

ФАРМАКОЛОГІЯ І ФАРМАЦІЯ

UDC 614.274:362.45

DOI <https://doi.org/10.32782/2226-2008-2025-5-13>*A. M. Krychkovska*¹ <https://orcid.org/0009-0006-0783-7059>*N. L. Zayarnyuk*¹ <https://orcid.org/0000-0002-5507-5873>*O. B. Pankevych*² <https://orcid.org/0000-0002-1702-8689>*I. R. Buchkevych*¹ <https://orcid.org/0000-0002-0155-115X>*O. I. Khomenko*³ <https://orcid.org/0000-0001-9175-6919>*V. I. Lubenets*¹ <https://orcid.org/0000-0001-6189-0084>STUDY OF THE ACCESSIBILITY OF MEDICAL
AND PHARMACEUTICAL CARE FOR PEOPLE WITH DISABILITIES¹ Lviv Polytechnic National University, Lviv, Ukraine,² State Non-Profit Enterprise "Danylo Halytsky Lviv National Medical University", Lviv, Ukraine,³ Private Higher Educational Institution "Lviv Medical University", Lviv, Ukraine

UDC 614.274:362.45

A. M. Krychkovska¹, N. L. Zayarnyuk¹, O. B. Pankevych², I. R. Buchkevych¹, O. I. Khomenko³, V. I. Lubenets¹
STUDY OF THE ACCESSIBILITY OF MEDICAL AND PHARMACEUTICAL CARE FOR PEOPLE WITH DISABILITIES¹ Lviv Polytechnic National University, Lviv, Ukraine,² State Non-Profit Enterprise "Danylo Halytsky Lviv National Medical University", Lviv, Ukraine,³ Private Higher Educational Institution "Lviv Medical University", Lviv, Ukraine

Introduction. The number of people with disabilities in Ukraine has reached 3 million people, of which more than 300 thousand have received such status since the beginning of the full-scale invasion of Russian troops into Ukraine. This has exacerbated the issue of medical and pharmaceutical services for such patients.

The aim of the study was to identify the problems that people with disabilities face when receiving services in healthcare facilities (HCFs).

Material and methods. The methods of survey, mathematical statistics, generalization and interpretation of results were used. The materials were the results of an oral and questionnaire survey of 481 people with disabilities living in Lviv and the Lviv region.

Results and discussion. The reasons for the difficulty of reaching the HCFs and the physical inconveniences that people with disabilities face when visiting pharmacies and polyclinics were identified. It is shown that this group of patients often encounter cases of inadequate pharmaceutical and medical care, which forces them to defend their rights in conflict situations. Given the existing problems in pharmaceutical and medical services, respondents provided suggestions for improving services in HCFs.

Conclusions. Based on the questionnaire survey, problems of transport and physical accessibility to HCFs, an insufficient level of pharmaceutical and medical services and inappropriate attitude towards them in pharmacies and polyclinics were identified. It is shown that the implementation of the National Strategy for Creating a Barrier-Free Space in Ukraine, integrated into the state healthcare system, will contribute to improving services for people with disabilities. In this regard, it is important to train medical and pharmaceutical workers in serving people with disabilities.

Keywords: people with disabilities, medical and pharmaceutical services, pharmacy, polyclinic.

УДК 614.274:362.45

А. М. Кричківська¹, Н. Л. Заярнюк¹, О. Б. Панькевич², І. Р. Бучкевич¹, О. І. Хоменко³, В. І. Лубенець¹
ДОСЛІДЖЕННЯ ДОСТУПНОСТІ МЕДИЧНОГО ТА ФАРМАЦЕВТИЧНОГО ОБСЛУГОВУВАННЯ
ДЛЯ ЛЮДЕЙ З ІНВАЛІДНІСТЮ¹ Національний університет «Львівська політехніка», Львів, Україна,² ДНП «Львівський національний медичний університет імені Данила Галицького», Львів, Україна,³ Вищий приватний навчальний заклад «Львівський медичний університет», Львів, Україна

Кількість людей з інвалідністю в Україні сягнула 3 млн осіб, з яких понад 300 тис. отримали статус з часу повномасштабного вторгнення Росії. Зазначене спричинило загострення проблеми соціальної ізоляції людей з інвалідністю та необхідність створення інклюзивного соціального простору. Проведене опитування людей з інвалідністю у Львові та Львівській області (обсяг вибірки респондентів становив 481 особу) та аналіз отриманих результатів дали можливість з'ясувати проблеми доступності до закладів охорони здоров'я, визначити рівень медичного та фармацевтичного обслуговування.

