Health Index. Ukraine — 2017

RESULTS OF THE NATIONAL HOUSEHOLD SURVEY

KYIV — 2018

PARTICIPANTS OF THE PROJECT

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School of Public Health, National University of Kyiv-Mohyla Academy

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This report is based on the results of “Health Index. Ukraine” Survey. It was organized and conducted by the International Renaissance Foundation, data were collected by the Kyiv International Institute of Sociology in May-June 2017. The report was prepared by the researchers and teachers of the School of Public Health of the National University of Kyiv-Mohyla Academy. The report presents the results of the national representative sociological survey of people’s health, healthy and health care seeking behavior in Ukraine. This report is prepared for various types of audiences.

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FOREWORD

Viktoria TYMOSHEVSKA, Director of Public Health Program Initiative, International Renaissance Foundation

2017 was a remarkable year for Ukraine, as it was for the first time in the history of independent Ukraine that key acts on health care reforms were adopted. It means that finally fundamental changes, not cosmetic ones, are being launched in Ukrainian health care. Among them: implementing the principle of free selection of a physician and a health care facility by patients, shift from financing a medical institution to financing the services provided to the patient, and abolition of number-of-beds-based funding (basis of old Soviet Semashko model).

In 2017, Ukrainians already started to feel changes: from January 1, the first phase of the reform was launched, i.e. changes in primary health care financing. The following was also launched: reference pricing, drug reimbursement and Affordable Drugs program, electronic registry for patient, physicians and health institutions (pilot mode). Transformations during this year have been implemented step-by-step and they will continue.

To ensure continuity of reforms implementation, health care accessibility and quality should be monitored at the level of health institutions with special attention paid to consumers' opinion. For such systemic assessment, International Renaissance Foundation together with its partners conducts "Health Index. Ukraine" survey for two years already. In 2016, the Index determined the baseline level of people's satisfaction, user's experience receiving health services (out- and in-patient), behavior in case of illness, availability of medications, and healthy lifestyles. This year, we can track how changes in health care system are attributed to reforms (in the country in general and on the level of communities) and reflect on end users of health services.

"Health Index. Ukraine" is an instrument that helps health care managers and those involved in national and local policy-building assess what impact reforms have on patients and community. In the process of health care reform, "Health Index. Ukraine" provides very important data that will enable better understanding of local situation, compare it with other regions (oblasts) and national situation, and timely respond to any challenges.

New funding model for secondary and tertiary health care facilities will be launched starting 2020 only. Nevertheless, in 2018–2019 some of these services will be financed under pilot projects. Also, in 2018–2019 the Cabinet of Ministers Ukraine will temporarily use subvention mechanism that will give the government more flexibility in implementing health care reform. In this situation, the data collected as part of "Health Index. Ukraine" survey will be really valuable. So, it will be definitely continued in subsequent years.

ABOUT SURVEY

Series of surveys to study people's satisfaction with health care, attitudes towards health care reforms, healthy behaviors and experience in seeking health services and health expenditures started in 2016 with financial support from International Renaissance Foundation. In the same year, the first large-scale survey of household's representatives took place, it was representative for the country in general and for each region (Oblast) in particular.

In 2017, just like in 2016, data collection was done by Kyiv International Institute of Sociology (KIIS). Survey took place in May-June 2017 (overall number of respondents was over 10,000 people).

The goal of the study was to learn how people perceive health services, level of their satisfaction with these services and other health-related aspects. The specific tasks were to learn:

- Ukrainians' attitudes and perceptions of health care system and health services
- Barriers experienced by household members when seeking emergency, out-patient, in-patient care (both consumers and non-consumers)
- Features of healthy lifestyles and preventive measures in Ukraine

"Health Index. Ukraine" study bears several features making it stand out among many other studies. First, it has a **representative sample in each region (Oblast)**. Study sample is specifically designed to look at people experiences not only at the level of Ukraine in general, but at the level of each administrative-territorial unit (Oblast, city of Kyiv).

Second, it is a **large sample size** (over 10,000 respondents were surveyed) that makes it possible to study not only population's perceptions of health care system but experience of seeking care at different levels.

Third, this is a **longitudinal study** (repeated, several survey "waves" are planned) that envisages using the same methods and tools that will enable to track changes in perception and experience in time. In other words, we have the possibility to observe the dynamic pattern of health- and health care service-related behavior.

When designing survey methodology, we used the experience of the EuroHealthConsumerIndex[1] that provides long-term comparison (since 2006) of health systems of European Union countries to define the most optimal path for future development, also we considered the Canadian experience of conducting similar surveys[2].

Survey Methodology

The second survey phase, field survey, took place from May 18 till June 27, 2017 (while the first one has been conducted in May - June 2016).

General Characteristics of Study Sample

Study sample is representative for adult population (18 and older) of Ukraine in general, as well as of each Oblast of Ukraine and city of Kyiv. The study uses multi-stage sample, random at each stage. At the first stage of sample development in each Oblast, inhabited locations are randomly chosen proportionally to their population size. The second stage involves randomization of areas on the territory of the chosen inhabited locations. On the territory of each chosen area, streets, buildings and apartments are randomly selected. The last stage included choosing a respondent within a household and actual interview. The data obtained are matched to estimated data of State Statistics Service in terms of share of individual sex-age groups within population of Ukraine (as of January 1, 2017).

[1] EuroHealthConsumerIndex [Електронний ресурс]. — Link: http://www.healthpowerhouse.com/en/news/euro-health-consumer-index-2015/.
[2] Healthy Canadians: A Federal Report on Comparable Health Indicators 2012 [Електронний ресурс]. — Link: http://www.healthycanadians.gc.ca/index-eng.php.

Overall, 10,205 respondents were surveyed. Final pool includes 10,184 interviews. Theoretical sampling error for the whole data pool is 1.0%.

Field activities were performed in 476 inhabited locations in Ukraine (on territories, controlled by the government of Ukraine). Survey activities were performed using tablets.

It needs to be emphasized that a household member is chosen to be a sample unit, not a health care user as only a household level survey allows identifying key barriers preventing from seeking care or looking for alternative ways of treatment.

Moreover, for health care reforms it is critically important to consider opinions of many different people, not only of patients with large experience seeking care (those who already know how to overcome existing barriers). So, the methodological basis used in this study allows to learn attitudes and experience of those people who due to various reasons do not seek medical care.

The study survey was approved by the International Scientific Board developed for the purpose of this project. Survey finalization took place from August 2015 till May 2016. Questionnaire pre-test was done by surveying 25 respondents in the city of Kyiv and several towns and villages of Kyiv Oblast from April 28 through May 4, 2017.

Response rate in 2017 was 49% for Ukraine, and it was significantly different in different Oblasts: from 28–30% in the city of Kyiv and Sumy Oblast and up to 92% in Ternopil Oblast.

Data Collection Method and Study Instrument

Household representatives survey was conducted by means of personal individual interview, because its benefits are:

- Maximum representation of all population strata which is impossible to achieve through telephone or online survey in Ukraine;
- Tracking spontaneous respondents feedback, their attitude towards the problem and questions asked;
- More prolonged communication compared to other methods
- Usually, more outspokenness of respondents when talking directly to a survey person

Depending on their personal experience, respondents were asked up to 200 questions about assessing health care problems, importance of different aspects of medical care for individual people; satisfaction with performance of different levels of care; behaviors in case of illness, and experience seeking outpatient and in-patient care; assessing own health and some lifestyle features. The questionnaire mostly used closed questions except several open ones pertaining to respondent's diagnosis that were encoded later.

253 interviewers were engaged in field survey. Remote briefing of team leaders was provided on May 15; team leaders briefed their teams at respective locations. During the study, the survey network coordinator answered team leaders and interviewers' questions by phone that they had during hands-on training and after looking through the sample field documents.

People were interviewed at the place they lived, in Ukrainian or Russian according to respondent's preference. Respondents with hospitalization experience in the 12 months' period prior to the interview (longest interviews) were offered a small gratitude gift for their participation (a package of vitamins).

Demographic Characteristics of People Interviewed

Distribution of study respondents by key demographic characteristics correlates with official population composition according to statistical data [3]. Among all interviewed 55% were women, 45% — men (***Table 1***). A quarter of all surveyed people (27%) are 60+.

Table 1. Distribution of respondents by the key demographic characteristics

Survey Questions D1, 2, 3, 6, I4 ***N = 10,184***		**Health Index Survey**		**National Data**	
		N	**%**	***N***	**%**
Age Groups	18–29	1,992	19.6	6,818,972	19.5
	30–44	2,841	27.9	9,757,462	27.9
	45–59	2,621	25.7	8,983,229	25.7
	60 and older	2,730	26.8	9,417,210	26.9
Sex	Female	5,583	54.8	22,770.3	53.7
	Male	4,601	45.2	19,644.6	46.3
Education	Primary /incomplete high	418	4.1	—	—
	Complete high education	1,992	19.6	—	—
	Vocational	2,008	19.7	—	—
	Basic college	2,909	28.6	—	—
	Basic higher education	476	4.7	—	—
	Complete higher educ.	2,373	23.3	—	—
Type of Inhabited Location	Urban	7,017	68.9	29,482.3	69.2
	Rural	3,167	31.1	13,102.2	30.8
Average Household Size		10,162	2.9	—	2.58

One third (31%) of respondents lived in villages, the rest (69%) — in cities, towns and urban-type settlements. These figures are similar to demographic characteristics of the sample of the first survey in 2016.

Out of all surveyed people 48% were employed, of those 4% are self-employed, employed pensioners — 1.6%. Unemployed population category included (50% overall) pensioners (28%), unemployed (5%), housewives and other unemployed people not looking for a job (11%), students (3%) and incapacitated people (3%).

Average respondents' household size was three persons.

According to survey results, 37% of households had children under 18. The average number of children was 1.56, while in Western Oblasts (Volyn, Transcarpathian, Ivano-Frankivsk, Lviv, Rivne and Ternopil) there were more children per family (median — 2, average —1.6 to 1.95) (***Fig. 1***).

[3] State Statistics Service of Ukraine: http://www.ukrstat.gov.ua/.

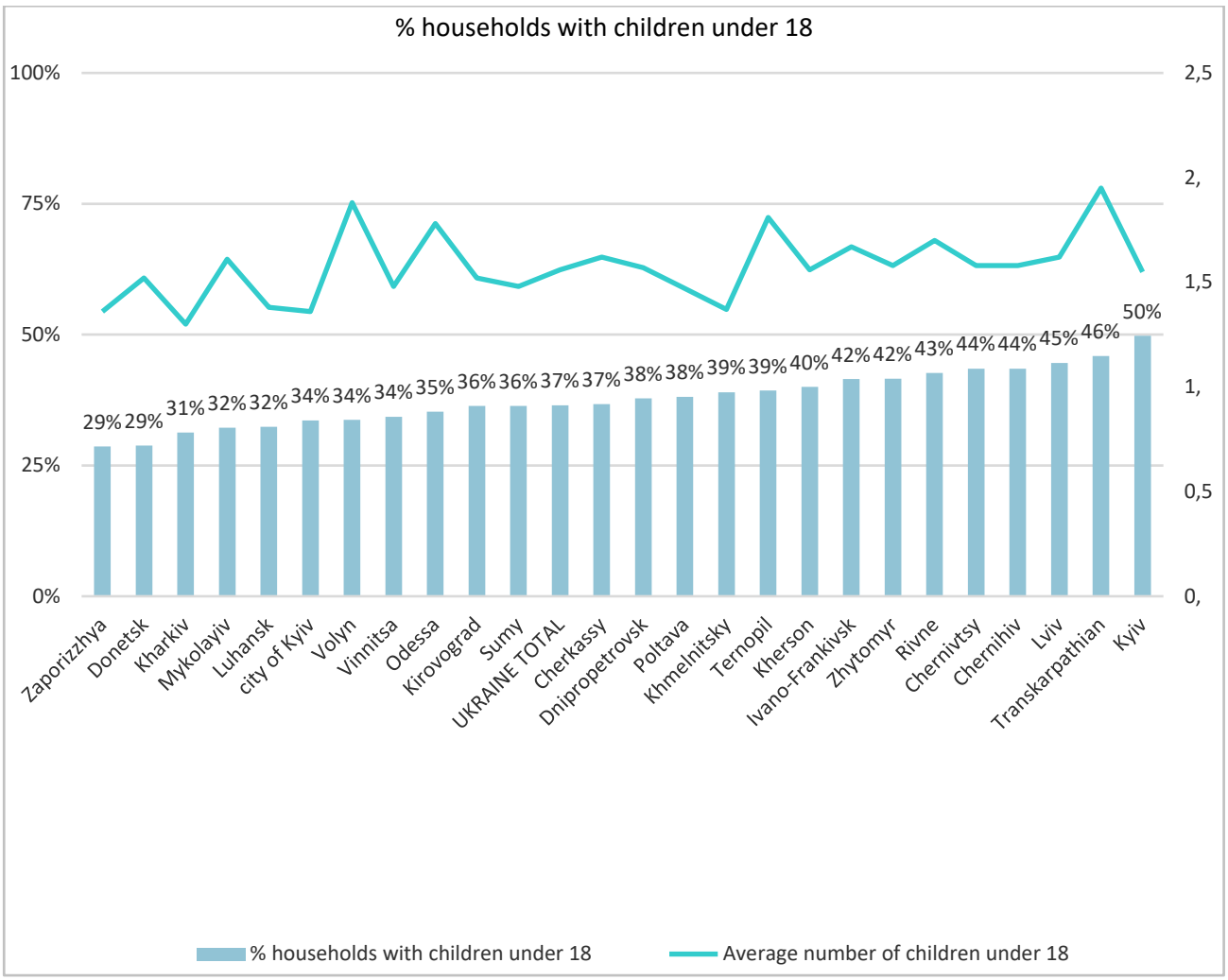

Fig. 1. Children under 18 in households and average number per household: distribution by Oblasts

Section 1
SELF-ASSESSED HEALTH AND HEALTHY LIFESTYLES

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Section Summary

- 46.5% of respondents perceived their **own health** to be good or very good. This rate was the lowest in Sumy Oblast (27.7%), the highest — in Luhansk Oblast (58.7%).
- Key perceived factors **impacting people's health** were psychological stress (38.9%) and economic problems (30.8%).
- **Three main TB symptoms** (cough lasting more than three weeks, chest pain, expectorated discharge or hemoptysis) were named by 8.7% of the surveyed. The highest rate was in Luhansk Oblast (31.6%), the lowest — in Ivano-Frankivsk Oblast (0.4%).
- 6.6% of respondents has officially asserted disability. 39.2% of respondents reported having **chronic or long-term conditions**.
- Prevalence of **smoking** was 23.9% (7.7% for women and 39.6% for men).
- 8.6% of respondents abused alcohol last year (17.5% for men and 1.7% for women).
- 55.6% of respondents had **excessive body weight** and **were obese** (36.5% and 19.1%).
- 21.1% of parents **had an episode of refusing to have their children undergo mandatory vaccinations**; 5.1% of parents were advised by healthcare worker to refuse. 3.8% of parents tried to obtain a counterfeit vaccination certificate. 47.0% of parents with children under 6 experienced a situation of vaccines stock-outs.

