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DETERMINANTS OF PHARMACISTS' SUPPORT FOR AND READINESS TO IMPLEMENT THE PROTOCOL FOR DISPENSING MEDICINES FOR THE TREATMENT OF DIABETES MELLITUS UNDER THE "AFFORDABLE MEDICINES" PROGRAM

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Standardization of pharmaceutical care in the management of diabetes mellitus (DM) is an important component of improving the quality and safety of pharmacotherapy, given the chronic nature of the disease, polypharmacy, and the risk of medication-related errors. Within the framework of reimbursement programs and the digitalization of prescription dispensing, there is an increasing need for structured protocols/algorithms to guide pharmacists' actions in the provision of pharmaceutical services (PS). However, the successful implementation of such protocols depends not only on their scientific validity but also on their acceptance by pharmacy professionals and the organizational readiness of community pharmacies to adopt changes.

The aim: *to identify and characterize the determinants of pharmacists' support for and readiness to implement a protocol for dispensing medicines for the treatment of diabetes mellitus under the "Affordable Medicines" reimbursement program.*

Materials and methods*: a cross-sectional sociological study was conducted among 486 pharmacy professionals using a structured questionnaire. Descriptive statistics, binary logistic regression to identify factors associated with support for the development of the protocol, and exploratory factor analysis to determine the latent structure of readiness for its implementation were applied. Model performance was evaluated using the Nagelkerke R2 and the Hosmer-Lemeshow goodness-of-fit test. The suitability of the data for factor analysis was assessed using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity. Statistical significance was set at $p < 0.05$.*

Results*: support for the development of a protocol for dispensing medicines for the treatment of diabetes mellitus under the "Affordable Medicines" program was expressed by 72.8% of respondents. Length of professional experience was a statistically significant predictor of support (OR = 0.755; 95% CI 0.643–0.886; p = 0.001). Exploratory factor analysis (KMO = 0.903; Bartlett's test, $p < 0.001$) identified two factors that together explained 78.6% of the total variance: "professional perception of protocol value" (evidence base, practicality, simplicity, and ease of use) and "organizational support for implementation" (time availability, financial incentives, and managerial support).*

Conclusions*: Support for the development and implementation of a protocol for dispensing medicines for the treatment of diabetes mellitus was high among the surveyed pharmacy professionals. Readiness to implement the protocol was primarily determined by the professional perception of its value and the availability of organizational support, whereas longer professional experience was associated with a lower likelihood of supporting its implementation*

Keywords*: diabetes mellitus, prescription, reimbursement, pharmaceutical services, Good Pharmacy Practice, pharmacist protocol, community pharmacy*

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1. Introduction

Diabetes mellitus (DM) remains one of the most prevalent chronic non-communicable diseases and a major contributor to premature mortality, disability, and the economic burden on healthcare systems [1–3]. The increasing prevalence of DM is accompanied by a growing need for long-term pharmacotherapy, regular glycemic monitoring, and the prevention of disease-related complications. International guidelines for the diagnosis and management of DM emphasize the importance of a multidisciplinary approach, including the involvement of pharmacy professionals to improve medication adherence, optimize pharmacotherapy, and minimize medication-related errors [4–7].

Pharmacists working in community pharmacies are among the most accessible healthcare professionals for patients and are therefore well positioned to provide pharmaceutical services (PS) during the dispensing of medicines. This includes pharmaceutical counselling on medication administration, common risks (such as hypoglycemia, adverse drug reactions, and drug interactions), identification of pharmacotherapy-related problems, and

support for behavioural changes that promote effective disease management [4–6].

The international literature on the role of pharmacists in providing pharmaceutical care to patients with DM consistently demonstrates that specialized pharmaceutical care can improve glycemic control and medication adherence, particularly when delivered through structured interventions such as patient education, medication review, and regular follow-up [4–7]. These findings create a demand for standardized and operationally simple tools, including protocols, algorithms, and checklists, that ensure the consistent delivery of a minimum standard of pharmaceutical counselling within the constraints of routine pharmacy practice. This approach is consistent with the principles of Good Pharmacy Practice (GPP), in which the standardization of procedures is directly associated with improvements in the quality and safety of pharmaceutical care [8, 9]. Ukrainian studies addressing GPP and pharmaceutical care for patients with DM have likewise highlighted the insufficient standardization of pharmaceutical care and the important role of pharmacy professionals in providing patient education and counselling [6, 8, 10].

