demand. Also, for the tablet form, according to the data of different years, a year-by-year import approach is observed.

The injectable form of Dexalgin® is imported in sufficient quantity, which meets the domestic demand for it and allows to reduce the frequency of imports. It is the drug of first choice (among generics) for single parenteral administration to the patient, depending on the availability of the appropriate packaging form.

The periodic increase in the import volume of Dexalgin® in the fourth quarter of the year is explained by the creation of stockpiles due to the increase in the production of anti-inflammatory drugs in correlation with the frequency of outbreaks of inflammatory diseases typical for the winter period. The annual growth of volumes testifies to the profitability and reliability of the drug.

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### **SUMMARY**

In the article, we presented a detailed algorithm to be used in various types of marketing, pharmacoeconomic or assortment research - synchronization of retrospective information obtained from official information sources of the research position with systematization and analytical-synthetic processing - on the example of positioning of deqsalgini® imports in the Georgian pharmaceutical market.

**Key words:** retrospective information. algorithm, deqsalgini®

УДК 615.12:339.13

## PROBLEMS AND PROSPECTS FOR THE DEVELOPMENT OF PHARMACIES IN UKRAINE

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### **РЕЗЮМЕ**

В статті досліджено тенденції функціонування аптечних закладів в сучасних умовах. Визначено основні проблеми аптечних закладів, а саме: управління запасами;

проблеми відпуску Е-рецептів; відмова від екстемпорального виготовлення лікарських засобів; значна концентрація аптечних закладів; управління даними; обслуговування клієнтів; брак кадрів; питання страхування та відшкодування; вигорання і стрес, пов'язані з роботою тощо. Запропоновані напрями розвитку аптечних закладів.

*Ключові слова*: аптечні заклади, проблеми, напрями розвитку, інформаційні термінали

**Introduction.** The consumption of medicines is growing annually. The main factors of this process are the emergence of new drugs, new pharmacological groups, etc., which increases the role of competition in the pharmaceutical market. This is also due to the intensification of the struggle for markets for medicines; increased consumer attention to service; the use of various sales promotion measures, etc. On this basis, pharmacies today seek to expand the range of pharmaceutical products, meet the needs of the population for medicines and medical devices, as a properly and optimally formed product policy is of great importance for the successful development of the pharmacy business. However, it should be noted that due to the martial law, pharmacies face a significant number of problems.

The aim of the study is to analyze the pharmacy market of Ukraine and identify the problems of pharmacies, to develop relevant directions for the development of pharmacies in the current environment.

**Methods and sources.** The following methods were used in the study: retrospective, logical, statistical, prognostic, and sociological survey.

**Results.** As a result of Russian aggression, Ukraine has suffered significant losses, including the occupation of about 18% of its territory and the loss of more than 15 million people (Figure 1). Pharmacy retail also suffered losses. As a result of Russian aggression, the number of pharmacies in all regions of Ukraine has decreased, but the eastern, southern and northern regions have suffered the most. In the territories liberated from occupation, the number of pharmacies is gradually recovering, but in the regions where hostilities are ongoing or a significant part is under temporary occupation, the situation remains difficult.

Pharmacy chains quickly restored the number of operating outlets and even exceeded pre-war levels. At the beginning of last fall, the number of operating outlets reached 98.2%, and in November, only 29 pharmacies and pharmacy outlets out of 3796 that were open until February 24, 2022 were out of business. Already in December, the number of operating pharmacies exceeded the pre-war figures and now stands at 3,922, which is three percent more than a year ago.