© А. М. Krychkovska, N. L. Zayarnyuk et al, 2025

Стаття поширюється на умовах ліцензії



Встановлено, що реалізація Національної стратегії зі створення безбар'єрного простору та навчання медичних і фармацевтичних працівників аспектів обслуговування людей з інвалідністю сприятимуть їх обслуговуванню.

Ключові слова: люди з інвалідністю, медичне і фармацевтичне обслуговування, аптека, поліклініка.

Introduction

The protracted war in Ukraine has increased the number of people with disabilities among both military personnel and civilians. As of January 1, 2021, according to the State Statistics Service of Ukraine, there were 2,703,000 people with disabilities in Ukraine, including 222,300 people with disabilities of Group 1, 900,800 of Group 2, 1,416,000 of Group 3, as well as 163,900 children [1]. Over the years of the full-scale invasion, the number of Ukrainians with disabilities has increased by 300 thousand and as of November 2024 had risen to 3 million [2]. At the same time, “the consequences of Russia’s aggressive actions not only lead to mass disability of Ukrainians, but also complicate the processes of rehabilitation and socialization of those persons who had previously established disabilities” [2]. Ukraine has experience in creating a barrier-free environment even during the ongoing large-scale conflict; in particular, more than 300 multidisciplinary teams work in hospitals, providing rehabilitation assistance to patients prior to official disability certification [3]. In addition, digitization of social services is being implemented, allowing people to seek assistance remotely, as well as changes in legislation that help people with disabilities work officially, since currently only one in four people with disabilities in Ukraine is formally employed, which is about half the European rate. [4]. An analysis of foreign publications has shown that there are still many unresolved issues regarding the possibilities of participation of people with disabilities in society, in particular, they have problems with access to medical and pharmaceutical services [5]. These problems are related to economic, territorial and infrastructural aspects, as well as to the lack of training and qualifications of medical and pharmaceutical professionals, physical barriers in healthcare facilities (HCFs), lack of resources/technology and language barriers [6]. All these barriers generate injustice, which ultimately leads to increased social isolation of people with disabilities. Protection of these patients from access barriers is an aspect of patient safety and an important component of pharmaceutical safety [7].

The aim of our study was to identify the problems faced by people with disabilities when receiving services in HCFs, namely in pharmacies and polyclinics.

Materials and Methods

The research was carried out within the framework of the international educational project Erasmus+ Jean Monnet 101085257 – GoodPharma – ERASMUS-JMO-2022-HEI-TCH-RSCH “Good solutions for gaps in Pharmacy: in line with the European priorities”. Methods of survey, mathematical statistics, generalization and interpretation of results were used. The materials were the results of an oral and questionnaire survey, which were obtained with the help of employees of the Resource Center for Educational Information Technologies for People with Special Needs of the National University “Lviv Polytechnic”, the Lviv City Organization of the Ukrainian Society of the Deaf, and the Public Organization “Rehabilitation Fund for the Blind” of

Lviv. The questionnaire was intended for different groups of people with disabilities who had experience visiting pharmacies and polyclinics, and consisted of 22 questions, some of which had from 4 to 6 answer options. The questionnaire provided for filling out the questionnaire by an assistant from the words of the person with disabilities, as well as certification of the respondent’s consent. The respondent was expected to identify his disability (mental, motor or sensory) with the opportunity to indicate the type of disorder (deafness, blindness, etc.) or without the obligation to answer this question. In total, the sample of respondents consisted of 481 people living in the city of Lviv and the Lviv region, 479 of them were people with disabilities, 2 – people without disabilities. According to the Confederation of Employers of Ukraine, formed on the basis of the Pension Fund of Ukraine, the number of people with disabilities in the Lviv region as of 2021 was 211.4 thousand people [8]. However, in the conditions of martial law in Ukraine and as a result of the disability of the population, this statistical unit has a tendency to grow. The study used a simplified formula for calculating a simple probability sample in a public opinion poll ($P = 0.954$), which is shown in the case when the general population is more than 5 thousand units: $n = 1/\Delta^2$, where n is the volume of the sample population, Δ is the proportion of the given sampling error. The margin of error of the sample in the case of 481 people is ± 0.046 or $\pm 4.6\%$, that is, the obtained survey results show the investigated validity within the usual measure of reliability ($D = 3\text{--}10\%$) [9]. All respondents were adults aged 24–78 full years. By gender, there were 279 women (58.3%) and 200 men (41.7%). By place of residence, respondents were distributed: city – 85.4%, village – 12.5%, urban-type settlement – 2.1%. By level of education: incomplete secondary – 4.2%, secondary – 45.8%, secondary special – 22.9%, higher education – 27.1%. There were no respondents without education among the surveyed persons with disabilities. The distribution of respondents by age is presented in Fig. 1.