Our health is affected by different factors: environment, social and economic, availability of support by close people, own behavior, genetic factors and health services[4]. In our survey we asked our respondents how they perceive individual aspects of environment, factors affecting their health. Knowing these aspects gives us better understanding what Ukrainians are doing to stay healthy.

Smoking, alcohol use, excessive body weight, unhealthy eating habits and lack of exercise are key behavior determinants of many chronic and non-communicable disease in modern world[5]. These are the factors that each person can influence on his own, and by avoiding them we prevent a lot of deaths and disabilities.

Considering epidemiological challenges in Ukraine, the survey paid special attention to knowing different disease symptoms, and vaccination. Knowing TB symptoms is important from the point of view of slowing down TB epidemic in Ukraine. While vaccination against key infections is a proven efficient way to control and eradicate life-threatening infections, during last decade Ukraine has been demonstrating poor vaccination rates[6].

1.1. Healthy Behaviors and Awareness of Symptoms of Major Diseases

TB symptoms awareness was measured by the question "What are TB symptoms to your knowledge?", answers were spontaneous (non-predefined answer options). 84.6% of respondents named at least one TB symptom (N = 8,623), but only 81.3% named at least one TB symptom correctly (N = 8,276). Most often respondents named cough lasting more than three weeks (7 of 10 adult Ukrainians were aware of this symptom — 69.5%), expectorated discharge or hemoptysis (named by every third Ukrainian — 33.2%), fever (each fourth — 25.3%) and chest pain (each

[4] WHO: Determinants of health:http://www.who.int/hia/evidence/doh/en/.
[5] Global Burden of Disease and Risk Factors - Chapter 4Comparative Quantification of Mortality and Burden of Disease Attributable to Selected Risk Factors: https://www.ncbi.nlm.nih.gov/books/NBK11813/.
[6] WHO: Immunization:http://www.who.int/topics/immunization/en/.

fifth — 21.2%) (***Fig. 1.1***). All other symptoms (weakness, loss of energy, weight loss, exhaustion, parlor, labored breathing, night sweats, lack of appetite, chills, drowsiness) were named even by fewer respondents (2.8% to 16.5%).

However, three key TB symptoms at the same time (cough lasting more than three weeks, expectorated discharge or hemoptysis, and chest pain[7]) were mentioned only by 8.7% of all respondents.

Distribution of TB symptom awareness by regions is provided in ***Table 1.1*** and ***Fig. 1.2***. The biggest part of respondents named at least one TB symptom correctly in the city of Kyiv, and the smallest — in Cherkassy Oblast. Three key TB symptoms were most often named in Luhansk Oblast (31.6%), and least often — Ivano-Frankivsk Oblast (0.4%).

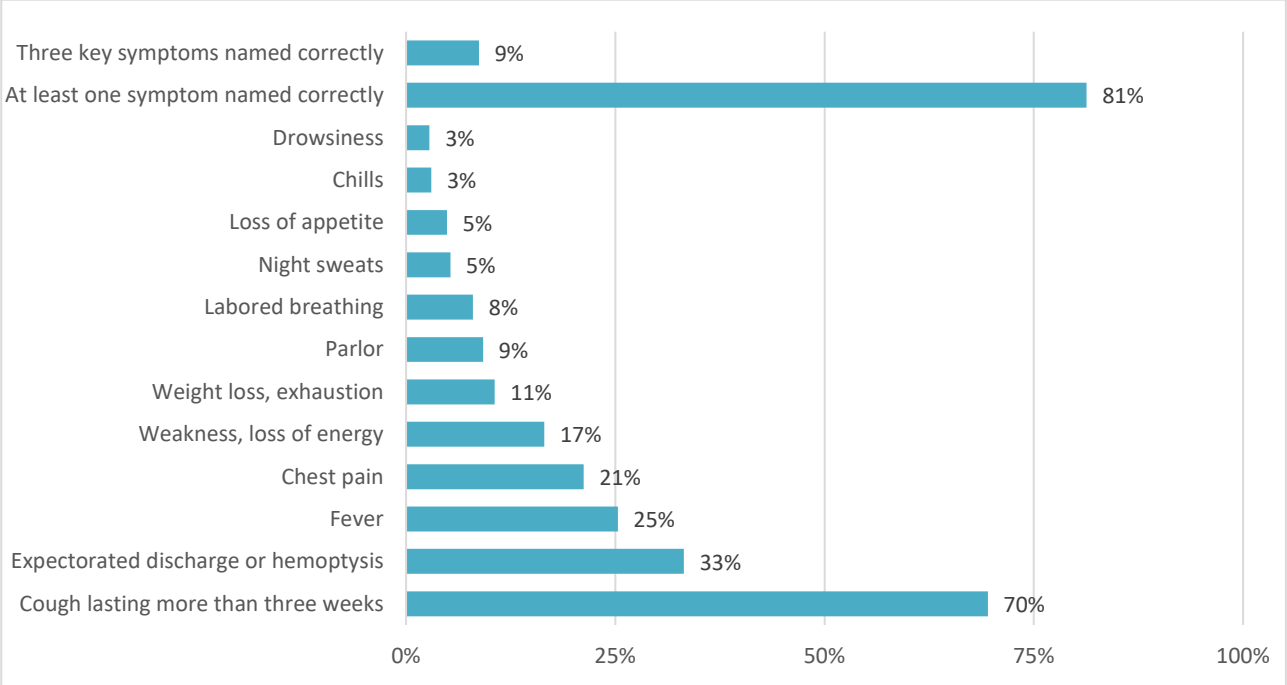

Fig. 1.1. Overall distribution of answers to the question "What are TB symptoms to your opinion?" (respondents could choose more than one answer)

[7] Centers for Disease Control and Prevention (USA) Tuberculosis Disease: Symptoms and Risk Factors:https://www.cdc.gov/features/tbsymptoms/index.html.

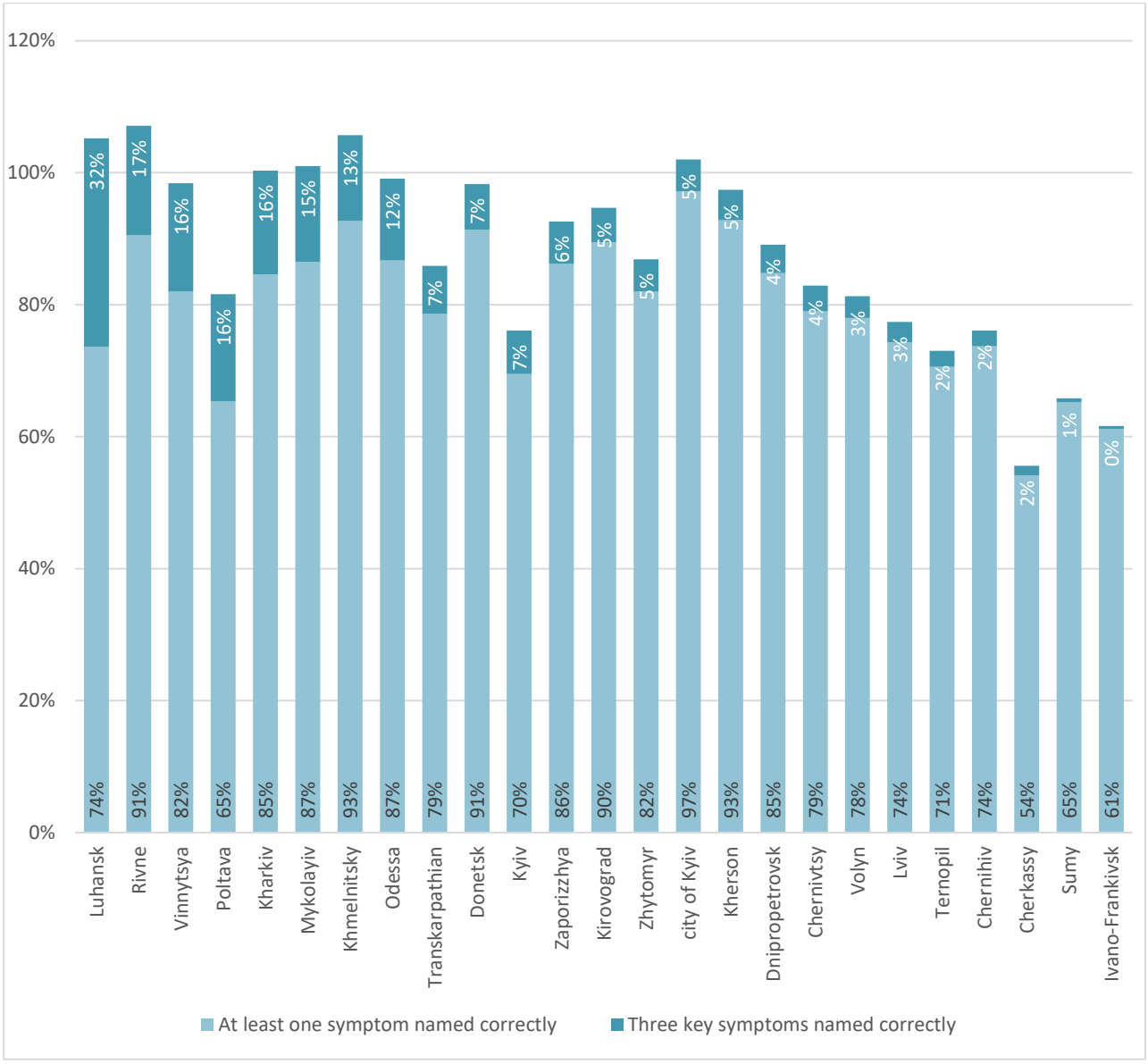

Fig. 1.2. Distribution of answers to the question "What are TB symptoms to your opinion?" by Oblasts (respondents could choose more than one answer)

Table 1.1. Distribution of answers to the question "What are TB symptoms to your opinion?" by Oblasts (answer — one option and more)

Region	***N***	**Cough lasting more than three weeks, %**	**Chest pain, %**	**Expectorated discharge or hemoptysis, %**	**Weakness, loss of energy, %**	**Parlor, %**	**Labored breathing, %**	**Weight loss, exhaustion, %**	**Loss of appetite, %**	**Chills, %**	**Drowsiness, %**	**Fever, %**	**Night sweats, %**	**At least one symptom named correctly, %**	**Three key symptoms named correctly, %**
Ukraine	***10148***	*69.5*	*21.2*	*33.2*	*16.5*	*9.2*	*8.0*	*10.6*	*4.9*	*3.0*	*2.8*	*25.3*	*5.3*	*84.7*	*49.5*
Vinnytsya	**381**	74.0	36.4	30.9	23.0	12.4	10.2	19.0	10.5	7.3	5.0	21.3	10.4	82.0	16.4
Volyn	**249**	61.4	7.7	29.7	8.1	4.8	1.2	4.1	2.0	0.9	1.7	40.0	2.1	78.0	3.3
Dnipropetrovsk	**777**	79.2	10.1	27.8	22.8	10.1	9.8	12.0	7.2	3.0	4.2	32.8	9.5	84.8	4.3
Donetsk	**1017**	79.9	27.0	23.6	12.6	3.8	6.6	4.8	1.4	0.0	0.4	44.5	3.8	91.4	6.9
Zhytomyr	**298**	71.8	9.6	34.7	7.3	0.7	4.6	4.9	0.4	1.3	0.0	8.2	3.0	82.0	4.9
Transcarpathian	**300**	63.3	19.3	28.7	16.5	6.6	6.8	10.0	1.6	0.9	1.8	16.0	1.6	78.6	7.3
Zaporizzhya	**419**	65.2	31.0	34.0	23.6	26.0	16.3	21.0	20.2	13.2	10.3	15.5	3.5	86.2	6.4
Ivano-Frankivsk	**330**	51.3	2.4	14.3	7.7	3.6	3.7	8.7	3.0	0.8	0.8	15.2	6.2	61.2	0.4
Kyiv	**413**	53.3	12.3	33.0	13.5	9.6	4.4	6.6	2.8	5.9	4.2	18.6	3.5	69.5	6.6
Kirovograd	**231**	79.1	23.2	34.3	9.5	1.8	5.1	2.7	0.4	3.5	0.9	26.3	1.8	89.5	5.2
Luhansk	**526**	70.8	39.2	55.2	18.9	20.6	19.1	10.7	6.2	2.7	3.6	42.9	2.4	73.6	31.6
Lviv	**602**	69.0	12.8	26.8	16.0	4.9	5.6	14.8	4.0	0.3	0.6	20.8	7.9	74.3	3.1
Mykolayiv	**277**	79.6	59.2	28.0	15.9	4.7	5.1	6.8	4.3	2.5	4.1	54.6	13.3	86.5	14.5
Odesa	**569**	70.1	31.1	48.2	17.8	12.2	13.9	19.0	8.2	6.9	4.9	20.0	8.1	86.7	12.4
Poltava	**342**	52.1	22.4	40.2	17.1	7.4	9.0	5.9	3.4	5.6	3.1	22.5	5.2	65.4	16.2
Rivne	**278**	67.4	25.6	54.3	33.9	23.5	20.0	23.4	16.1	8.7	7.5	16.9	4.8	90.5	16.6
Sumy	**266**	61.6	3.5	5.3	1.9	1.0	0.5	2.8	0.2	0.7	0.7	2.1	2.1	65.2	0.6
Ternopil	**254**	57.4	11.6	10.0	9.2	5.2	5.3	9.5	3.2	1.9	1.4	10.7	2.5	70.6	2.4
Kharkiv	**646**	79.8	28.6	50.4	17.4	6.9	3.8	7.4	1.6	0.2	0.9	8.4	1.0	84.6	15.7
Kherson	**254**	76.3	17.7	41.2	31.4	8.0	5.9	16.1	5.0	2.5	2.7	39.6	16.3	92.8	4.6
Khmelnitsky	**309**	81.0	22.4	29.3	15.9	12.4	8.1	7.5	3.0	2.2	3.0	20.7	4.3	92.7	13.0
Cherkassy	**296**	47.4	4.1	15.8	5.6	1.2	2.0	7.8	2.2	0.8	0.7	16.8	4.3	54.1	1.5
Chernivtsy	**217**	68.8	14.1	24.8	22.7	13.9	9.2	11.6	5.6	0.6	1.5	20.4	5.1	79.0	3.9
Chernihiv	**248**	71.9	6.2	20.5	24.5	12.6	8.7	11.4	5.0	2.4	2.9	32.3	10.6	73.7	2.4
Kyiv city	**685**	66.3	21.8	48.2	15.2	11.9	6.9	11.5	3.3	2.0	3.2	28.3	3.2	97.2	4.8

By social and demographic characteristics, TB symptom awareness was better among women, older people (the older — the higher awareness), urban citizens, people with higher level of education and higher income (***Fig. 1.3***).