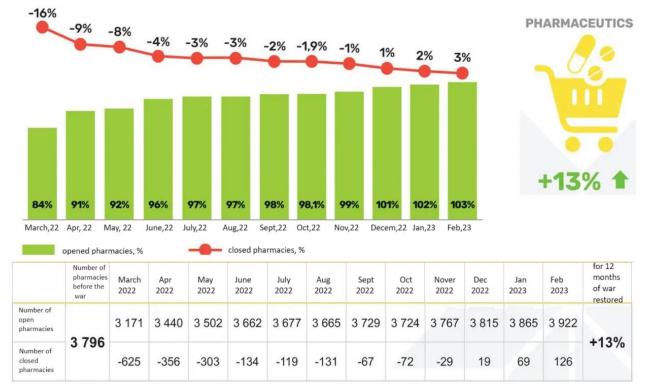


Fig. 1. Trends in the functioning of pharmacies [1]

The most problematic regions are mainly eastern and southern, in particular Kirovohrad, Chernihiv, Sumy, Mykolaiv, Kharkiv, Zaporizhzhia, Donetsk, Kherson and Luhansk regions [1]. In these regions, hostilities continue and many are under temporary occupation, which makes it difficult to open pharmacies. However, the process of restoring the number of pharmacies in the territories liberated from the occupation continues.

At the beginning of the war, there was a significant drop in turnover and the number of pharmacies. However, the recovery began in July 2022, and most chains reached pre-war turnover levels. In January-July 2023, the ranking of pharmacy chains in terms of turnover in monetary terms was topped: Pharmacy-Magnolia, Pharmacy network Podrozhodnyk, Pharmacy network 9-1-1, Sirius-95 and Pharmastor, which accumulate 57% of the total turnover in money and the leader's share is 14.8%. [1].

Table 1

Top 10 pharmacy chains by turnover in 2023 compared to the same period last year

PHARMACY NETWORK	Turnover, UAH	Share in	Increase in
	million	turnover, %.	turnover, %
APTEKA-MAHNOLIA	13 694	14,8	31,2
MEREZhA APTEK	12 604	13,7	51,1
PODOROZhNYK	12 004	13,7	31,1

APTEChNA MEREZhA 9-1-1	11 406	12,4	50,4
SIRIUS-95	9772	10,6	40,1
FARMASTOR	5087	5,5	22,9
ASNOVA	3792	4,1	5,1
MED-SERVIS HRUP	3072	3,3	3,7
ZDOROVA RODYNA	2672	2,9	51,6
MEREZhA APTEK D.S.	1885	2,0	-3,4

Summarizing the above, it should be noted that the pharmacy retail recovery is ongoing, but the situation remains difficult in some regions. Market consolidation continues, and the largest chains continue to increase the number of pharmacies. Pharmacy margins have fallen to pre-war levels.

Based on the results of research and a sociological survey of pharmacy employees, a list of problems faced by pharmacy managers was systematized. Thus, the main ones are as follows (Fig. 2) [2].

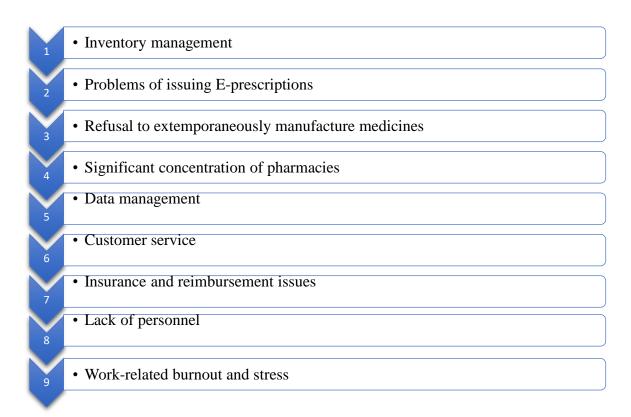


Fig. 3 Current problems of pharmacy institutions

1. Inventory management. Pharmacies need to maintain an accurate inventory of their medications, supplies, and equipment. One simple solution is to implement an automated inventory management system that tracks inventory levels and alerts you when it's time to order more.

2. Prescription errors. Prescription errors can occur, which can have serious consequences for patients. To reduce the risk of errors, you should use electronic prescribing systems and double-check prescriptions before filling them.