In routine practice, the implementation of the reimbursement program combines compliance with regulatory requirements and the provision of professional pharmaceutical counselling, as dispensing medicines based on an electronic prescription requires not only appropriate prescription verification and dispensing procedures in accordance with current legislation, but also the provision of information on medication use, potential risks, storage conditions, and the prevention of adverse drug reactions.

The launch of the "Affordable Medicines" reimbursement program in 2017 and the introduction of electronic prescribing in 2019 have transformed the organization of medicine dispensing in community pharmacies in Ukraine and have contributed to improving patients' access to medicines [11, 12]. The expanding responsibilities of pharmacy professionals in providing comprehensive counselling, informing patients about the appropriate use of medicines, and supporting the continuity of pharmacotherapy may enhance medication adherence and improve patients' quality of life [13]. Conversely, the absence of nationally standardized recommendations for the provision of pharmaceutical care, particularly regarding the dispensing of medicines for the treatment of DM, may result in variability in counselling practices among community pharmacies and inconsistencies in the information provided to patients [6, 8].

According to the Good Pharmacy Practice (GPP) standard (a joint document of the World Health Organization and the International Pharmaceutical Federation), the standardization of processes in pharmacy is a fundamental prerequisite for ensuring the quality, safety, and reproducibility of pharmaceutical care [9]. In the context of DM, this substantiates the need to develop a practically applicable protocol with separate counselling modules tailored to different clinical situations.

Examples of such standardization include PS for insulin dispensing in the United Kingdom and Canada, which additionally incorporate specific modules for checking injection technique and assessing patients' use of insulin delivery devices [14, 15]. In Germany, within the reimbursement framework for the "Medication Review" service, patients are stratified according to therapy complexity, with specific criteria defined for individuals receiving insulin therapy [16]. Studies on the implementation of clinical PS in Australia have demonstrated that insulin-related services are more challenging to integrate into routine pharmacy practice, as they require better workflow organization and additional resources [17].

However, the development of a protocol or algorithm does not guarantee its actual implementation. The translation of evidence-based research findings, innovations, and best practices into routine practice is considered a multilevel process in which outcomes are influenced by acceptability, appropriateness, feasibility, and contextual organizational factors [18]. In the context of the expanding implementation of the "Affordable Medicines" program, the assessment of pharmacists' readiness to use dispensing protocols in daily pharmacy practice becomes particularly important.

Therefore, studying pharmacists' attitudes toward the development of a dispensing protocol for medicines used in the treatment of DM that are subject to reimbursement, as well as identifying determinants of readiness for its implementation, is relevant for improving the quality of pharmaceutical care, standardizing pharmaceutical practice, and enhancing the implementation of the "Affordable Medicines" program at the community pharmacy level.

The aim: To identify and characterize the determinants of pharmacists' support for and readiness to implement a protocol for dispensing medicines for the treatment of DM under the "Affordable Medicines" program.

2. Research planning (methodology)

The study was conducted in the following stages: preliminary, outcome (analytical), summarizing, and final stages (Table 1).

The questionnaire covered four content blocks containing information on:

1) socio-professional characteristics of respondents;

2) working conditions with prescriptions and patients with DM;

3) attitudes toward a standardized protocol and the feasibility of a modular structure of its content;

4) expected benefits, barriers, and conditions of readiness for implementation.

The questions were closed-ended nominal, ordinal, dichotomous, and scale-based. The questionnaire included a total of 19 items. A Likert scale was used to assess factors of readiness for protocol implementation.

To assess the content validity of the questionnaire, four experts in the field of pharmacy organization and management were involved. The criteria for selecting experts included practical experience in pharmacy practice and/or at least 10 years of experience in academic and teaching activities in pharmaceutical care. The experts evaluated the relevance of the questions to the study objective, their clarity, and their logical sequence.