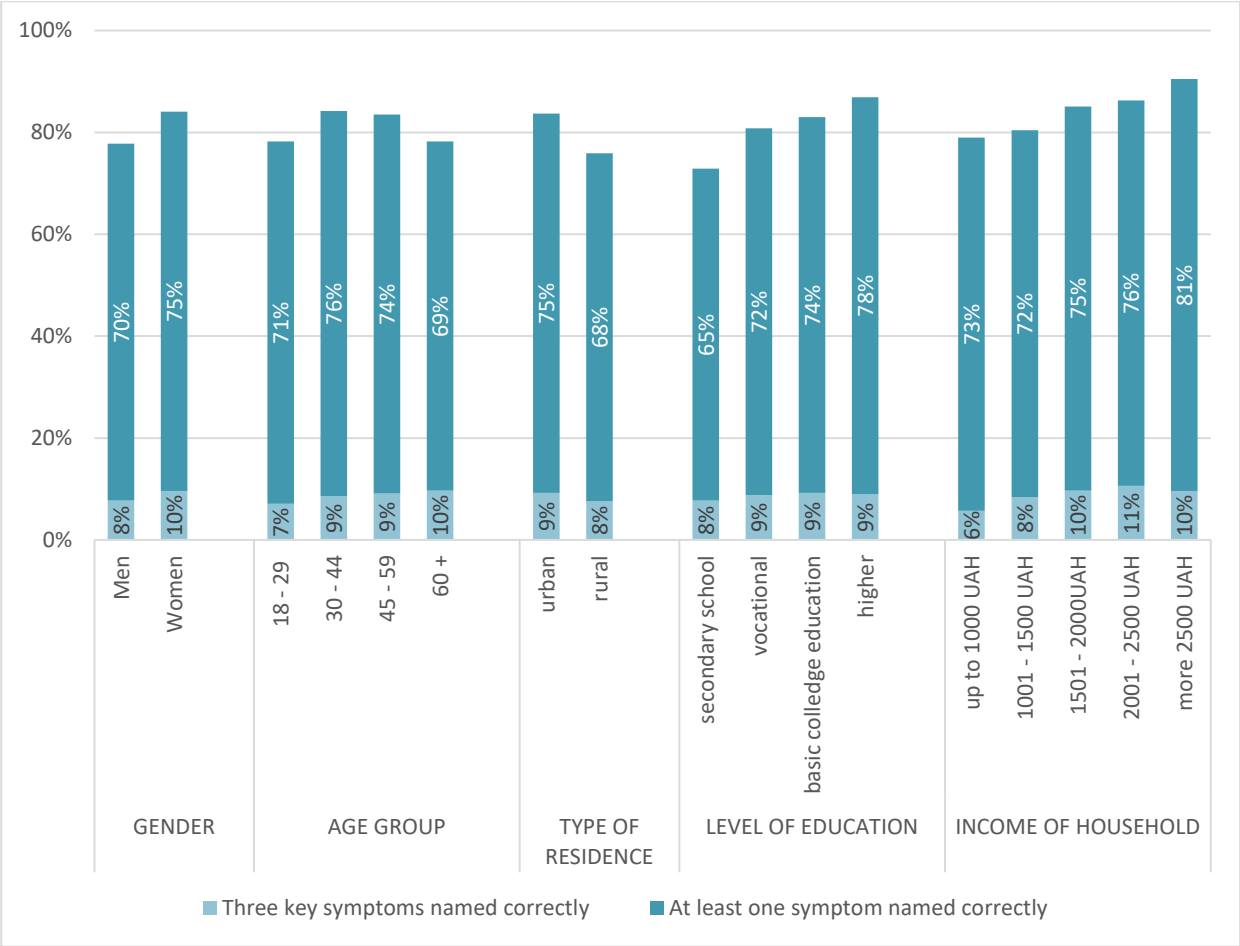

Fig. 1.3. Distribution of answers to the question "What are TB symptoms to your opinion?" by social and demographic characteristics (respondents could choose more than one answer) (* *Statistically significant difference between groups)*

Perceptions About Negative Health Impacts

94.4% of respondents ($N = 9{,}615$) could answer the question "What in your opinion negatively impacts your health?" (up to three answer options could be chosen). The most frequently mentions was stress (38.9%) and economic problems (30.8%) (***Fig. 1.4***). Respondents tended to choose factors they could not influence, like environment (25.8%) and conditions of work (14.3%). Another 7.4% or respondents mentioned heredity. However, significant portions of answers were also lifestyle-related — poor nutrition (20.6%), bad habits (16.7%), lack of physical exercise (5.0%) and self-negligence (21.4%). Only 7.8% of respondents reported suboptimal care at health care facilities as a cause of their poor health. Ten percent of the respondents (10.6%) believed that nothing negatively impacts their health.

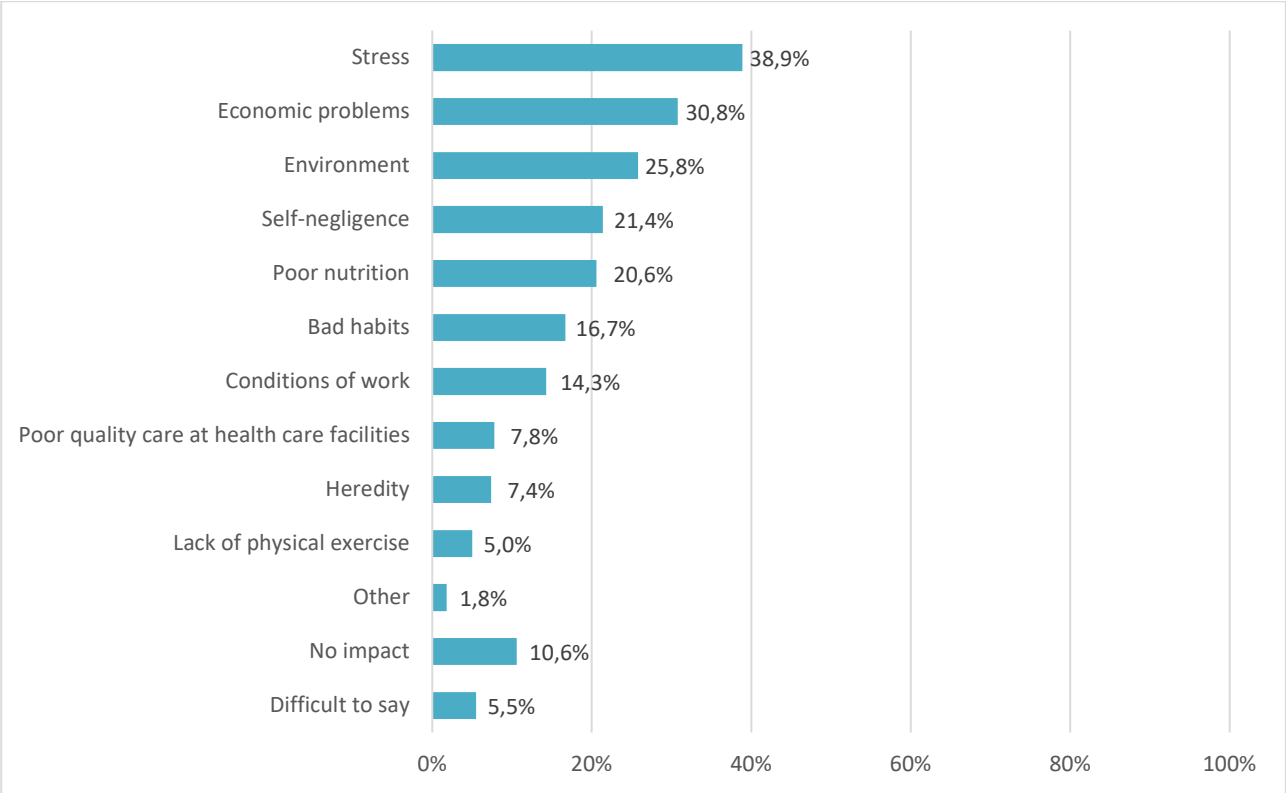

Fig. 1.4. Overall distribution of answers to the question "What in your opinion negatively impacts your health?" (respondents could choose up to three answer options)

Table 1.2 demonstrates distribution of health impact factors by Oblasts. Stress as health impact factor was most often reported by those living in Kherson and Chernivtsy Oblasts (61.8% each), the least often — by those in Donetsk Oblast (17.1%). Economic problems were reported to be a major health impact factor by three out of four people living in Mykolayiv Oblast (73.2%), yet only by 6.0% of those living in Zhytomyr Oblast. Suboptimal health care was most often mentioned by those living in Zaporizzhya Oblast (22.9%), and the least often — Chernihiv Oblast (3.0%). 34.5% of respondents in Kirovograd Oblast and 1.9% — in Rivne Oblast believed that nothing negatively impacts their health.

Taking care About Own's Health

The question "How do you care about your health?" was answered by 96.8% of the respondents (*N* = 9,861). Half of the respondents reported taking some care of their health (49.7%) and one third — mostly good care (33.5%). Only one of ten people reported taking mostly poor care of their health (8.0%) or taking no care (2.8%). 6.1% reported taking a very good care of their health.

Table 1.2. Distribution of answers to the question "What in your opinion negatively impacts your health?" by Oblasts (respondents could choose up to three answer options)

Region	*N*	Stress, %	Economic problems, %	Environment, %	Self-negligence, %	Poor nutrition, %	Bad habits, %	Conditions of work, %	Poor quality care at health care facilities,%	Heredity, %	Lack of physical exercise, %	Other, %	No impact, %	No answer, %
UKRAINE	**10184**	*38.9*	*30.8*	*25.8*	*21.4*	*20.6*	*16.7*	*14.3*	*7.8*	*7.4*	*5.0*	*1.8*	*10.6*	*5.5*
Vinnytsya	**381**	24.5	24.0	10.0	22.3	20.5	10.7	10.8	4.9	8.7	5.5	0.2	28.3	0.9
Volyn	**249**	39.9	34.8	8.4	41.8	16.0	6.8	7.3	3.6	12.7	2.9	2.4	14.5	4.9
Dnipropetrovsk	**777**	40.7	31.8	38.1	14.5	24.5	16.4	15.7	6.6	4.3	6.3	2.6	7.9	1.4
Donetsk	**1017**	17.1	13.3	24.5	8.7	17.7	14.5	7.2	3.3	5.3	1.8	1.1	22.4	21.2
Zhytomyr	**298**	23.9	6.0	23.7	25.2	10.1	21.8	7.4	6.2	14.6	3.0	1.2	17.8	4.1
Transcarpathian	**300**	51.0	40.3	16.0	18.1	24.0	20.6	21.6	7.9	9.5	4.6	1.2	4.7	1.9
Zaporizzhya	**419**	36.3	36.8	31.5	13.7	29.9	24.8	22.7	22.9	11.2	10.3	3.6	3.1	6.6
Ivano-Frankivsk	**330**	37.0	21.5	34.8	41.3	19.4	16.3	10.5	4.3	5.3	3.0	3.2	2.9	2.1
Kyiv	**413**	50.3	50.9	35.0	12.6	8.9	16.1	31.9	7.1	3.2	1.4	1.5	5.2	1.3
Kirovograd	**231**	20.6	29.5	16.8	13.4	6.1	2.0	4.6	7.6	8.1	0.0	1.7	34.5	16.0
Luhansk	**526**	51.0	15.7	13.5	5.1	19.5	29.8	7.8	9.3	1.1	1.2	4.1	8.2	21.1
Lviv	**602**	38.8	45.3	42.9	11.4	32.2	18.0	15.4	6.6	4.2	3.8	1.1	5.5	1.3
Mykolayiv	**277**	57.2	73.2	30.1	37.8	21.2	12.6	8.4	8.2	1.6	2.8	0.3	4.2	0.9
Odesa	**569**	39.1	33.8	20.9	32.4	29.6	20.1	17.3	14.6	12.0	5.9	3.3	9.7	1.8
Poltava	**342**	30.6	58.2	20.6	28.3	22.4	18.1	24.4	6.7	4.2	1.3	1.2	4.8	5.0
Rivne	**278**	54.7	17.5	37.4	23.0	25.1	16.3	21.9	6.3	8.0	3.6	0.2	1.9	1.0
Sumy	**266**	38.8	22.8	22.7	10.3	24.5	9.8	36.0	15.2	3.2	2.0	1.1	13.1	2.5
Ternopil	**254**	46.6	17.6	22.7	19.1	10.8	14.0	14.4	7.2	3.6	5.0	5.3	6.7	2.1
Kharkiv	**646**	38.8	33.4	30.7	41.5	37.8	18.1	15.6	8.6	22.3	19.3	1.0	2.5	0.6
Kherson	**254**	61.8	47.8	30.5	23.1	12.2	17.5	10.0	6.7	6.2	3.0	1.5	5.6	4.2
Khmelnitsky	**309**	37.9	28.9	19.8	18.2	22.4	29.8	11.8	6.5	6.7	7.5	0.2	5.4	4.4
Cherkassy	**296**	37.6	35.4	27.7	20.6	10.3	10.0	23.0	7.3	6.1	1.2	1.5	5.0	5.2
Chernivtsy	**217**	61.8	20.8	28.0	25.1	19.7	14.0	16.1	5.3	3.6	2.5	1.9	3.4	1.1
Chernihiv	**248**	43.7	22.3	20.1	31.5	10.4	14.1	10.6	3.0	9.8	3.7	0.7	16.9	5.7
Kyiv city	**685**	41.3	29.4	17.9	26.6	9.3	12.3	3.4	7.9	6.9	8.9	1.6	19.2	0.6

Table 1.3 shows distribution of answers on taking care about own's health by Oblasts. The biggest part of respondents reported taking a good or very good care about their health in Luhansk Oblast (69.1% total). The biggest part of respondents reported taking mostly poor or no care about their health in Kirovograd Oblast (23% total).

