency contraception in community pharmacies after conducting an interview with the patient.[18] The National Health Fund (NFZ Narodowy Fundusz Zdrowia) refunds this service, meaning that patients can receive the consultation free of charge, although they must pay for the prescribed medication.

This service is similar to one described by Navarrete Jet al, where pharmacists in community pharmacies also offer contraceptive injections. To enhance pharmacists' influence on reproductive health, it is suggested that they conduct educational consultations before conception, focusing on the use of folic acid, drugs that could harm the fetus, and vaccines recommended during pregnancy.[27]

Community pharmacies also provide targeted services for women of post-reproductive age. These pharmacies are well-positioned to help women through perimenopause and postmenopause. However, one of the barriers to implementing these services is patients' low level of knowledge about menopause. To address this, it would be beneficial to identify and develop effective and acceptable educational methods for both women and pharmacists.[28]

Currently, there are no specific services offered exclusively for post-menopausal women in Polish community pharmacies. However, patients can receive advice from a pharmacist through consultations for minor ailments.[15]

The examples of pharmacist interventions provided in mainstream pharmacies primarily focus on chronic diseases. Lambert Met al also observed that pharmacist interventions targeting short-term therapies, such as antibiotic treatment, are relatively rare.[29] This may be because outpatient antibiotic therapy is short-term and administered under medical supervision. In contrast, pharmacists are more frequently involved in managing antibiotic therapy for hospitalized patients, where they collaborate as part of multidisciplinary teams.[29]

The situation in Poland mirrors this. In hospitals, pharmacists are integral members of Antibiotic Therapy Teams, where they actively contribute to antibiotic management and consult on antibiograms. However, in community pharmacies, pharmacists primarily dispense antibiotics prescribed by doctors. While they may offer advice to patients, this does not constitute the documented provision of pharmaceutical care.

The ECHO model includes an economic-clinical-humanistic analysis of pharmacotherapy.[43] However, conducting ECHO analysis across international centres presents challenges due to the heterogeneous nomenclature used to describe pharmaceutical services, as highlighted by Weir NM et al.[24]

Humanistic analyses in pharmacotherapy have often focused more on patient drug outcomes than on the broader aspects of patient quality of life. Economic outcomes, in turn, have largely been discussed in terms of costs.[24] A major challenge is patient adherence to pharmacological recommendations, which depends on the patient's satisfaction with the therapy received and on his/her own assessment of the quality of his/her life.[34]

The ECHO model can be used to measure services in community pharmacies. The medication review service using the Dáder method with follow-up service has been the most studied. The impact of the adherence service and the impact and implementation of the minor ailments service, which is co-created with the general practitioners' professional group (GPs), are still being studied.[37]

There is growing interest in integrating humanistic aspects into pharmaceutical care in Poland, reflecting a shift toward patient-centered communication and empathy: a trend also seen in Spain's public health campaigns.[44–46]

It is also important for pharmacists providing pharmaceutical care to conduct studies, particularly those demonstrating the economic benefits of these services, including their impact on patients' quality of life, therapy safety, the reduction of adverse drug reactions and interactions, and improved compliance. The results of such studies should be published in order to prove to government-level decision-makers that investing in pharmaceutical care brings measurable benefits for the entire healthcare system as well as for individual patients.

To move forward, Poland must address workforce shortages, strengthen interdisciplinary trust, and ensure proper remuneration for pharmacists. Drawing on Spain's experience, investing in pharmacist-led education and preventive services may significantly enhance care outcomes in community settings.

Conclusions

This review highlights key pharmaceutical services currently implemented in community pharmacies and identifies critical barriers that hinder their widespread adoption in Poland.

The main tasks of pharmaceutical care are to reduce morbidity and mortality related to medications through comprehensive medication management by pharmacists.

It is essential to recognize that pharmaceutical care is a clinical responsibility of the pharmacist, not a commercial service offered by the pharmacy setting.

These services are most often not provided due to the lack of additional remuneration for the pharmacist for their provision, which would serve as reimbursement for the cost of delivering these services. Therefore, attention should be drawn to the benefits of pharmaceutical care at the governmental level. It is also essential that research in this field is conducted regularly to meet the evolving needs of patient care and the broader healthcare landscape.

Pharmaceutical care must not be an isolated practice serving only pharmacies, but rather a rational decision-making process aimed at addressing a serious public health issue in society. The results of this review will serve as a basis for developing future in-depth studies focused on the implementation and delivery of pharmaceutical care.

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