Table 1

Study stages

Stage	Objective of the stage	Methods/tools	Content of work
Preliminary	To define the scientific and practical basis of the study, substantiate the content blocks of the questionnaire, and preliminarily identify potential determinants of pharmacists' support for and readiness to implement a protocol for dispensing medicines for the treatment of DM under the "Affordable Medicines" program	Bibliographic and semantic method; content analysis of sources and documents; structural-logical synthesis; expert evaluation of the questionnaire's content validity	Analysis of scientific publications on pharmaceutical care for patients with DM, GPC standards, PS for chronic disease management, implementation of the "Affordable Medicines" program, and the use of electronic prescriptions. Based on this, the conceptual framework of the questionnaire was developed, its content blocks were defined, and a list of variables for subsequent statistical analysis was established. Expert evaluation of the questionnaire's content validity was conducted using criteria of relevance to the study objective, clarity of wording, and logical sequence of questions
Outcome (analytical)	To obtain empirical data on respondents' characteristics, working conditions with patients with DM, support for the protocol, the feasibility of a modular structure of its content, as well as advantages, barriers, and conditions of readiness for its use	Standardized questionnaire: closed-ended nominal, ordinal, and dichotomous questions; Likert-scale items	A one-time cross-sectional survey of pharmacy professionals working in community pharmacies. This design was chosen to assess respondents' opinions, attitudes, and self-reported readiness at a specific point in time without intervention in their professional activities
Generalization	To describe the study sample, assess statistical relationships between variables, identify predictors of support for protocol implementation, and determine latent components of readiness for its use	Descriptive statistics; chi-square test; Spearman's rank correlation; binary logistic regression; principal component analysis (PCA) with Varimax rotation; Kaiser–Meyer–Olkin (KMO) measure; Bartlett's test of sphericity	Verification of data completeness, description of the sample, assessment of statistical associations, and modelling of predictors
Final	To interpret the results in relation to the study design, determine their practical implications, identify limitations, and outline directions for further research on the implementation of the protocol under the "Affordable Medicines" program	Analytical synthesis; critical discussion	To summarize the results of descriptive statistics, regression analysis, and factor analysis. To determine the practical conditions for implementing the protocol. To formulate the practical significance, limitations, and prospects for further research

Sample size adequacy was assessed using a conservative approach for proportion estimates: assuming an expected proportion of 50%, a confidence level of 95%, and a permissible error of 5%, the minimum required sample size was approximately 384 respondents [19]. To reduce information bias, all respondents completed the same version of the questionnaire with identical question wording, response options, and the same sequence of thematic blocks. Incomplete questionnaires were excluded from the analysis.

3. Materials and methods

The empirical stage of the study employed a one-time cross-sectional survey design of pharmacy professionals working in community pharmacies. The study included 486 respondents holding positions such as pharmacy assistant, pharmacist, and pharmacy manager, all of whom had practical experience in dispensing medicines, regardless of place of work, gender, or length of professional experience. The sample was non-probability and purposive. The inclusion criterion was professional affiliation with pharmacy practice and potential involvement in dispensing medicines for the treatment of DM. The sample was formed on the basis of voluntary participation from the overall population of pharmacy professionals in Ukraine. No targeted selection was applied with regard to position, work experience, type of pharmacy institution, or region.

Prior to completing the questionnaire, participants were informed about the study objectives, the voluntary nature of participation, anonymity of responses, and their right to withdraw at any stage.

Statistical analysis was performed in the following sequence: sample and respondent responses were described using absolute and relative frequencies; associations between categorical variables were assessed using the chi-square test; Spearman's rank correlation coefficient was used for ordinal-scale variables; binary logistic regression was applied to identify predictors of protocol support; and principal component analysis (PCA) with Varimax rotation was used to identify latent components of readiness.

The statistical processing corresponded to the objectives of the generalization stage of the study. Descriptive statistics were used to characterize the sample, respondents' working conditions with patients with DM, and the distribution of responses regarding support for the development and implementation of the protocol. Categorical variables were presented as absolute numbers and percentages.

The main dependent variable, "support for protocol implementation," was dichotomized: responses "desirable" and "necessary" were classified as "support," while all other responses were classified as "do not support/undecided." Since the dependent variable was binary, binary logistic regression was used to assess the association between respondents' characteristics and the likelihood of supporting the protocol [20]. The model included work experience, duration of patient counselling per case, and frequency of patient requests for consultation. Work experience was coded as an ordinal variable from lower to higher levels: less than 1 year, 1–3 years, 3–5 years, 5–10 years, and more than 10 years. Results are presented as odds ratios (OR), 95% confidence intervals, and p-values.