Respondents financially support themselves as follows: receive a pension or social assistance – 89.6% (among them 29.2% have permanent jobs), live only on wages – 6.2%, have non-permanent or seasonal work – 4.2%. By type of disability, respondents were distributed as follows: hearing disability – 68.1%, musculoskeletal disorders – 29.8%, visual impairment – 2.1%.

Research results and their discussion

It was found that three-quarters of respondents (74.5%) have the opportunity to receive pharmacy services within walking distance from their place of residence, the remaining 25.5% reported no such opportunity. Slightly more than half of the respondents (57.4%) have access to a polyclinic within walking distance, the remaining 42.6% require transport to reach the polyclinic.

The reasons for the difficulty of getting to pharmacies were indicated by 133 people (28.3%), and to polyclinics by 430 people (89.4%) of all respondents. This question

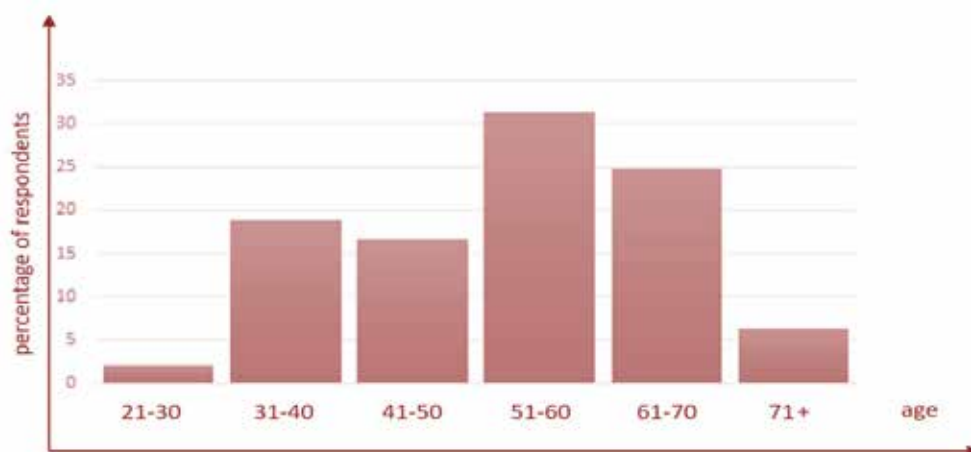


Fig. 1. Distribution of respondents by age groups, %

could be answered several times, accordingly, a total of 460 answers were given regarding pharmacies and 509 – regarding polyclinics. As can be seen from the data in Fig. 2, more than half of them indicated limited accessibility of public transport as the most common reason for the difficulty of getting to HCFs (58.3% – to pharmacies, 58.8% – to polyclinics), more than a tenth – uncomfortable transport service and lack of notifications about arrival at the destination, about a tenth – the need for accompaniment by another person.

The physical inconveniences that people with disabilities face when visiting pharmacies and polyclinics were indicated by 300 and 248 people, respectively, which amounted to 62.4% and 51.6% of all respondents. Since it was possible to provide multiple answers to this question, a total of 415 answers were given regarding physical inconveniences in pharmacies, and 382 answers regarding polyclinics.

The data in Table 1 demonstrate a difference in the answers provided depending on the type of HCFs. More than a third of respondents (36.1%) noted the absence of waiting and rest areas for visitors in pharmacies, almost

one fifth (19.0%) indicated that the entrance to pharmacies is inconvenient for various reasons, at least one tenth of respondents observed inconveniences associated with opening the entrance doors of pharmacies outwards (12.3%) and narrow doorways (10.3%). The inconvenient location of pharmacies and the absence of a pharmacist call button were indicated by about a tenth of respondents (9.9% each), and the height of pharmacy counters – by 2.4%.