Table 1.3. Distribution of answers to the question "How do you take care about your health?" by Oblasts (respondents could choose up to three answer options)

Region	***N***	**No care, %**	**Mostly poor, %**	**Moderate, %**	**Mostly good, %**	**Very good, %**
UKRAINE	***10184***	*2.7*	*7.8*	*48.1*	*32.*	*5.9*
Vinnytsya	**375**	3.5	7.9	45.0	34.4	9.3
Volyn	**228**	1.9	10.1	57.3	23.0	7.8
Dnipropetrovsk	**770**	3.3	5.7	39.4	37.0	14.5
Donetsk	**884**	2.7	7.6	63.2	24.3	2.2
Zhytomyr	**298**	1.6	10.0	54.1	33.2	1.0
Transcarpathian	**299**	1.4	7.1	43.8	45.6	2.1
Zaporizzhya	**418**	3.1	15.4	55.0	22.5	4.0
Ivano-Frankivsk	**329**	5.1	13.3	52.9	24.6	4.1
Kyiv	**409**	2.1	9.8	52.4	32.2	3.5
Kirovograd	**221**	9.1	13.9	52.4	22.8	1.9
Luhansk	**438**	5.6	2.7	22.6	55.4	13.7
Lviv	**601**	1.3	2.9	54.2	37.1	4.5
Mykolayiv	**257**	0.0	1.3	43.4	54.4	0.8
Odesa	**565**	5.3	9.9	48.4	33.0	3.4
Poltava	**338**	2.5	13.1	48.6	35.1	0.7
Rivne	**278**	0.2	6.0	61.7	31.1	1.0
Sumy	**262**	0.0	3.2	41.6	52.8	2.3
Ternopil	**254**	1.7	9.9	57.4	27.9	3.0
Kharkiv	**646**	1.1	6.9	38.5	24.3	29.2
Kherson	**249**	1.4	11.6	49.0	35.9	2.0
Khmelnitsky	**299**	2.0	2.5	46.4	45.7	3.5
Cherkassy	**292**	6.5	10.0	56.0	25.0	2.5
Chernivtsy	**217**	3.2	5.6	60.1	28.4	2.7
Chernihiv	**247**	5.6	12.2	53.1	27.2	2.0
Kyiv city	**685**	1.5	8.9	54.4	34.0	1.1

Distribution by social and demographic characteristics revealed that younger people, urban citizens, people with higher education and higher income took better care of themselves (***Fig. 1.5***). There was no statistically significant difference between men and women in caring about their health.

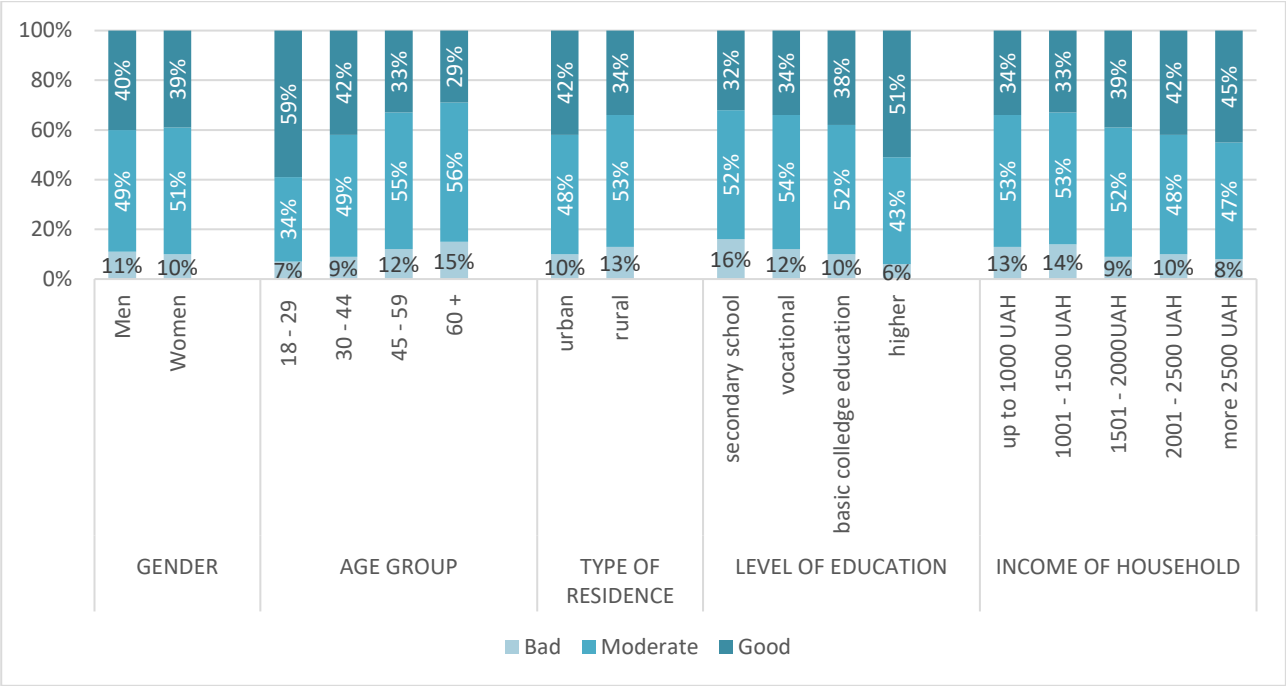

Fig. 1.5. Distribution of answers to the question "What in your opinion negatively impacts your health?" by social and demographic characteristics (respondents could choose up to three answer options) (**Statistically significant difference between groups)*

Comparison of 2017 and 2016 Results

Awareness of TB Symptoms

Compared to 2016, awareness of at least one TB symptom parameter has not changed (81% in 2017 and 82% in 2016). However, knowing three key TB symptoms parameter (cough lasting more than three weeks, chest pain, expectorated discharge or hemoptysis) has improved from 5.8% in 2016 to 8.7% in 2017.

The question about **caring about own health and perceptions about negative health impact** was not asked in 2016.

1.2.Vaccination

Only those respondents with children under 18 who were aware of their children health status were asked questions about perception and experience of vaccination. Their total number was 3,102. The below information describes this group of people (***Fig. 1.6*** shows it in dark-blue).

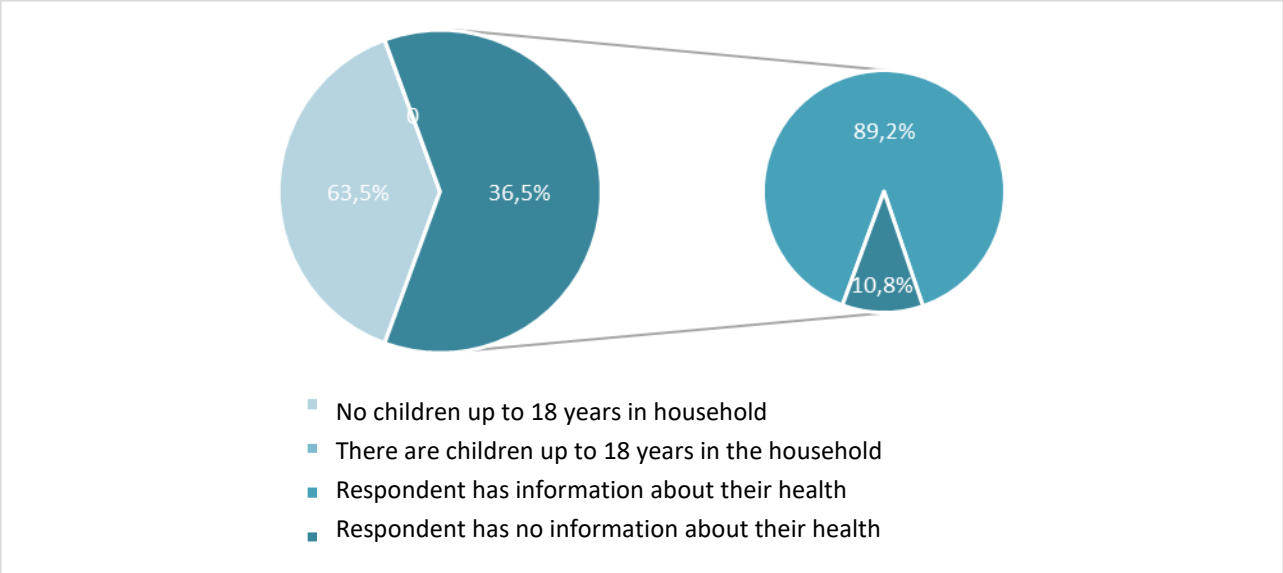

Fig. 1.6. Subsample of respondents who were asked about their children's vaccinations *(shown in dark-blue)*.

Attitudes Towards Vaccination

98% of respondents with children under 18 who knew about their health status gave an answer to a question about **attitude towards vaccination** (*N* = 3,041).

Seven out of ten respondents had a very positive or mostly positive attitude (32.5% and 40.9%, respectively). 13.9% of those with children had neutral or negative (12.7%) attitude towards vaccination.

The biggest share of people with negative attitude (mostly negative or very negative) towards vaccination live in Western Oblasts — Lviv (24.0%), Rivne (23.6%), Ivano-Frankivsk (21.3%), Ternopil (18.0%) (***Table 1.4***). The biggest share of parents with positive attitude (mostly positive or very positive) lived in Eastern or Southern Oblasts. In Sumy Oblast share of such parents was 97.1%; Kharkiv Oblast — 95.6%, Kirovograd Oblast — 91.6%. Next are Mykolayiv, Donetsk, Kherson and Poltava Oblasts.

According to social and demographic characteristics, slightly more women than men (74.8% for women and 71.1% for men) had a positive attitude to vaccination. People with middle income showed the best attitude to vaccination (77.4% and 78.0% positive), however, the lowest share of those positive about vaccination was shown for people with the highest income (68.3%) (***Table 1.5***).

Refusal From Vaccination

Overall, 21.1% (*N* = 615) of all respondents with children under 18 who were aware of their health had experience refusing from vaccinating their child.

Table 1.4. Distribution of answers to the question "What is your overall attitude towards vaccination?" by Oblasts *(among people with children under 18 and who know about their health)*

Region	*N*	Very negative, %	Mostly negative, %	Neutral, %	Mostly positive, %	Very positive, %
UKRAINE	***3041***	*4.9*	*7.8*	*13.9*	*40.9*	*32.5*
Vinnytsya	**127**	5.3	5.8	22.3	30.4	36.2
Volyn	**129**	3.9	5.4	14.1	67.1	9.5
Dnipropetrovsk	**124**	5.5	11.3	19.3	25.7	38.2
Donetsk	**92**	10.4	2.0	7.6	34.8	45.1
Zhytomyr	**148**	1.7	12.8	9.5	60.8	15.2
Transcarpathian	**157**	3.5	10.9	12.3	60.3	13.1
Zaporizzhya	**78**	0.0	6.9	23.6	38.6	30.9
Ivano-Frankivsk	**141**	7.8	13.5	12.9	55.2	10.6
Kyiv	**171**	2.8	10.0	10.4	46.8	29.9
Kirovograd	**98**	0.0	5.4	3.1	59.3	32.3
Luhansk	**95**	0.0	1.8	10.3	40.9	47.0
Lviv	**144**	10.1	13.9	21.1	36.5	18.3
Mykolayiv	**107**	0.0	5.8	7.4	72.5	14.2
Odesa	**113**	6.3	6.3	9.7	35.7	42.0
Poltava	**135**	6.3	2.1	12.2	54.0	25.3
Rivne	**130**	6.1	17.6	23.9	46.2	6.3
Sumy	**121**	0.8	1.5	0.6	17.7	79.4
Ternopil	**98**	9.7	8.3	21.7	17.6	42.7
Kharkiv	**92**	0.0	3.5	0.9	39.6	56.0
Kherson	**145**	0.9	7.8	11.4	32.6	47.3
Khmelnitsky	**97**	4.2	5.0	31.4	38.7	20.7
Cherkassy	**125**	5.1	6.6	26.2	45.7	16.4
Chernivtsy	**171**	5.3	9.7	22.6	40.3	22.1
Chernihiv	**116**	6.6	4.0	13.1	39.5	36.9
Kyiv city	**87**	6.6	10.2	11,1	31,4	40,7

The biggest share of respondents who refused from mandatory vaccinations of their children live in Ivano-Frankivsk (39.1%), Ternopil (38.5%), Lviv (37.5%) and Kyiv (36.5%) Oblasts. The smallest — in Volyn (4.1%) and Mykolayiv (5.3%) Oblasts (***Fig. 1.7***). On the other hand, 5.1% (*N* = 125) of respondents with children under 18 who knew about their health were told by a doctor not to vaccinate.

Table 1.5. Distribution of answers to the question "What is your overall attitude to vaccination?" by social and demographic characteristics *(among people with children under 18 and who know about their health)*

Social and demographic characteristics		*N*	Negative, %	Neutral, %	Positive, %	Signifi-cance
SEX	men	774	13.4	15.5	71.1	< 0.05
	women	2,267	12.2	13.0	74.8	
AGE GROUP	18–29	678	10.8	17.2	72.0	Insignificant
	30–44	1,636	13.4	13.0	73.5	
	45–59	511	14.2	11.2	74.6	
	60 and older	216	9.8	13.0	77.2	

TYPE OF AREA	urban	1,877	12.8	13.7	73.4	Insignificant
	rural	1,164	12.2	14.2	73.5	
EDUCATION	complete high	607	12.0	13.2	74.7	Insignificant
	vocational	533	12.1	12.5	75.4	
	basic college	948	11.8	14.3	73.9	
	higher	949	13.8	14.7	71.5	
HOUSEHOLD INCOME PER PERSON	up to 1000 UAH	669	16.7	10.7	72.6	< 0.05
	1001–1500 UAH	520	12.3	13.1	74.6	
	1501–2000 UAH	412	7.9	14.7	77.4	
	2001–2500 UAH	170	10.2	11.8	78.0	
	over 2500 UAH	774	15.7	16.0	68.3	

Most frequently health care workers persuaded parents not to vaccinate their children in the city of Kyiv (19.1%), as well as in Kyiv (12.9%) and Ivano-Frankivsk Oblasts (11,3%). None of the respondents reported having been persuaded by a heath care worker not to vaccinate in Sumy, Mykolayiv, Kirovograd, Zaporizzhya, Donetsk and Volyn Oblasts.