To identify the latent structure of readiness for protocol implementation, exploratory factor analysis was applied to nine scale-based variables: practicality of recommendations, scientific validity, ease of use, format convenience, recommendations of professional organizations, positive peer feedback, allocation of additional time by management, managerial support, and financial motivation. This method was chosen due to the exploratory nature of the study and was applied separately to scale variables of readiness without isolating each condition individually, in order to determine their underlying structure. Factor analysis was performed using the principal component method with Varimax rotation [21]. Data suitability was assessed using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity.

Statistical analysis was conducted using Python 3.11 programming language and open-source libraries pandas, scipy, and numpy. The level of statistical significance was set at $p < 0.05$.

4. Results

4. 1. Sample structure and working conditions related to the dispensing of medicines for the treatment of DM

The study analyzed 486 questionnaires completed by pharmacy professionals. Most respondents had more than 5 years of professional experience: 35.8% had worked in pharmacies for over 10 years, and an additional 22.2% had 5–10 years of experience. By position, the sample included both frontline pharmaceutical staff and managerial level employees: pharmacy managers accounted for 39.1%, pharmacists for 34.6%, and pharmacy assistants for 26.3%. Urban pharmacy settings predominated in the sample, which was later considered as a limitation for the generalization of the results (Table 2).

Most pharmacy professionals (70.8%) dispense 1–5 prescriptions per day for medicines used in the treatment of DM under the reimbursement program "Affordable Medicines," while 22.2% of respondents report dispensing 6–10 prescriptions.

Respondents most frequently indicated that patients with DM seek consultations several times per week (35.8%), while 19.8% of pharmacy professionals reported daily patient inquiries. At the same time, 48.6% stated that serving one such patient takes up to 5 minutes, and an additional 38.7% reported a duration of 5–10 minutes. Thus, for most pharmacists, a typical consultation is short, i.e., up to 10 minutes (Table 3).

Table 2

Socio-professional characteristics of respondents (n = 486)

Indicator	*n*	%
Work experience in pharmacy		
Over 10 years	174	35.8
5–10 years	108	22.2
1–3 years	80	16.5
3–5 years	78	16.0
Less than 1 year	46	9.5
Position		
Head of pharmacy	190	39.1
Pharmacist	168	34.6
Pharmacy assistant	128	26.3
Location of pharmacy		
Regional center	229	47.1
City	187	38.5
District center	38	7.8
Settlement	18	3.7
Village	14	2.9

Table 3

Working conditions of respondents related to dispensing medicines for the treatment of DM under the "Affordable Medicines" program

Indicator	*n*	%
Number of prescriptions / day		
1–5	344	70.8
6–10	108	22.2
11–15	24	4.9
More than 15	10	2.1
Duration of service for one patient		
Up to 5 minutes	236	48.6
5–10 minutes	188	38.7
10–15 minutes	48	9.9
15–20 minutes	14	2.9
Frequency of consultations		
Several times per week	174	35.8
Rarely	130	26.7
Daily	96	19.8
Several times per month	66	13.6
Never	20	4.1

4. 2. Attitudes toward the development of the protocol

For further analysis, responses were dichotomized: "supports" (desirable/necessary) – 72.8% (n = 354) and "does not support" – 27.2% (n = 132). This result indicates a professional demand for standardization of pharmacy practice in the dispensing of medicines for DM treatment within the reimbursement program and is consistent with GPP principles regarding the standardization of pharmaceutical processes [6, 9].

The majority of respondents (68.7%; n = 334) supported the need to differentiate the content of counselling for oral medicines and insulin products.

4. 3. Analysis of predictors of protocol support

The analysis showed that the only statistically significant predictor was the work experience category. For this variable, the OR was 0.755 with a 95% confidence interval (CI) of 0.643–0.886; $p = 0.001$. This means that with each increase in work experience category, the odds of supporting the development of the protocol decreased by approximately 24.5%. This pattern can be interpreted as follows. First, more experienced specialists likely already rely on established personal counselling and decision-making algorithms; therefore, the need for a new formalized protocol is perceived as less urgent. Second, highly experienced pharmacists may be more critical toward the introduction of new regulatory documents due to prior experience with additional regulations that did not always simplify practice. Third, younger specialists, in contrast, may more often perceive the protocol as a supportive tool that reduces the risk of errors in practice.