In polyclinics, according to respondents, physical barriers are primarily caused by the entrance to them (22.2%), the absence of a medical worker call button (20.9%), and the absence of waiting and rest areas for visitors (18.1%). Somewhat less problematic were the inconvenient location of polyclinics (14.7%) and narrow doorways (12.6%). For some respondents, physical obstacles include outward-opening entrance doors (7.8%) and the height of patient registration desks (3.7%).

In addition to physical inconveniences that make it difficult to visit HCFs, people with disabilities often encounter cases of inadequate pharmaceutical and medical services (48.9% and 69.6% of respondents, respectively). This question could be answered several times, so a total

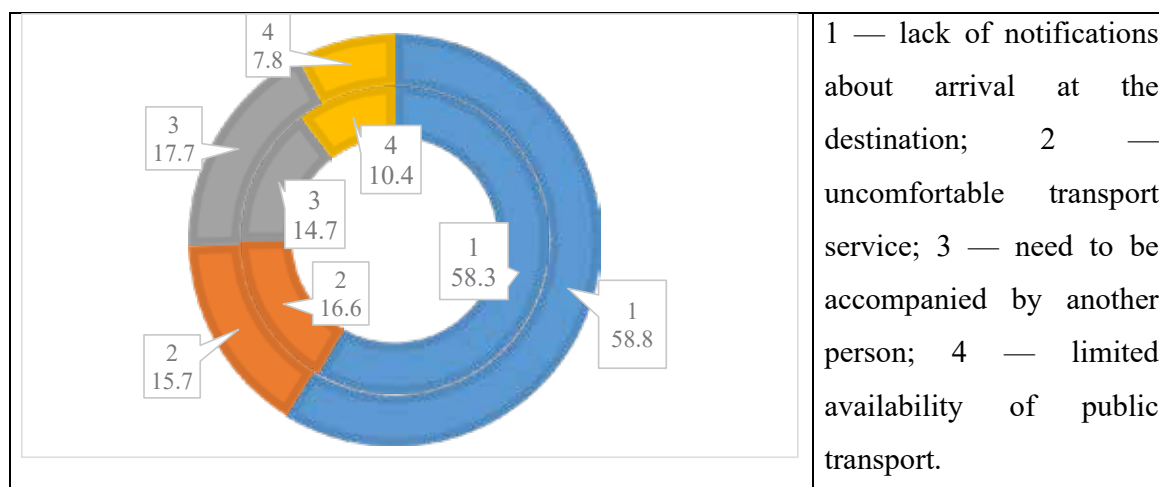


Fig. 2. Distribution of respondents' answers regarding the reasons for difficulty in reaching a HCFs (inner circle – pharmacy, outer circle – polyclinic) (in %)

Table 1

**Distribution of respondents' answers regarding the difficulties they encounter when visiting HCFs
(the question had multiple answers)**

No	Physical inconveniences faced by persons with disabilities in HCFs	Distribution of respondents			
		pharmacy (n = 300)		polyclinic (n = 248)	
		fraction, %	rank	fraction, %	rank
1	Lack of waiting and rest areas for visitors in the pharmacy/polyclinic	36.1	1	18,1	3
2	The entrance to the pharmacy/polyclinic is inconvenient because of the stairs (or for other reasons)	19.0	2	22,2	1
3	The outward-opening entrance door and prevents the movement of a person in a wheelchair/blind person	12.3	3	7,8	6
4	Narrow doorways	10.3	4	12,6	5
5	The location of the pharmacy/polyclinic is inconvenient	9.9	5–6	14,7	4
6	Absence of a call button for a pharmaceutical/medical worker of a pharmacy/polyclinic	9.9	5–6	20,9	2
7	Pharmacy counters/registration desks are too high for effective communication	2.4	7	3,7	7
Total		100.0	x	100.0	x

of 249 answers were given regarding pharmacies and 363 answers regarding polyclinics.

Table 2 shows that more than four-fifths of these answers concerned practical experience in pharmaceutical and medical services for people with disabilities, more than one-tenth – lack of professional ethics. It is unfortunate that respondents, although a small proportion (less than one-twentieth), noted the lack of empathy among medical and pharmaceutical workers as a professionally significant quality.