As for the issuance of E-prescriptions, there are also problems. For example, it is impossible to "pull up" all trade names of medicines by the assigned international nonproprietary name (INN). Filtering of medicines prescribed by electronic prescription is carried out not only by the international nonproprietary name, but also by the dosage and dosage form of the medicine prescribed by the doctor. In this case, the doctor indicates the form of the medicine that is indicated for the patient for certain clinical indications. Accordingly, the interface of the pharmacy information system displays only those medicines from the registry that fully meet all the parameters specified by the doctor.

The problem of partial redemption of an e-prescription. The functionality of an e-prescription allows you to redeem a prescription for a smaller amount of a medicinal product than specified in the prescription. In this case, the pharmacist in the pharmacy can fill the prescription in parts in an amount that is a multiple of the original packaging (e.g., blister, ampoule, etc.). In this case, the patient does not need to obtain a prescription again to dispense the remaining medicines.

If a particular health information system (HIS) does not have this functionality, or if a pharmacist encounters any technical problems when trying to partially redeem a prescription, they should contact the technical support of the HIS installed in the pharmacy.

Also, the dispensing of electronic prescriptions may be complicated by the absence of electricity, Internet, service failures, etc.

- 3. Insurance and reimbursement issues: Dealing with insurance companies and getting reimbursed for prescription drugs can be time-consuming and frustrating. To simplify this process, pharmacies can implement a pharmacy benefits management system that automates the insurance and reimbursement process.
- 4. Customer service: Poor customer service can lead to dissatisfied patients and reduced business. To improve customer service, pharmacy management needs to provide training to its employees and implement an automated patient management system that simplifies the process of scheduling appointments and handling customer requests.
- 5. Data management: Keeping track of patient information, prescription records, and other sensitive data is a challenge for pharmacies. To solve this problem, you need to use a secure cloud-based system that allows you to store and access data from anywhere.

By implementing these simple solutions, pharmacies can solve common problems and improve their operations, helping to ensure the health and well-being of

- 6. Lack of staff. Attracting and retaining pharmacists and technicians in pharmacies is one of the main tasks of management. Several factors contribute to staffing problems:
- acute shortage of pharmaceutical professionals. The majority of pharmacy administrators reported a turnover rate of 21% to 30% of technical specialists, and the loss of 41% or more of their technical staff. Pharmacy professionals prefer higher-paying positions in retail pharmacies or insurance companies.
- Imbalance of the labor force arriving and leaving. Fewer students are entering pharmacy schools and colleges. Over the past 10 years, the number of applications to pharmacy schools has decreased by 60%. Meanwhile, there has been a sharp increase in retirement among workers who initially postponed retirement due to the pandemic and martial law.
- Changing attitudes towards work. Potential employees are looking for flexible schedules, as well as remote or home-based work options, such as telemedicine and virtual consultations.
- New trends in the role of pharmacists. During COVID-19 and martial law, pharmacists have taken on a more prominent role as frontline healthcare providers, providing vaccinations and medication counseling. This is likely to continue to expand in the future as pharmacists play a more important role in patient care.
- 7. Work-related burnout and stress. Increased demands and stressors on pharmacy staff lead to workplace burnout due to a number of factors. Pharmacists are filling in the gaps due to high staff turnover in pharmacies. They are also beginning to play a more prominent role as a primary care provider. Recent studies show that patients trust their pharmacists to play a greater role in their care.

Other problems include the following:

- pharmaceutical care as the main task of a pharmacist in modern realities is carried out formally;
- sales of medicines look like sales of consumer goods in ordinary retail outlets, and a specialist with higher or secondary specialized pharmaceutical education has turned into a salesperson;
- there are many questions about the number of pharmacies per capita, which leads to an artificial shortage of personnel;
- the lion's share of pharmacy chains refuse to manufacture medicines extemporaneously due to the unprofitability of such activities, which leads to the leveling of the production function of the pharmacy;
- marketing agreements have a significant impact on the work of pharmacy chains and pharmacists.