It was demonstrated that other factors, such as consultation duration and frequency of patient visits, did not influence support for the development of the protocol (Table 4). This may indicate that the intensity of interaction between pharmacy professionals and patients, as well as the length of service time, are less decisive in shaping attitudes toward protocol development than professional experience itself.

Table 4

Analysis of predictors of support for the implementation of a standardized protocol

Variable	OR (95% CI)	*p*	Assessment of result significance and interpretation
Work experience (per 1 category increase)	0.755 (0.643–0.886)	< 0.001	Statistically significant value. As the indicator increases, support decreases
Duration of consultation (per 1 category increase)	1.236 (0.933–1.639)	0.140	Not statistically significant
Frequency of consultations (per 1 category increase)	1.079 (0.908–1.282)	0.388	Not statistically significant

Note: Model quality: Nagelkerke $R^2 = 0.046$; Hosmer-Lemeshow test $p = 0.083$, indicating satisfactory calibration with modest explanatory power.

4. 4. Factor analysis of readiness for protocol implementation

Factor analysis was performed on nine scale-based variables reflecting conditions of readiness for protocol implementation. Data suitability for factorization was high (KMO = 0.903; Bartlett's test $p < 0.001$), indicating sufficient coherence of the correlation matrix for applying the principal component method.

Based on PCA with Varimax rotation, a two-factor structure was obtained, which explained a total of 78.6% of the overall variance. The first factor had an eigenvalue of 6.155 and accounted for 68.4% of the variance. It grouped variables related to the practical and professional evaluation of the protocol: practicality of recommendations (0.890), scientific validity (0.864), ease of use (0.841), format convenience (0.839), recommendations of professional organizations (0.669), and positive peer feedback (0.637). Based on the content of these variables, this factor was interpreted as "Professional value", as it showed the strongest loadings for variables describing usefulness, evidence base, simplicity, and practical applicability of the protocol. This indicates that pharmacists' readiness to use a new protocol is primarily determined by their perception of it as a professionally useful, evidence-based, understandable, and practically applicable tool in daily practice. At the same time, social and professional endorsement strengthens this perception but is not the primary driving force behind it.

The second factor had an eigenvalue close to 1.0 (0.920) and additionally explained 10.2% of the variance. It grouped variables describing the conditions for protocol implementation in the pharmacy setting: allocation of additional time by management, financial motivation, and managerial support. Based on the content of these variables, this factor was interpreted as "Organizational support", as it combines variables related to time resources, managerial support, and financial incentives.

The pattern of loadings indicates that this component primarily reflects the institutional context of innovation implementation. In substantive terms, Factor 2 characterizes:

– the structural capacity of the pharmacy organization to provide necessary resources (time as an operational resource);

– managerial involvement and leadership support, which forms a normative signal regarding the importance and priority of the innovation;

– the economic feasibility for staff, which reduces the perceived additional workload.

Thus, Factor 2 reflects the system-level readiness – the organization's ability to create conditions under which the new tool does not compete with routine tasks but is integrated into the workflow (Table 5).

The identified two-factor structure of readiness indicators for protocol implementation demonstrates that pharmacists' readiness to adopt the protocol has a two-dimensional nature:

– the professional-value dimension (perception of the tool as useful and evidence-based);

– the organizational-resource dimension (conditions, support, incentives).

In substantive terms, this means that readiness for implementing a new protocol has a two-layer structure. The first layer is internal and professional: the pharmacist must perceive the document as truly useful and evidence based. The second layer is external and organizational: the pharmacist must have the conditions necessary to apply it in practice. The combination of these two components represents the most likely prerequisite for successful implementation.

Table 5

Factor structure of readiness indicators for the implementation of a standardized protocol

Variable	Factor loading		Interpretation of results
	Factor 1 (Professional value)	Factor 2 (Organizational support)	Dominant factor
Practicality of recommendations	0.890	0.307	Factor 1
Scientific validity	0.864	0.220	Factor 1
Ease of use	0.841	0.253	Factor 1
Format convenience	0.839	0.407	Factor 1
Recommendations of professional organizations	0.669	0.458	Factor 1
Positive peer feedback	0.637	0.506	Factor 1
Allocation of additional time by management	0.324	0.878	Factor 2
Financial motivation	0.325	0.802	Factor 2
Managerial support	0.437	0.795	Factor 2

Note: The two factors jointly explained 78.6% of the variance, confirming the two-component nature of readiness: internal professional perception of the document's value and external organizational support for implementation. Factor loadings reflect the strength of association between each variable and the corresponding latent component.