Part of the people with disabilities were forced to defend their rights in conflict situations that arose during

service in HCFs: in pharmacies – 51.2% of all respondents, and in polyclinics – 60.3%. In their responses regarding further actions after cases of inappropriate treatment in HCFs, respondents indicated several points at once. In total, 272 responses were received regarding pharmacies, and 331 responses regarding polyclinics. As can be seen from the data in Table 3, the unfortunate fact is that for one reason or another, almost two-fifths of the respondents who experienced inappropriate treatment in HCFs did not take any measures. Although a third of the respondents in such situations turned to public organizations of people with disabilities, about one-fifth also defended their

Table 2

Distribution of respondents' answers regarding the features of pharmaceutical and medical services

Reasons for negative staff behavior	Distribution of respondents' answers, %	
	pharmacy (n = 249)	polyclinic (n = 363)
Lack of practical experience in providing services to people with disabilities	84.5	81.0
Lack of professional ethics	11.4	14.5
Lack of empathy	4.1	4.5
Total	100.0	100.0

Table 3

Distribution of respondents' answers regarding steps and actions taken by them during and after incidents of mistreatment in HCFs

Characteristics of behavior and actions during and after cases of inappropriate treatment in HCFs	Distribution of respondents' answers, %	
	pharmacy (n = 272)	polyclinic (n = 331)
Contacted public organizations of people with disabilities	58.8	54.4
Defended their rights in a conversation with healthcare workers	29.5	33.2
Contacted the health care administration	7.3	9.1
Contacted social security authorities	4.4	3.3
Contacted the human rights bodies	–	–
Total	100.0	100.0

rights in a conversation with health care workers. A small part of people with disabilities turned to the health care administration and social protection bodies. Citizens did not turn to human rights bodies.

Given the existing problems in pharmaceutical and medical services, 73.0% of respondents provided suggestions for improving services in HCFs. This question could be answered multiple times, so a total of 382 responses were given.

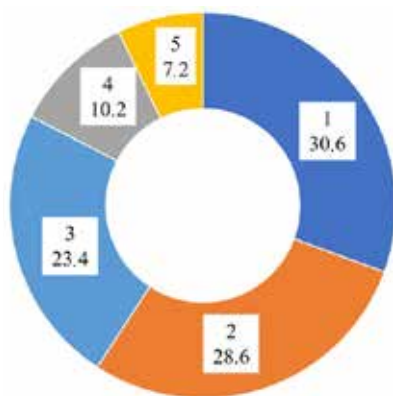


Fig. 3. Distribution of respondents' answers regarding proposals for improving medical/pharmaceutical services in HCFs (%)

1. Introduce a course on the rules of medical/pharmaceutical services for patients with disabilities into the curriculum of educational institutions.

2. Periodically conduct trainings/lectures for pharmacy and polyclinic employees on the peculiarities of dealing with and communicating with people with disabilities.

3. Medical and pharmaceutical specialists should provide written information on taking medications.

4. HCFs should have information accessible to people with disabilities (in Braille, large print, QR code with audio).

5. Information stands should be located at a height convenient for people in wheelchairs.

need for medical and pharmaceutical specialists to provide written information on taking medications, one tenth (10.2%) – the availability of information in HCFs that is accessible to people with disabilities (in Braille, large print, QR code with audio), less than one tenth (7.2%) – the placement of information stands at a height convenient for people in wheelchairs.

So, as the survey results show, a significant part of the respondents, on the one hand, indicated difficult access to public transport and HCFs, on the other hand, an insufficient level of pharmaceutical and medical services, inappropriate attitude towards them in pharmacies and polyclinics, as well as ways to improve their service in HCFs.

The results obtained correlate with the data of foreign scientists, according to which the most significant obstacles to access to community pharmacy services for people with disabilities were physical location and transportation [10], the stressful nature of the pharmacy environment, the need for more attention and appropriate advice [11], the lack of special training and awareness of pharmacists, difficulties in communicating with patients with various disabilities and the inadequacy of the physical environment in community pharmacies for serving these patients [12], and to medical institutions – the lack of communication between professionals and the patient/guardian, attitudinal/behavioral problems, inadequate service provision, organizational and transportation barriers [6].

At the same time, improving the quality of medical and pharmaceutical services should include accessibility, fairness, competence of medical and pharmaceutical professionals and patient-centeredness [13]. It is important to improve the training of specialists by integrating the content of serving patients with disabilities into their training curricula and ensuring continuous professional development [12].