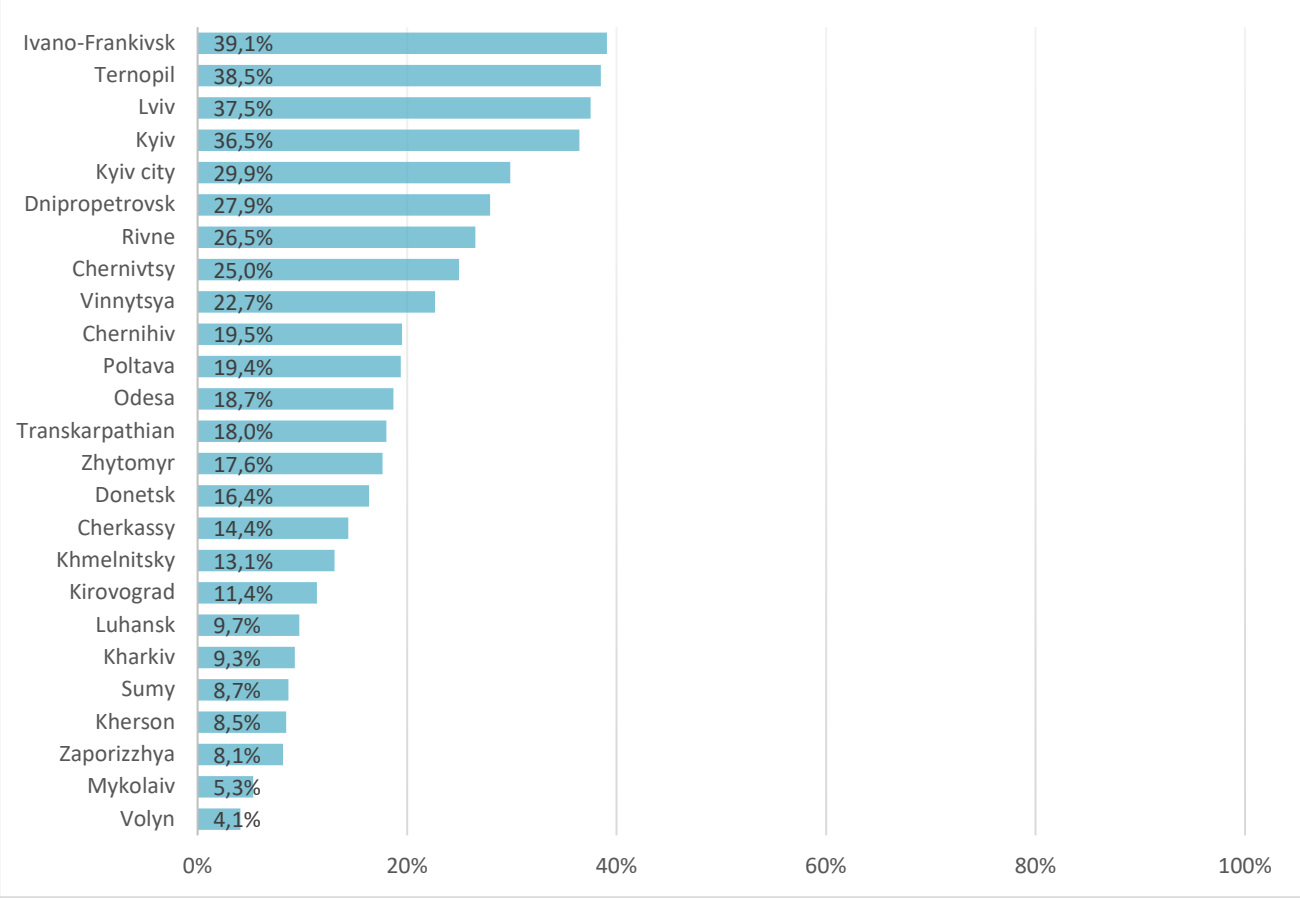

Fig. 1.7. Distribution of answers to the question "Have you ever refused to have your child undergo mandatory vaccinations?" by Oblasts

Half of those parents who ever refused from vaccinating their children did that because of fear of complications or other negative consequences of vaccination (48.8%) (***Fig. 1.8***). Two out of five (38.6%)

reported lack of trust towards a vaccine manufacture as one of the reasons to refuse, each third reported disease of their child as a reason (31.9%). One of ten among those who ever refused from vaccination did that as they believed vaccination is not necessary (11.5%), and 5.8% of surveyed parents were advised by health care workers not to vaccinate.

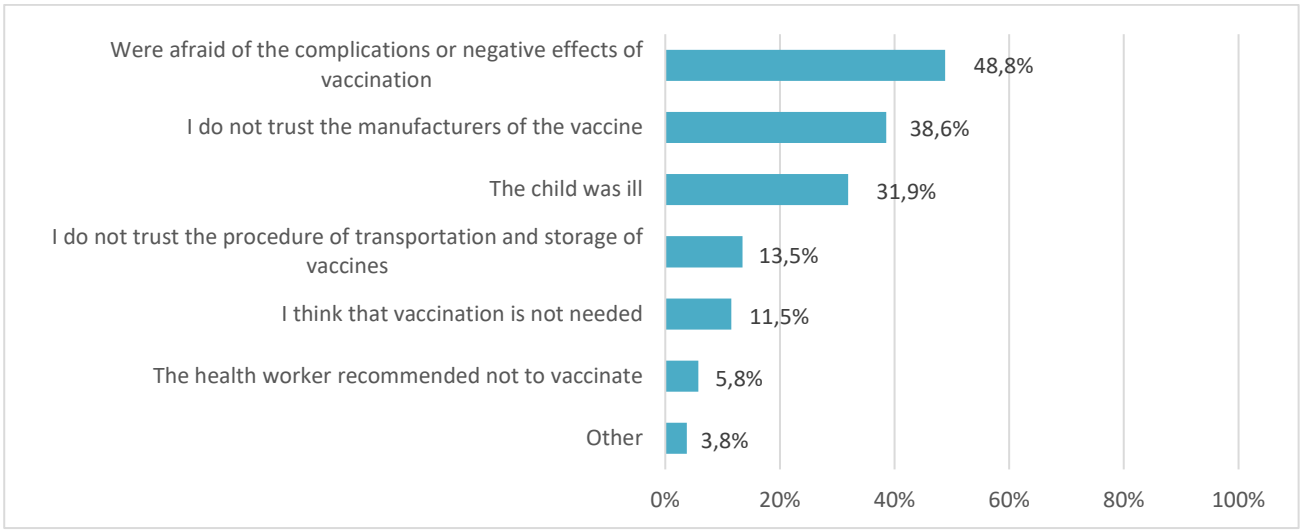

Fig. 1.8. General distribution of answers to the question "Why did you refuse from vaccinating your child?" *(among those who had an episode of refusing from vaccinating their children; up to three answer option could be chosen)*

Among parents convinced not to vaccinate, he main reason mentioned by a health care worker as a reason not to vaccinate a child was moderate disease of a child without fever (26.7%). Other reasons are provided in ***Fig. 1.9***.

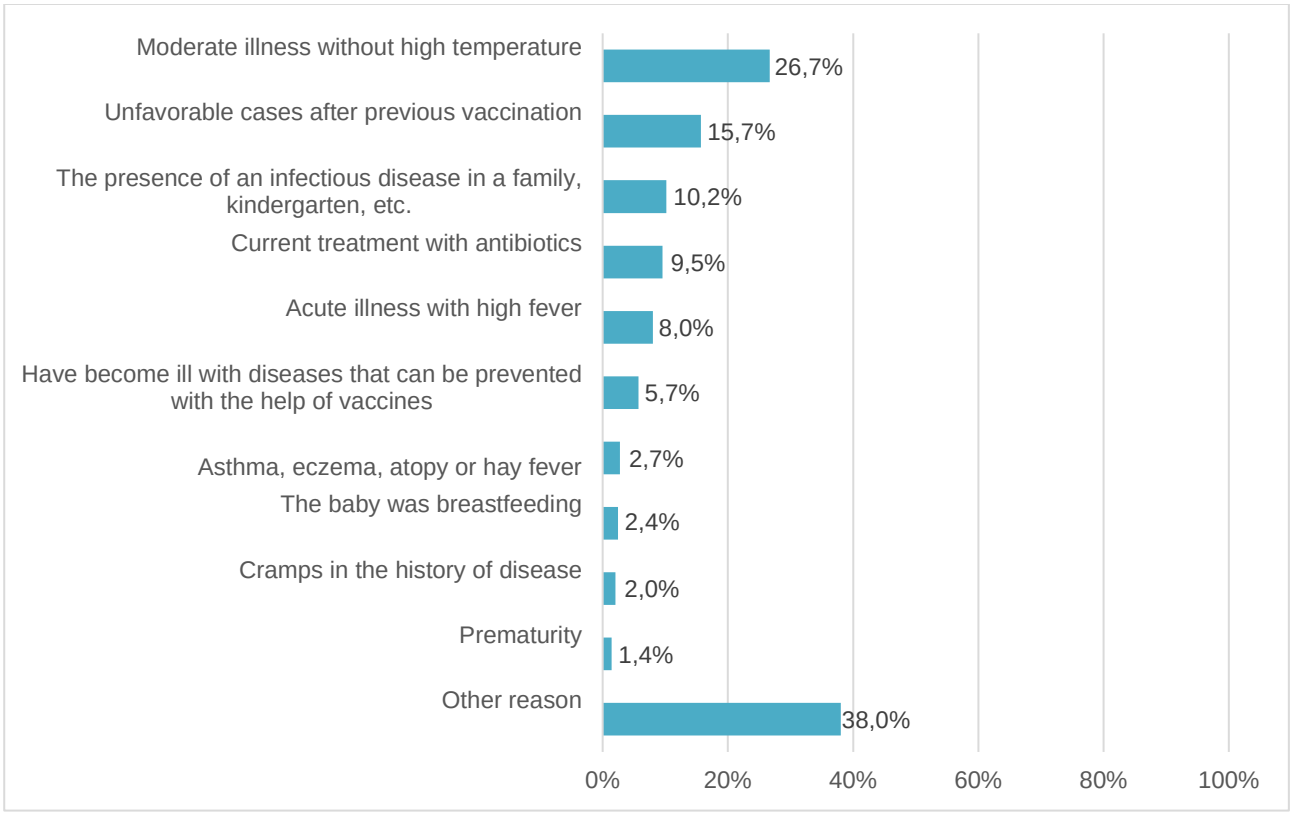

Fig. 1.9. General distribution of answers to the question "What reason was mentioned by a health care worker convincing you not to vaccinate a child?" *(among those who had ever been convinced by a health care worker not to vaccinate; up to three answer options could be chosen)*

3.8% of parents having children under 18 had an episode of seeking counterfeit vaccination certificate. The biggest share of them was found in Dnipropetrovsk (10.8%), Lviv (9.1%), Chernihiv (7.9%), Vinnitsya (6.4%) Oblasts and Kyiv city (6.8%). Such respondents were not found in Kharkiv, Kirovograd, Mykolayiv and Zhytomyr Oblasts.

Among respondents having children under 6 (*N* = 2,158), almost half of them experienced a situation of vaccine stock-out at the time of planned vaccination (47.0%). The biggest share of such respondents was noted in Chernihiv (72.1%) and Poltava Oblasts (69.2%); the smallest — in Mykolayiv Oblast (15.3%).

Comparison of 2017 and 2016 Results

Compared to 2016, **attitude to vaccination** has somewhat improved: 3% more respondents started to be positive or very positive about vaccination (71% in 2016 and 74% in 2017): share of respondents who **ever refused to have their child vaccinated** decreased by 3% (24% in 2016 and 21% in 2017).

1.3. Self-Assessment of Health

Self-assessment of health status was performed by having respondents answer the question "How would you assess your own health on a 5-point scale?" This question was answered by 99.4% of all respondents (*N* = 10,123).

The majority of the surveyed assessed their health as being good (39.6%) or average (38.9%). Overall, there were four out of five respondents like that. Each eighth respondent considered their health as being poor (12.3%). Almost seven percent of the surveyed reported their health being very good (6.9%), and only 2.3% — very poor.

Table 1.6 provides distribution of health assessments by Oblasts. The best self-assessment of health was provided by respondents in Luhansk Oblast (58.7% — good or very good), the worst — in Sumy Oblast (28.4% - poor or very poor).

According to social and demographic characteristics, health was better assessed by men, younger people, urban citizens, people with higher education and higher income (***Fig. 1.10***).

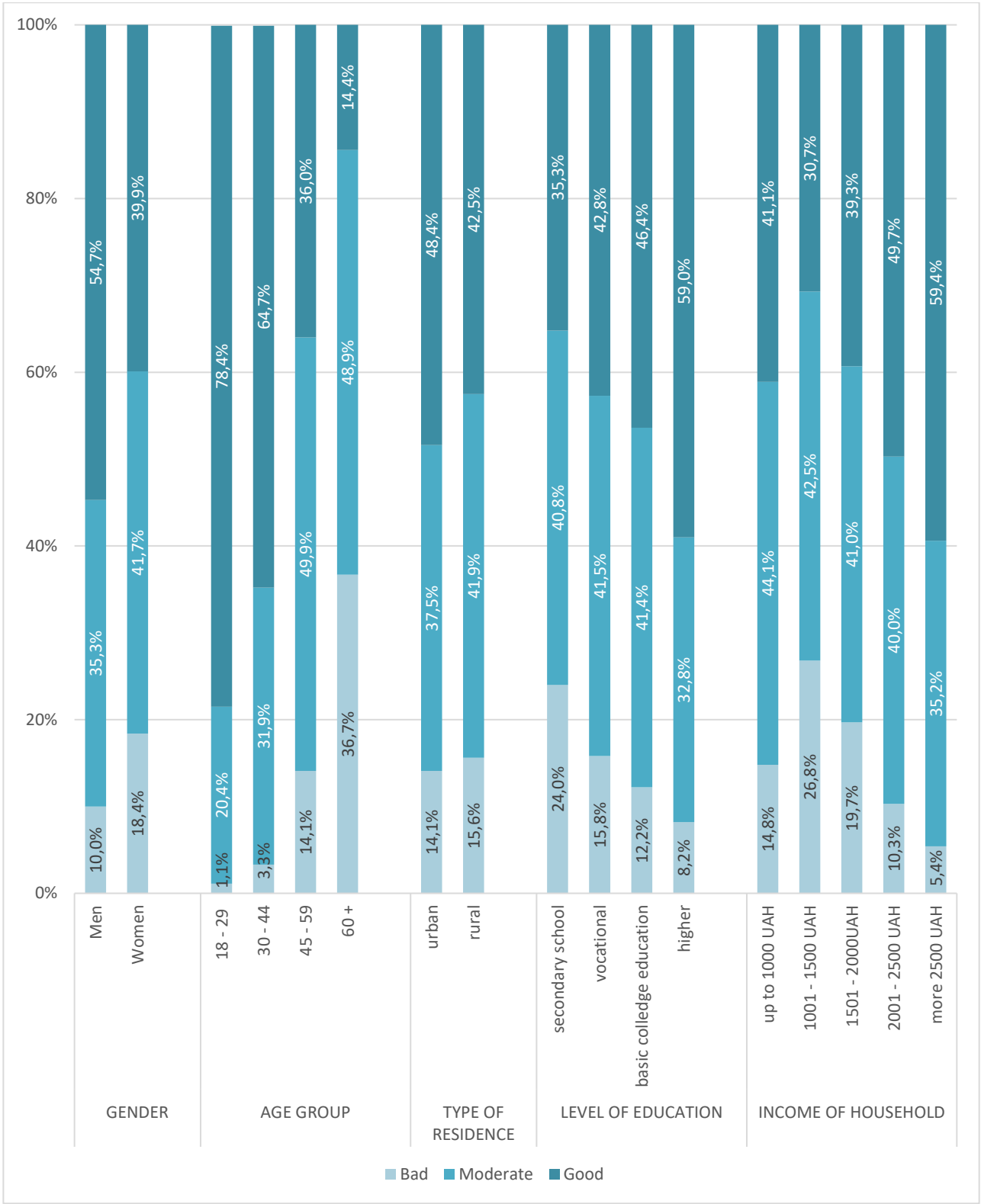

Fig. 1.10. Distribution of answers to the question "How would you assess your own health on a 5-point scale?" by social and demographic characteristics (* *Statistically significant difference between groups)*

Having Disability and Chronic and Long-Term Diseases

10,000 of respondents (98.2%) have answered the question "Do you have any chronic or long-term diseases?". Out of them 39.2% (n = 3,929) reported having them.