5. Discussion

The obtained results demonstrate that the majority of surveyed pharmaceutical professionals support the implementation of a standardized PS protocol during the dispensing of medicines for DM, which can be interpreted as a high level of professional readiness for such an initiative. For successful implementation, factor analysis results indicate that this readiness consists of two interrelated components: professional perception of the protocol's value and organizational-resource support.

The finding that 68.7% of respondents support differentiating the content of the dispensing protocol for oral medicines and insulin should be interpreted as a demand for distinct consultation modules within a single protocol. Such a modular approach allows for the consideration of clinical differences in insulin therapy, including the risk of hypoglycemia, injection technique, storage conditions, and rotation of injection sites.

International experience in providing PS to patients with DM also demonstrates differentiation in the dispensing of specific groups of medicines for this patient population [4, 22].

The most important result of the factor analysis, in our opinion, is the identification of the "Organizational support" factor. This factor included variables related to the allocation of additional time, managerial support, and financial motivation. These conditions determine the feasibility of integrating a new standardization tool into daily pharmacy practice.

This finding is consistent with the Consolidated Framework for Implementation Research (CFIR), which is used to analyze factors influencing the successful or unsuccessful implementation of new practices in healthcare systems [23]. Within CFIR, alongside the characteristics of the innovation itself, the organizational context plays a crucial role, including resources, workflow, managerial support, readiness for change, and the internal implementation climate.

A similar structure of barriers is also reflected in other studies, where key components repeatedly include logistics, financial constraints, managerial support, training, and collaboration [24]. The "Organizational support" factor demonstrates the systemic nature of implementation readiness and logically integrates three interrelated components: time resources, managerial engagement, and financial motivation.

The highest factor loading of the variable "allocation of time" confirms that the availability of time for counselling is one of the key organizational prerequisites for the practical use of the protocol during the dispensing of medicines for DM. In international studies on the implementation of PS, a lack of time available for pharmacists to counsel patients is consistently identified as one of the main barriers to integrating such services into routine pharmacy practice [25]. One study focusing on PS for routine monitoring and review of patients with DM demonstrated that the key negative components of successful implementation are predominantly resource and contextual constraints, including time limitations, competing priorities, workforce shortages, workflow organization, and access to clinical information [26]. Similar findings were reported in the United States, where barriers to providing pharmacy-based PS for patients with DM are traditionally concentrated around insufficient time, difficulties in workflow integration, and patient- and system-level constraints [27]. Thus, the time resource within this factor reflects the strategic capacity of a pharmacy organization to implement the dispensing protocol for DM treatment.

Managerial support of the pharmacy organization represents another essential component and enabling condition for implementation, as management is responsible for organizing staff training, allocating working time, and integrating the protocol into everyday pharmacy practice.

Financial motivation is also a significant component. This factor indicates the need for compensation mechanisms for additional professional activities related to counselling patients with DM and documenting the use of the protocol. Given the organizational and economic conditions of pharmacy practice in Ukraine, such mechanisms may require support at the level of a state

program or the payer of PS. International experience in implementing PS shows that the availability of payment mechanisms or financial incentives increases the sustainability of such services in routine practice [28, 29].

Another important result of the factor analysis was the identification of the "Professional value" factor. The highest loadings within this factor were observed for the practicality of recommendations, scientific validity, ease of use, and format convenience of the protocol. This indicates that, for pharmaceutical professionals, the content quality, clarity, and applicability in daily pharmacy practice are of primary importance [30]. Accordingly, the protocol should be designed as a concise, structured, and operationally convenient tool to support pharmaceutical counselling during the dispensing of medicines.