As can be seen from the data in Fig. 3, less than a third of the responses (30.6%) concerned the introduction of a course on the rules of medical/pharmaceutical services for patients with disabilities into the curriculum of educational institutions.

More than one fifth part (28.6%) – periodic trainings/lectures for pharmacy and polyclinic employees on the peculiarities of dealing with and communicating with people with disabilities, less than one fifth (23.4%) – the

That is, in addition to transport and physical accessibility, an important factor that improves service is the awareness and information of both specialists and people with disabilities. This requires, on the one hand, improving the quality of education of specialists through more frequent communication during their training with people with disabilities, on the other hand, the implementation and dissemination of inclusive education and modern forms of medical and pharmaceutical services, in particular, the implementation of special software “ConnectPRO” in all HCFs, which will contribute to the optimization of service to people with hearing disability on a free basis [14].

The implementation of the National Strategy for Creating a Barrier-Free Space in Ukraine for the period until 2030 [15] will contribute to improving service to people with disabilities, the purpose of which is to create a barrier-free environment for all population groups, ensure equal opportunities for each person to exercise their rights, receive services on an equal basis with others by integrating physical, informational, digital, social and civic, economic and educational barrier-free access into all areas of state policy. At the same time, this strategy envisages the integration of concepts and mechanisms of barrier-free access into the state healthcare system and the training of medical professionals, as well as the integration of state healthcare policy in terms of population health, education, humanization and cultivation of a healthy lifestyle with the state policy of barrier-free access (the principle of «health, not treatment»).

Conclusions

1. The survey allowed us to identify gaps in medical and pharmaceutical services for people with disabilities, to determine their behavioral characteristics in case of conflict

situations in HCFs, and to take into account the opinions of these individuals and their proposals for measures to change the quality of their services based on the implementation of the National Strategy for Creating a Barrier-Free Space in Ukraine for the period until 2030.

2. It is urgent to introduce into the programs of medical (pharmaceutical) higher education institutions a separate educational component for higher education applicants

and a course for industry professionals in pre-certification cycles or advanced training courses on the rules of behavior and communication with patients with disabilities, which is a requirement of the time.

3. It is important to periodically conduct trainings/lectures for healthcare workers on the peculiarities of behavior and communication with people with disabilities, as well as to conduct training in the basics of sign language.