Table 1.6. Distribution of answers to the question "How would you assess your health by a 5-point scale?" by Oblasts

Region	***N***	**Very poor, %**	**Poor, %**	**Moderate, %**	**Good, %**	**Very good, %**
UKRAINE	***10123***	*2.3*	*12.3*	*38.9*	*39.6*	*6.9*
Vinnytsya	**381**	3.1	10.2	33.9	40.7	12.1
Volyn	**245**	0.8	15.5	39.6	33.9	10.2
Dnipropetrovsk	**760**	0.4	9.2	42.1	34.7	13.6
Donetsk	**1012**	2.4	15.2	41.4	35.1	5.9
Zhytomyr	**298**	2.0	19.5	41.3	33.6	3.7
Transcarpathian	**301**	0.7	9.3	43.5	39.9	6.6
Zaporizzhya	**419**	1.4	15.0	39.6	35.3	8.6
Ivano-Frankivsk	**328**	2.4	8.5	47.3	35.1	6.7
Kyiv	**413**	4.6	9.7	40.9	40.2	4.6
Kirovograd	**231**	3.5	16.5	34.2	37.2	8.7
Luhansk	**517**	1.2	11.2	28.8	47.4	11.4
Lviv	**600**	1.0	6.8	40.5	46.3	5.3
Mykolayiv	**275**	1.1	13.1	37.8	46.9	1.1
Odesa	**567**	3.0	13.6	33.0	45.1	5.3
Poltava	**342**	1.5	11.7	37.1	47.7	2.0
Rivne	**276**	0.7	9.1	53.6	34.1	2.5
Sumy	**264**	4.9	23.5	43.9	26.1	1.5
Ternopil	**253**	2.8	9.9	49.0	33.6	4.7
Kharkiv	**644**	6.1	14.4	29.8	32.0	17.7
Kherson	**252**	5.6	19.0	28.6	43.7	3.2
Khmelnitsky	**308**	2.6	6.2	37.3	43.5	10.4
Cherkassy	**293**	2.4	12.3	46.4	34.1	4.8
Chernivtsy	**216**	1.4	7.9	46.3	41.2	3.2
Chernihiv	**242**	2.5	11.6	49.6	31.0	5.4
Kyiv city	**683**	1.3	12.0	30.7	55.9	0.0

The biggest part of respondents who reported having **chronic or long-term diseases** lived in Cherkassy Oblast (61.6%), the smallest — in Transcarpathian Oblast (19.1%) (***Fig. 1.11***).

According to social and demographic characteristics, having chronic or long-term diseases was reported by women, people of older age, those with high education and lower income. There was no statistical difference by type of inhabited location (***Fig. 1.12***).

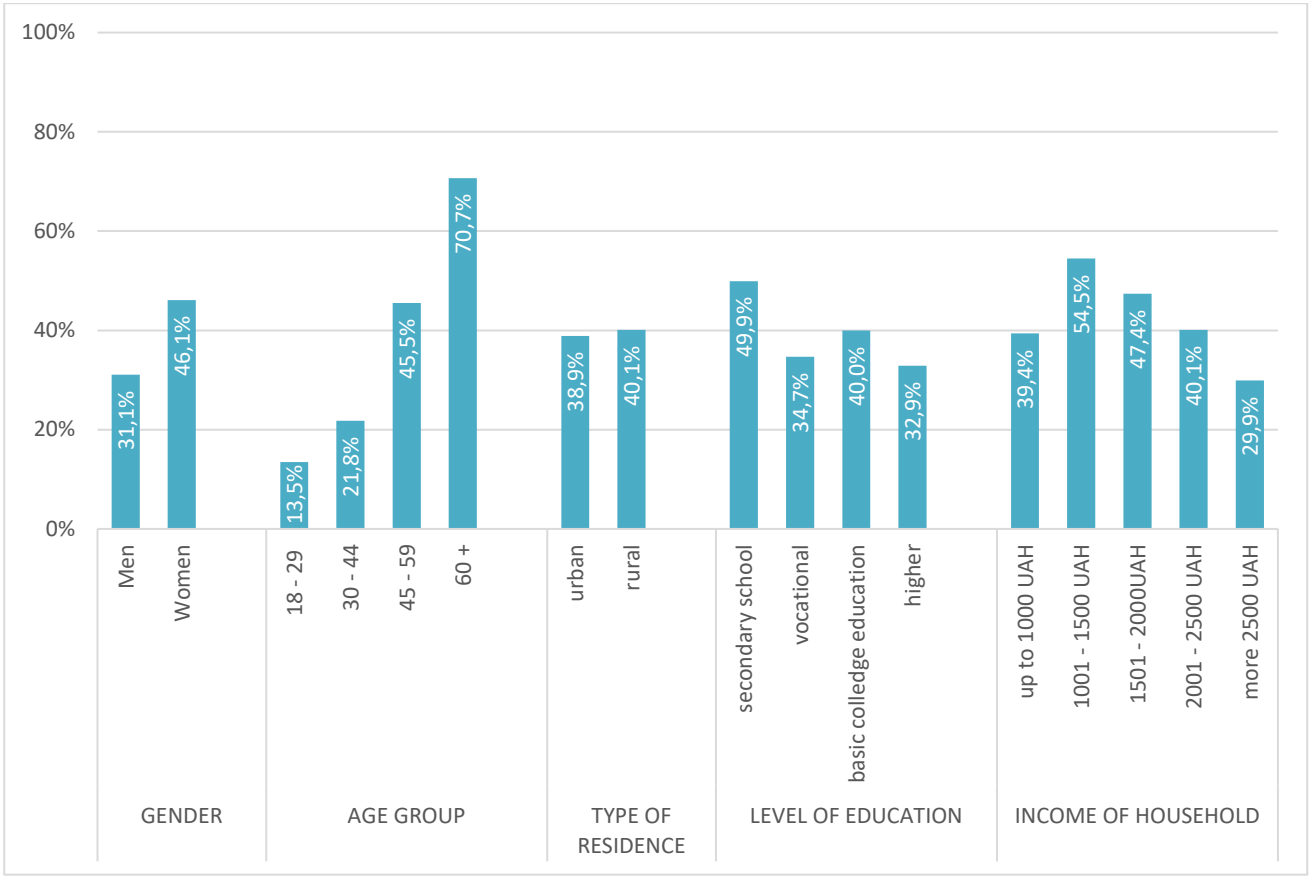

Fig. 1.12. Having chronic or long-term diseases: distribution by social and demographic characteristics

99.8% of respondents (N = 10,161) have answered the question about an officially documented **disability**. Of them 6.6% (n = 671) gave a positive answer. The biggest portion of people with officially documented disability lived in Ivano-Frankivsk Oblast (13.2%), the smallest — in Volyn Oblast (2.7%) (***Fig. 1.13***).

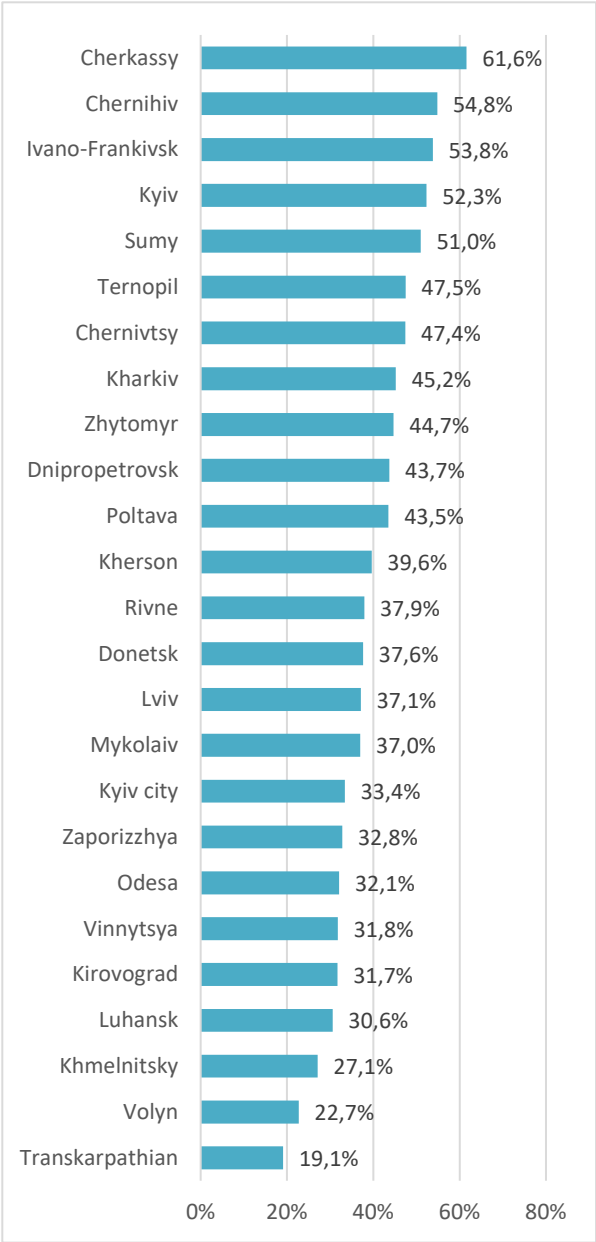

Fig. 1.11. Having chronic or long-term diseases: distribution by Oblasts

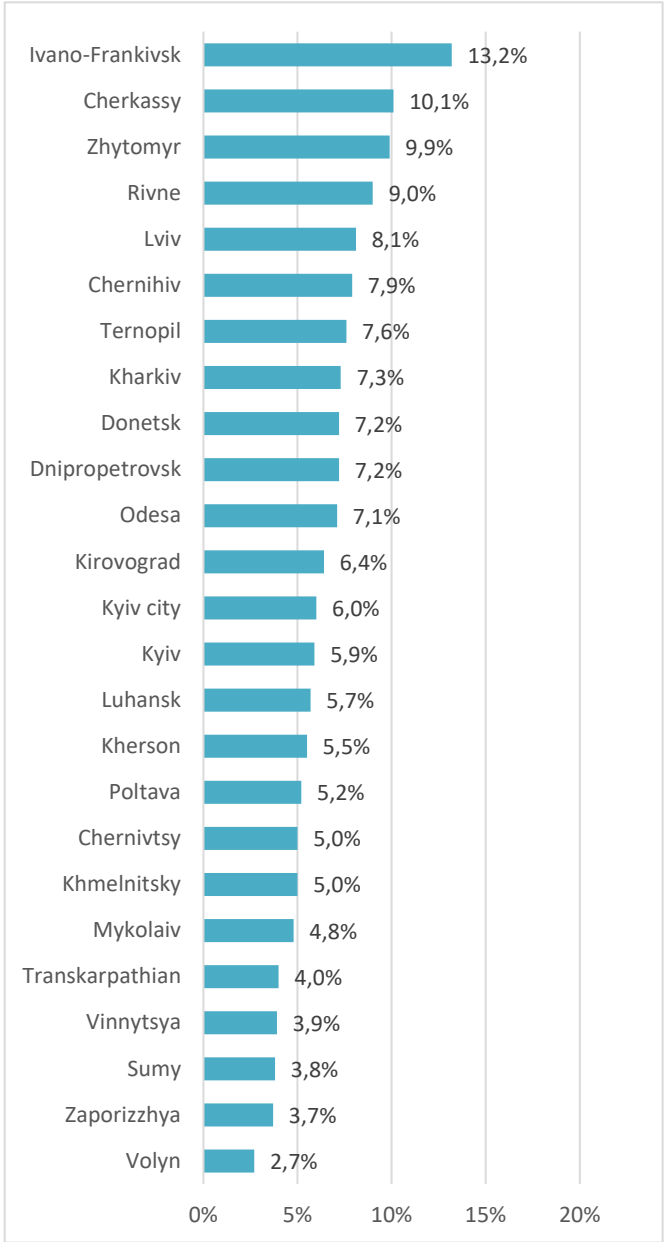

Fig. 1.13. Distribution of answers to the question “Do you have an officially documented disability?” by Oblasts

According to social and demographic characteristics, bigger share of men, people who are 45 and older, with high education and household income up to 2,500 UAH per person had an officially documented disability. There was no statistically significant difference by the type of inhabited location (***Fig. 1.14***).

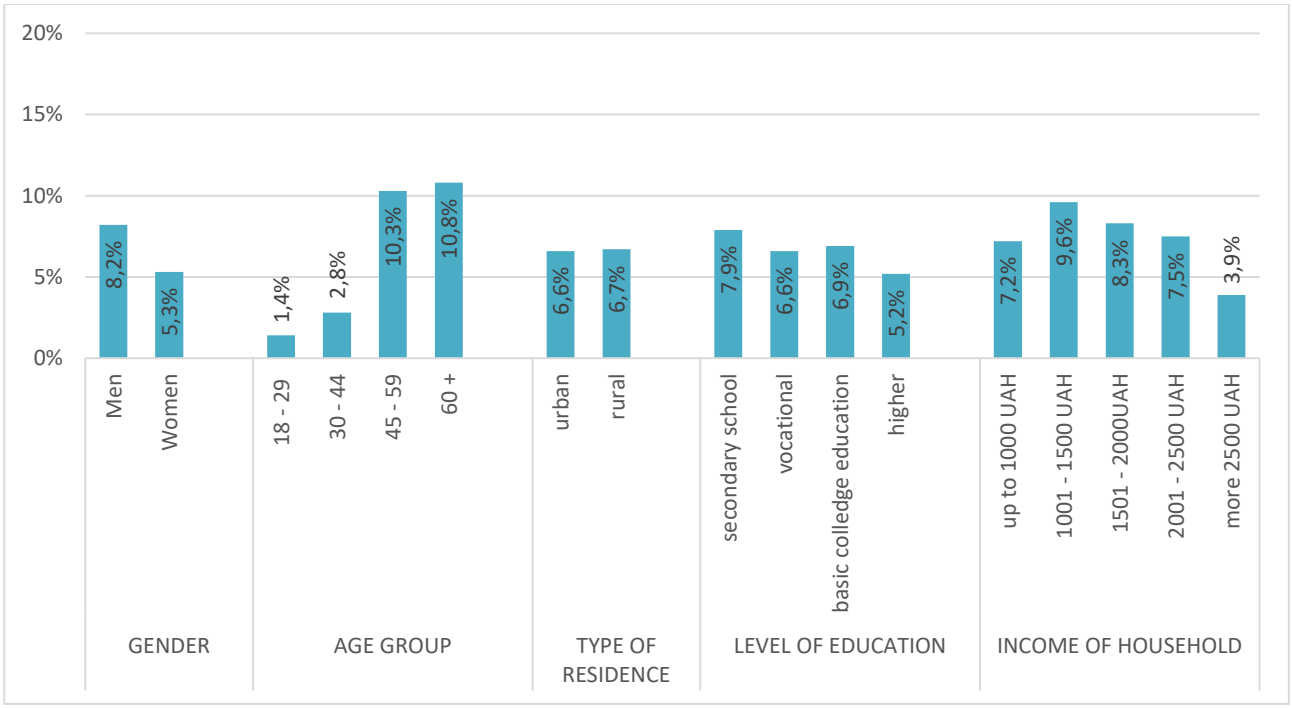

Fig. 1.14. Distribution of answers to the question "Do you have an officially documented disability?" by social and demographic characteristics (* *Statistically significant difference between groups)*

Comparison of 2017 and 2016 Results

Self-assessed health status almost have not changed. Share of people assessing their health as very good was 6% in 2016, in 2017 it is 7%. Good health was reported by 39% of respondents in 2016, in 2017 — 40%. Respectively, share of those reporting their health as moderate decreased by 2%. Share of people assessing their health as poor and very poor has not changed (12% and 2%, respectively).