A statistically significant predictor of protocol support was also work experience. As the length of professional experience increased, the likelihood of supporting protocol implementation decreased. This may indicate that more experienced pharmacists rely on established personal approaches to counselling and may evaluate new standardized tools more critically. Therefore, during the development and implementation of the protocol, it is important to demonstrate its practical benefits specifically for experienced professionals. In our view, these may include time savings, reduced risk of missing important information, and the ability to standardize the minimum required counselling content during dispensing within the "Affordable Medicines" program.

At the same time, consultation duration and patient visit frequency were not significantly associated with protocol support. This suggests that attitudes toward its implementation are determined primarily by the perceived usefulness of the document and the availability of organizational conditions for its application, rather than by the intensity or frequency of patient interactions.

Thus, the results of the study indicate that readiness to use a standardized dispensing protocol for medicines in the treatment of DM within the "Affordable Medicines" program should be considered as a combination of two components: the professional value of the protocol for pharmaceutical specialists and the organizational capacity of the pharmacy to ensure its implementation.

In this regard, further development of the protocol should include evidence-based content, a clear algorithmic structure, integration into pharmacy workflow, staff training, and mechanisms to motivate its effective use.

Practical significance. The practical significance of the study lies in the fact that its results can serve as a scientific basis for the further development of a standardized protocol for the dispensing of medicines to patients with DM within the "Affordable Medicines" program. The identified expected benefits and barriers to implementation enable the formulation of recommendations for organizing the implementation process at both the institutional level and within individual pharmacies. The obtained data can also be used in the development of methodological guidelines, internal standard operating procedures of pharmacy establishments, and continuing professional development programs for pharmaceutical professionals.

Study limitations. The sample was predominantly composed of urban pharmacies, which may limit the generalizability of the results to rural or less urbanized areas. The data were based on self-reports, therefore the risk of socially desirable responses cannot be excluded. The regression model included a limited set of predictors, while other unmeasured organizational factors may have influenced the results, including pharmacy chain type, key performance indicators, internal staff training, and the use of digital tools. The sampling method is also a significant limitation, as random selection was not applied. The sample in this study was non-probabilistic and purposive; therefore, the obtained results should be interpreted as characteristics of the surveyed group of pharmaceutical professionals and cannot be considered fully representative of the entire population of pharmacy workers in Ukraine.

Prospects for further research. In future studies, it is advisable to consider the type of pharmacy establishment and its affiliation with a pharmacy chain, as these factors may determine access to training, the availability of internal standards, time allocated for counselling, and the level of managerial support. Special attention should be given to the use of digital tools in the dispensing and counselling process, namely the frequency of use of electronic prescriptions, internal information systems, electronic checklists, or digital algorithms integrated into pharmacy software. A promising direction is a study design comparing indicators before and after protocol implementation, including a control group of pharmacy professionals working without such a protocol, to assess its impact on staff satisfaction, improvement of knowledge among pharmacy workers, quality of counselling, and patient adherence to treatment.

6. Conclusions

1. More than 70% of pharmaceutical professionals support the development of a dispensing protocol for medicines used in the treatment of DM within the "Affordable Medicines" program, reflecting a professional demand for standardization of practice and improved quality of pharmaceutical care in line with GPP standards.

2. Work experience is a statistically significant predictor of support for implementing the dispensing protocol for DM treatment: with increasing experience, the odds of support decrease (OR = 0.755; $p = 0.001$).

3. The majority of respondents (68.7%) supported differentiation of counseling content for oral medicines and insulin.

4. PCA with Varimax rotation identified a two-component structure of readiness indicators for implementation: "professional perception of protocol value" and "organizational-resource support" (KMO = 0.903, Bartlett's test $p < 0.001$; total explained variance = 78.6%).

5. An effective approach to protocol implementation is the combination of the document's content characteristics (simplicity, evidence base, practicality, and us-

er-friendly format) with organizational conditions for its use (additional counseling time, managerial support, training, and motivational mechanisms).

Conflict of interest

The authors declare that they have no conflict of interest in relation to this research, whether financial, personal, authorship or otherwise, that could affect the research and its results presented in this article.

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Data availability

Data will be made available on reasonable request.

Use of artificial intelligence

The authors confirm that they did not use artificial intelligence technologies in creating the submitted work.

Authors' contributions

Igor Zhogov: Conceptualization; Methodology; Formal analysis; Investigation; Visualization, Writing – original draft; **Liliia Hala:** Writing – original draft, Writing – review & editing.

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