Having identified the problems of pharmacies, it should be noted that one of the ways to improve the efficiency of their work can be the development of a unique

information base of touchscreen information terminals, which consists of 3 blocks:

- 1) a database for comparing trade names of medicines by pharmaceutical, consumer and price characteristics;
  - 2) a database to prevent self-medication;
- 3) a database of pharmacy assortment to eliminate the main problems of customers when visiting a pharmacy.

It is important to note that just having a mobile app does not solve all business problems, but in the right hands, it can become a powerful marketing tool. The main functionality of a mobile application for a pharmacy chain: Point system of bonuses; Electronic queue; News about promotions; Possibility to leave a review online; Order or make a call; Mode of operation; Find on the map; Groups in social networks; Technical support.

The main advantages of the app are: launching a unique loyalty program to stand out among competitors; accumulated points encourage customers to return; customers will tell their friends about the company on a social network; you can always return a customer who has not visited the pharmacy chain for a long time; free notification of all customers about promotions and company news; the customer base will start building from the first day of the app's operation without tediously filling out paper questionnaires; no changes to cash register equipment will be required; the savings program is more cost-effective than the discount program; the customer will see the application with the logo on their mobile phone.

### **Conclusions**

Summarizing the results of the study, in order to solve the problems of pharmacy institutions, the pharmacy chain should form an effective socially oriented assortment of medicines aimed at meeting consumer needs and increasing its competitiveness. Timely obtaining and analyzing information about consumers, their preferences and factors influencing the choice of medicines will allow a pharmacy to form an up-to-date product range, which will help to strengthen its competitive position. It is also necessary to conduct pieces of training, seminars, and advanced training courses for pharmacy employees to improve their knowledge of modern methods of assortment planning and analysis, which will help maintain the level of the current assortment and attract new customers.

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#### **SUMMARY**

The article examines the trends in the functioning of pharmacies in modern conditions. The main problems of pharmacies are identified, namely: inventory management; problems of issuing E-prescriptions; refusal to extemporaneous manufacture of medicines; significant concentration of pharmacies; data management; customer service; lack of personnel; insurance and reimbursement issues; burnout and stress related to work, etc. Directions for the development of pharmacies are also proposed.

**Key words**: pharmacies, problems, directions of development, information terminals

# ANALYSIS OF THE DYNAMICS OF THE STRUCTURE OF THE RANGE OF ANTIHELMINTHIC MEDICINES SUPPLIED IN THE REPUBLIC OF UZBEKISTAN

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### **РЕЗЮМЕ**

В статті представлені результати аналізу динаміки структури асортименту антигельмінтних препаратів в Республіці Узбекистан за даними DRUG AUDIT за 2016-2022 рр. В якості методу дослідження використано методологію структурного контентаналізу.

За результатами аналізу антигельмінтних препаратів на фармацевтичному ринку Республіки Узбекистан виявлено, що найбільший обсяг препаратів на ринку спостерігався у 2019 році — 2,6 млн упаковок на суму 3,7 млн доларів США. У 2020 році спостерігається різке зменшення обсягів антигельмінтних препаратів, що пояснюється карантинними заходами. Протягом досліджуваного періоду на ринку були представлені антигельмінтні препарати з 11 країн, при цьому ринок у 2020 році залишили виробники з чотирьох країн: Великобританії, Росії, Вірменії та Південної Кореї.

*Ключові слова:* фармацевтичний ринок, Республіка Узбекистан, протиглистні лікарські засоби, контент аналіз

**Introduction.** Helminthiasis is a parasitic human disease caused by parasitic worms - helminths. Currently, 287 species of helminths that parasitize humans are known, of which about 50 species are widespread. In accordance with the characteristics of life cycles and mechanisms of infection, helminthiases are divided into three main groups: geohelminthiasis, contagious (contact) and biohelminthiasis. WHO estimates that this affects approximately 2 billion people worldwide, including