Share of people reporting having chronic or long-term diseases decreased by 3% — from 42.3% in 2016 to 39.2% in 2017.

Share of respondents having officially documented disability has not significantly changed: 7.1% in 2016 and 6.6% in 2017.

1.4. Body Mass Index (BMI)

Body mass index was calculated based on answers to two questions: "What is your weight in kilos?" and "How tall you are in centimeters?". The answers were used to calculate body mass index (BMI) using standard formula[8]. The values received were rounded to one decimal place. Then, BMI coefficient was categorized according to WHO recommended reference values, namely: up to 18.5 — insufficient body weight, from 18.5 to 24.9 — normal body weight, from 25.0 to 29.9 — excessive body weight, over 30.0 — obesity (obesity was not categorized

[8]World Health Organization: Body mass index http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi.

by various degrees)[9]. In total, 9,016 (88.5%) respondents reported their height and body weight. Results are provided below.

According to the survey data, two out of five adult Ukrainians have normal body weight (42.0%). Another two out of five have excessive body weight (36.5%), one out of five — obesity (19.1%). Only 2.4% of respondents had insufficient body weight.

The biggest share of people with excessive body weight or obesity live in Zaporizzhya Oblast (72.0% in total), and the smallest — in Khmelnitsky Oblast (43.1% in total). The biggest share of respondents with obesity live in Kyiv Oblast (27.6%). The biggest share of respondents with insufficient body weight live in Transcarpathian Oblast (6.5%) (***Table 1.7***).

Table 1.7. Distribution of Body Mass Index by Oblasts

Region	***N***	**Insufficient body weight, %**	**Normal body weight, %**	**Excessive body weight, %**	**Obesity, %**
UKRAINE	***9016***	*2.4*	*42.0*	*36.5*	*19.1*
Vinnytsya	**338**	1.5	40.6	39.9	18.0
Volyn	**166**	0.0	39.2	43.5	17.3
Dnipropetrovsk	**710**	2.9	40.0	35.3	21.8
Donetsk	**980**	0.6	34.0	43.6	21.9
Zhytomyr	**297**	1.6	42.2	36.4	19.8
Transcarpathian	**284**	6.5	46.6	31.4	15.5
Zaporizzhya	**345**	1.1	26.9	54.8	17.2
Ivano-Frankivsk	**288**	4.4	47.9	28.9	18.8
Kyiv	**391**	1.3	35.1	36.0	27.6
Kirovograd	**192**	3.9	42.4	33.9	19.7
Luhansk	**384**	1.4	45.8	34.4	18.4
Lviv	**583**	3.2	41.5	35.7	19.6
Mykolayiv	**226**	4.0	40.3	36.5	19.3
Odesa	**520**	4.0	43.0	35.2	17.7
Poltava	**283**	2.9	36.9	34.4	25.8
Rivne	**265**	2.5	51.4	30.3	15.8
Sumy	**225**	0.9	42.0	34.6	22.5
Ternopil	**253**	5.1	41.9	32.7	20.3
Kharkiv	**508**	3.5	47.9	32.7	15.9
Kherson	**229**	1.8	45.5	34.0	18.7
Khmelnitsky	**239**	0.8	56.1	35.6	7.5
Cherkassy	**241**	1.7	41.5	34.4	22.4
Chernivtsy	**193**	1.9	39.6	41.3	17.3
Chernihiv	**209**	1.5	45.2	32.1	21.2
city of Kyiv	**669**	2.7	50.0	34.1	13.1

According to social and demographic characteristics, share of respondents with excessive weight and obesity increased with age, in people with no higher education and household income up to 2,500 UAH per person compared to respondents with higher education and higher income (***Fig. 1.15***).

There was no difference in BMI values in 2016 and 2017.

[9]World Health Organization: Body mass index http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi.

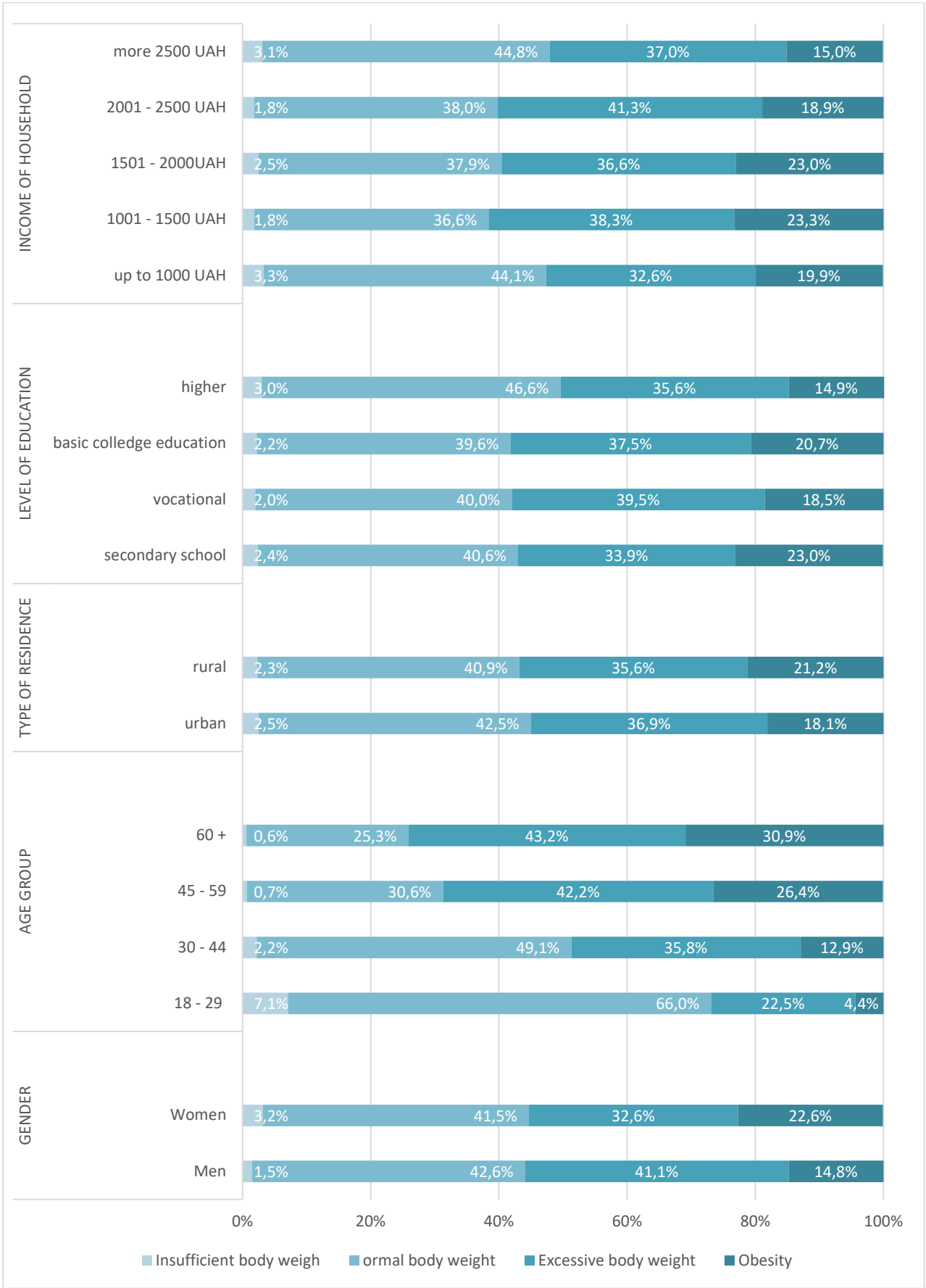

Fig. 1.15. Distribution of Body Mass Index by social and demographic characteristics
(** Statistically significant difference between groups)*

1.5. (Un)healthy Lifestyles

Respondents' **smoking** behaviors were sought with the help of the question "Do you currently smoke tobacco products (cigarettes, for example) every day, occasionally or you don't smoke at all?", and, if yes, "How many cigarettes on average do you smoke a day?". Further, smoking behaviors were categorized as follows: 1) non-smokers (answered to the first question "not smoking at all"; 2) occasional smokers (answered to the first question "smoking occasionally"; 3) mild smokers (smoking on a daily basis, up to 10 cigarettes per day); 4) moderate smokers (smoking on a daily basis, from 10 to 19 cigarettes); 5) heavy smokers (smoking on a daily basis, 20 cigarettes and more)[10]. In total, 10,079 respondents (99.0%) reported their smoking status.

Three out of four reported quitting smoking (76.1%). Among the rest respondents, the majority reported moderate (9.5%) or heavy smoking (8.5%). Only 5.9% of adult Ukrainians are mild or occasional smokers.

The biggest share of smokers is registered in Khmelnitsky Oblast (32.8%); the smallest — in Rivne Oblast (14.0%) (***Fig. 1.16***).

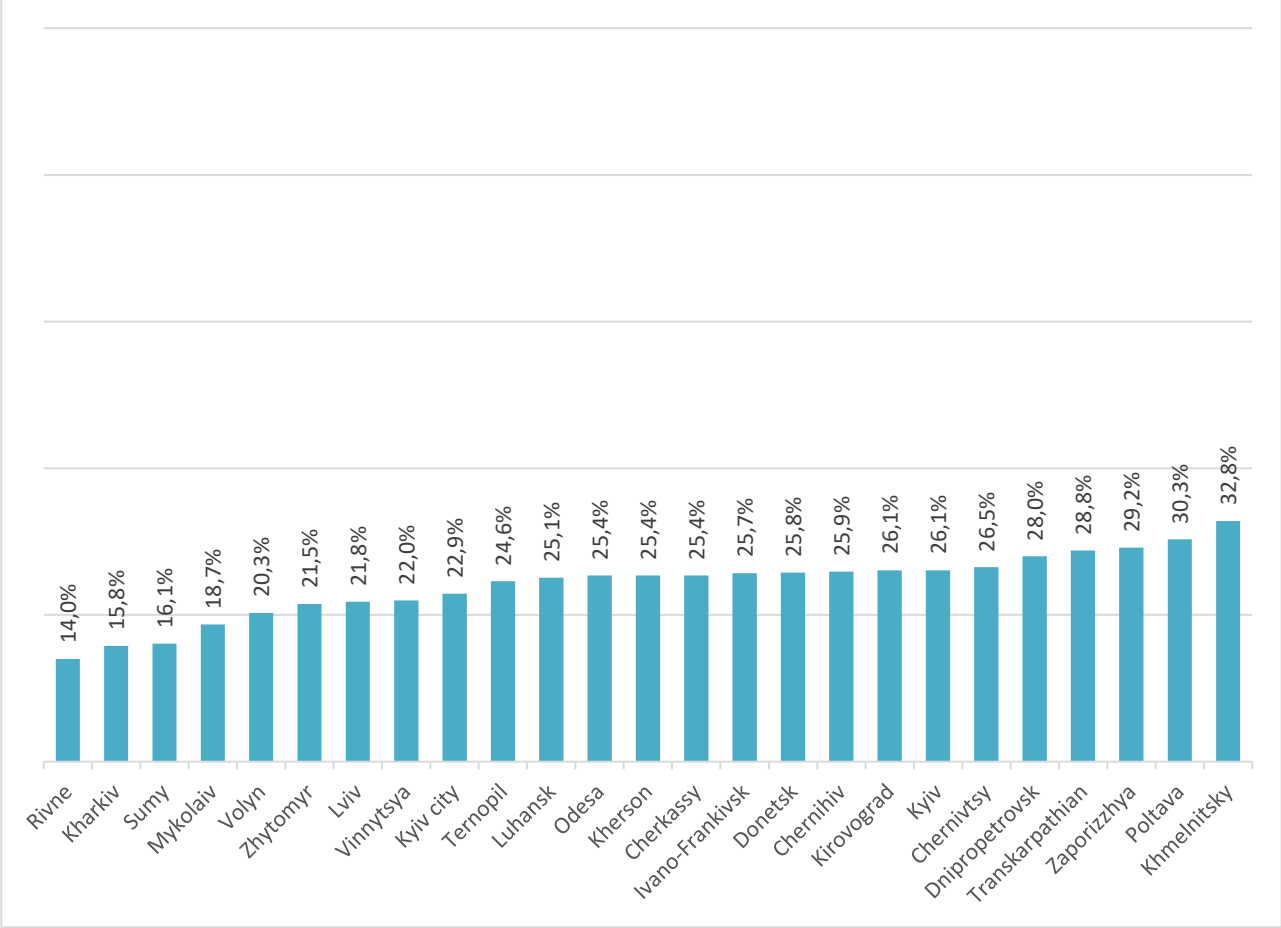

Fig. 1.16. Distribution of positive answers to the question "Do you currently smoke tobacco products (for example, cigarettes) every day, occasionally or you don't smoke at all" (blue part represents regular or irregular smokers)

There were 6 times more smokers among men than among women (44.6% and 7.6% respectively), the majority of smokers were people up to 60 and those with vocational education. Share of smokers also increased with increasing income. There was no difference in share of smokers between urban and rural population (***Table 1.8***).

[10] Maryland's Tobacco Resource Center: LightandIntermittentSmokers: https://mdquit.org/special-populations/light-and-intermittent-smokers. Boulos, D. N. K., Loffredo, C. A., ElSetouhy, M., Abdel-Aziz, F., Israel, E., &Mohamed, M. K. (2009). Nondaily, lightdaily, and moderate-to-heavy cigarettesmokersin a ruralareaofEgypt: A population-based survey. Nicotine&TobaccoResearch, 11(2), 134–138: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2658907/.

According to smoking intensity, there were more moderate or heavy smokers among men, rural citizens, with increasing age (among people under 60), and less with increasing levels of education and increasing income (***Table 1.9***).