BIBLIOGRAPHY

1. Pesotska Y. Regulatory and legal provision of social rehabilitation of persons with disabilities. *Soc Work Soc Educ* [Internet]. 26 Oct. 2022 [cited 19 Jun. 2025];2(9):121-9. (In Ukrainian). Available from: [https://doi.org/10.31499/2618-0715.2\(9\).2022.267102](https://doi.org/10.31499/2618-0715.2(9).2022.267102).
2. Ministerstvo sotsialnoi polityky, pres-tsentr, novyny [Internet]. Ministr sotsialnoi polityky Ukrainy Oksana Zholnovych v efiri Natsionalnoho telemarafonu rozpovila pro sotsialnu polityku ta zminy v 2023 rotsi; 30 Dec. 2022 [cited 19 Jun. 2025]. (In Ukrainian). Available from: <https://www.msp.gov.ua/press-center/news/ministr-sotsialnoyi-polityky-ukrayiny-oksa-na-zholnovych-v-efiri-natsionalnoho-telemarafonu-rozpovila-pro-sotsialnu-polityku-ta-zminy-v-2023-rotsi>.
3. Ministerstvo okhorony zdorovia Ukrainy, hromadianam, reabilitatsiia, aktualna informatsiia z reabilitatsii [Internet]. Aktualna informatsiia z reabilitatsii; [cited 19 Jun. 2025]. (In Ukrainian). Available from: <https://moz.gov.ua/uk/aktualna-informacija-z-reabilitacii>.
4. Ministerstvo sotsialnoi polityky, pres-tsentr, novyny [Internet]. Tanasyshyn u shtab-kvartyri OON: V Ukraini ponad 3 mln liudei z invalidnistiu – tse liudy z velycheznyym potentsialom, navychkamy, ideiamy, syloi; 13 Jun 2024 [cited 18 Jun 2025]. (In Ukrainian). Available from: <https://www.msp.gov.ua/press-center/news/tanasyshyn-u-shtab-kvartyri-oon:-v-ukrayini-ponad-3-mln-lyudey-z-invalidnistiu-tse-lyudy-z-velycheznyym-potentsialom-navychkamy-ideiamy-syloiu>.
5. Wakeham S, Heung S, Lee J, Sadowski CA. Beyond equality: Providing equitable care for persons with disabilities. *Can Pharm J Rev Pharm Can* [Internet]. Jul. 2017 [cited 19 Jun. 2025]; 150(4): 251–8. Available from: <https://doi.org/10.1177/1715163517710957>.
6. Clemente KA, Silva SV, Vieira GI, Bortoli MC, Toma TS, Ramos VD, Brito CM. Barreiras ao acesso das pessoas com deficiência aos serviços de saúde: uma revisão de escopo. *Rev Saude Publica* [Internet]. 1 Jul 2022 [cited 19 Jun 2025]; 56: 64. Available from: <https://doi.org/10.11606/s1518-8787.2022056003893>.
7. Hromovik BP, Pankevych OB. The role and place of pharmaceutical security in the national security system. *Odesa Med J* [Internet]. 2024 [cited 19 Jun 2025]; (4): 78–83. (In Ukrainian). Available from: <https://doi.org/10.32782/2226-2008-2024-4-13>.
8. Konfederatsiia robotodavtsiv Ukrainy, novyny [Internet]. Naibilshe liudei z invalidnistiu zareiestrovano u Lvivskii oblasti, a naibilshe pratsuiut – u Kyievi; 24 Jun 2024 [cited 18 Jun 2025]. (In Ukrainian). Available from: <https://employers.org.ua/news/id2642>.
9. Hromovik BP, Korolyov MV. The results of the study of pharmacists' opinion regarding the organization of their work in pharmacies during the coronavirus COVID-19 pandemic. *Farmatsevtichnyi Zhurnal* [Internet]. 9 Jul 2020 [cited 19 Jun 2025]; (3): 39–44. (In Ukrainian). Available from: <https://doi.org/10.32352/0367-3057.3.20.04>.
10. Jairoun AA, Al-Hemyari SS, Shahwan M, et al. Access to community pharmacy services for people with disabilities: Barriers, challenges, and opportunities. *Res Soc Adm Pharm* [Internet]. May 2022 [cited 19 Jun 2025]; 18(5): 2711–3. Available from: <https://doi.org/10.1016/j.sapharm.2022.01.009>.
11. Pedelatore M. Accompagnement de la personne handicapée à l'officine : le point de vue des professionnels. *Universite Clermont Auvergne ufr de Pharmacie*. 2020; 85. (In France). Available from: <https://dumas.ccsd.cnrs.fr/dumas-03132634v1/file/PEDELAHORE%20Martin.pdf>.
12. Badr AF. Exploring Barriers Faced by Community Pharmacists in Serving Patients with Disabilities in Saudi Arabia: Recommendations for Enhancing Healthcare Provisions. *Pharmacy* [Internet]. 9 Sep. 2024 [cited 19 Jun. 2025]; 12(5): 137. Available from: <https://doi.org/10.3390/pharmacy12050137>.
13. Walji S, Carroll JC, Haber C. Experiences of patients with a disability in receiving primary health care. *Can Fam* [Internet]. Jul. 2021 [cited 19 Jun. 2025]; 67(7): 517–24. Available from: <https://doi.org/10.46747/cfp.6707517>.
14. Voitko M, Hromovik B, Oliinyk P. Farmatsevtichne obsluhovuvannia osib z vadamy slukhu. *Universum* [Internet]. 27, Oct. 2024 [cited 19 Jun. 2025]; (13): 278–84. (In Ukrainian). Available from: <https://archive.liga.science/index.php/universum/article/view/1289>.
15. Pro skhvalennia Natsionalnoi stratehii iz stvorennia bezbariernoho prostoru v Ukraini na period do 2030 roku, Rozporiadzhennia Kabinetu Ministriv Ukrainy № 366-r [Internet], 14 Apr 2021 [cited 19 Jun 2025]. (In Ukrainian). Available from: <https://zakon.rada.gov.ua/laws/show/366-2021-p#Text>.

Надійшла до редакція 05.08.2025

Прийнята до друку 02.12.2025

Електронна адреса для листування aelita.m.krychkovska@lptu.ua