Table 1.8. Share of smokers and smoking intensity: distribution by social and demographic characteristics

Social and demographic characteristics		**Among all: share of smokers**			**Among smokers: distribution by smoking intensity**					
		N	**%**	**significance**	***N***	**occasional, %**	**mild, %**	**moderate, %**	**heavy, %**	**significance, %**
SEX	men	4,568	44.6	< 0.05	1,996	10.0	10.4	39.5	40.1	< 0.05
	women	5,559	7.6		413	19.9	26.4	40.4	13.3	
AGE GROUP	18–29	1,971	29.1	< 0.05	562	15.4	13.9	38.9	31.8	< 0.05
	30–44	2,828	33.8		937	10.8	13.5	40.0	35.8	
	45–59	2,608	25.0		639	11.0	10.1	40.4	38.5	
	60 and older	2,719	10.1		270	9.0	17.5	38.4	35.2	
TYPE OF RESIDENCE	urban	6,969	24.4	insignificant	1,673	12.2	14.4	41.5	31.9	< 0.05
	rural	3,157	23.9		735	10.6	10.2	35.5	43.7	
EDUCATION	high	2,397	24.1	< 0.05	559	8.3	12.9	36.4	42.4	< 0.05
	vocational	2,001	32.8		646	8.9	12.5	39.5	39.1	
	basic college	2,891	23.3		659	13.7	11.7	42.0	32.7	
	higher	2,830	19.3		543	16.3	15.8	40.5	27.4	
HOUSEHOLD INCOME PER PERSON	up to 1000 UAH	1,198	24.2	< 0.05	286	7.8	15.8	36.6	39.9	< 0.05
	1001–1500 UAH	2,108	16.9		351	11.5	13.2	38.7	36.7	
	1501–2000 UAH	1,621	18.8		301	13.9	14.4	37.5	34.2	
	2001–2500 UAH	835	27.1		225	12.0	10.7	44.0	33.2	
	over 2500 UAH	1,388	29.9		414	14.2	12.7	47.9	25.2	

Alcohol Use

Alcohol use level was categorized using several questions. First, everyone was asked: "How often have you consumed alcohol within the last 12 months?" (answer options: "almost daily", "3–4 days a week", "1–2 days a week", "1–3 days a month", "less than once a month or never"). After that, those having consumed alcohol at least once a month within the last year were asked: "What kind of alcohol namely have you been consuming in a typical day? How many milliliters?" (alcohol options: beer, wine, vodka, strong drinks).

For those consuming alcohol at least once a month, average number of drinks per typical day and an average number of drinks per week were calculated[11].

After that alcohol consumption levels were categorized as follows: for men moderate consumption was using up to 14 drinks per week, excessive — 15 and more drinks per week or 5 drinks per day; for women moderate consumption was categorized as up to 7 drinks pew week, excessive — 8 and more drinks per week or 4 drinks per day[12].

In total, 9,671 respondents (95.0%) answered a question about alcohol consumption. Of them three quarters (74.7%) reported not using alcohol at all in the last year or used it less frequently that once a week; almost one tenth (8.6%) used alcohol excessively and 16.7% or respondents used alcohol moderately in the previous year.

The least alcohol was consumed in Mykolayiv Oblast, namely 97.8% of respondents in the previous year used it more rarely than once a month or have not used it at all. The most — in Zaporizzhya Oblast. Almost half of respondents there (44.1%) consumed alcohol on a regular basis in the previous year, and almost every fifth citizen (17.1%) — excessively (***Fig. 1.17***).

According to social and demographic characteristics the majority of regular alcohol consumers were men (42.3% vs 12.0%), people of middle age, with vocational education and higher income. In urban and rural areas, the share of those consuming alcohol last year was the same, but the share of those with excessive consumption was bigger (***Fig. 1.18***).

[11] 1 alcohol drink = 350 ml of beer = 150 ml of wine = 50 ml of stronk drink // *National Institute on Alcohol Abuse and Alcoholism: What is a standard drink:https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/what-standard-drink*

[12] National Institute on Alcohol Abuse and Alcoholism: Drinking levels defined: https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/moderate-binge-drinking.

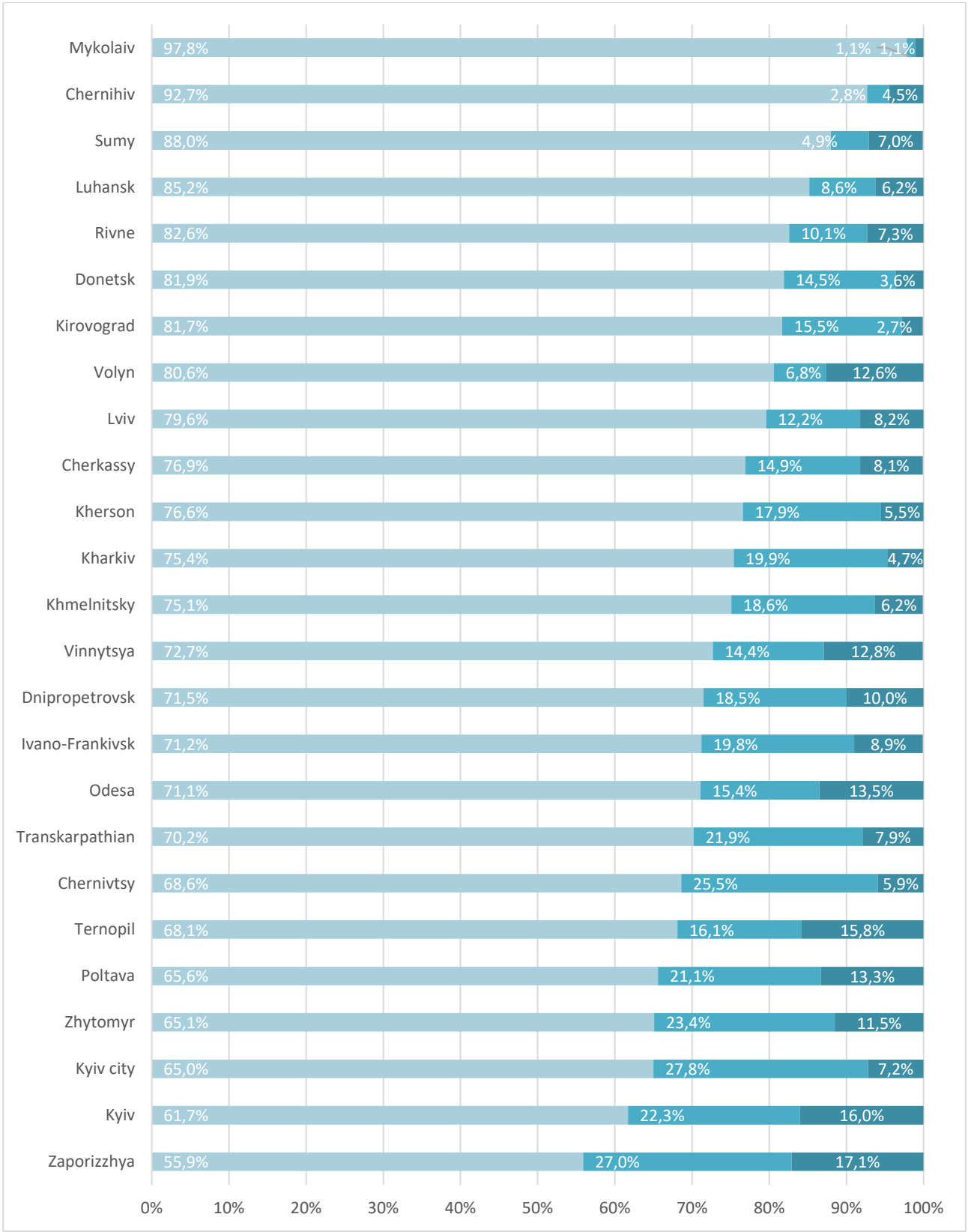

Fig. 1.17. Distribution of answers to question “How often have you consumed alcohol within the last 12 months?” by Oblasts

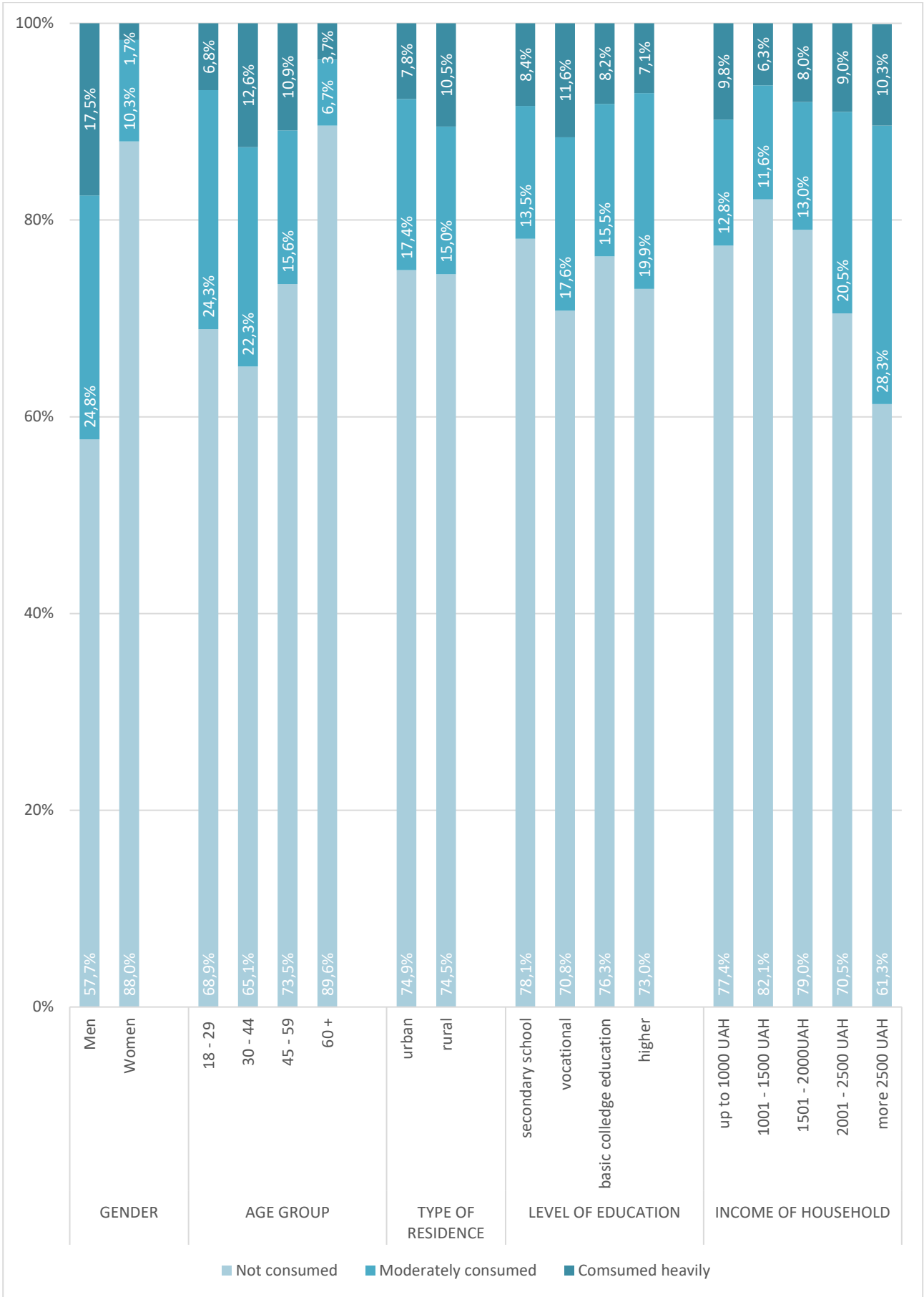

Fig. 1.18. Distribution of answers to the question "How often have you used alcohol in the last 12 months?" by social and demographic characteristics (* *Statistically significant difference between groups)*

Fruit Consumption

Fruit consumption levels were calculated using question "How many kilos of fresh fruit or berries (apples, pears, bananas, oranges etc.) have you personally eaten in the last 7 days?". This weight was calculated as a number of fruit per day[13] and categorized, considering WHO recommendations to consume five portions of fruit and vegetables per day[14]. Thus, eating two or three portions of fruit per day was considered adequate (assuming that the rest is made up with vegetables), one fruit per day — insufficient, and four fruit per day and more — more than adequate. In total, 7,766 respondents (76.3%) could make an assessment of their daily fruit intake.

Respondents were broken down between four different options of fruit consumption almost equally (within a week before survey). One quarter consumed a lot of fruit in the last week (26.9%) and another quarter — adequate amount (23.4%). Each third consumed too few fruits (34.3%), and 15.5% of respondents have not consumed any fruit in the week prior to survey.

The highest consumption of fruit was reported in Kherson Oblast (81.8% of respondents consumed enough or a lot of fruit in the last week), the lowest — in Zhytomyr Oblast (only 23.2% of respondents consumed enough or a lot of fruit) (***Table 1.9***).

More fruit was consumed by women, younger people, urban citizens, people with higher education and higher income (***Table 1.10***).

Physical Activity

Physical activity level was assessed based on answers to the question "How much time a week do you exercise with at least average intensity?". Average intensity exercise included not only going in for sports, but walking, riding a bicycle, working in the garden etc. to the point to breath heavily or sweat. In total, 7,938 of respondents (77.9%) answered this question.

[13] 1 fruit = 100 grams.
[14] http://www.who.int/dietphysicalactivity/fruit/en/

Table 1.9. Distribution of answers to the question "In the last 7 days how many kilos of fresh fruit or berries (apples, pears, bananas, oranges etc.) have you personally consumed?" by Oblasts

Region	***N***	**Did not consume, %**	**Few, %**	**Enough, %**	**A lot, %**
UKRAINE	***7766***	*15.5*	*34.3*	*26.9*	*23.4*
Vinnytsya	**318**	16.5	27.4	28.2	27.9
Volyn	**165**	16.4	31.9	18.3	33.3
Dnipropetrovsk	**633**	11.1	28.0	31.1	29.8
Donetsk	**625**	28.6	38.1	14.9	18.4
Zhytomyr	**236**	35.7	41.1	11.1	12.1
Transcarpathian	**262**	8.2	23.9	29.2	38.7
Zaporizzhya	**341**	9.6	23.4	22.4	44.6
Ivano-Frankivsk	**276**	12.0	38.8	24.0	25.3
Kyiv	**345**	26.8	23.2	21.2	28.9
Kirovograd	**122**	5.0	34.2	45.1	15.7
Luhansk	**370**	19.4	29.8	40.3	10.4
Lviv	**506**	11.0	44.6	26.1	18.2
Mykolayiv	**194**	11.5	41.8	32.2	14.5
Odesa	**508**	18.6	26.0	24.8	30.6
Poltava	**168**	22.6	27.5	26.6	23.4
Rivne	**245**	8.0	40.4	30.2	21.4
Sumy	**234**	7.7	54.0	25.1	13.3
Ternopil	**205**	23.0	41.6	18.8	16.6
Kharkiv	**486**	3.7	58.3	33.4	4.6
Kherson	**198**	2.8	15.5	29.9	51.9
Khmelnitsky	**181**	20.0	35.4	29.7	14.8
Cherkassy	**196**	33.2	26.5	24.3	16.0
Chernivtsy	**197**	8.0	21.6	37.0	33.4
Chernihiv	**194**	27.9	20.1	29.3	22.8
Kyiv city	**559**	7.3	39.9	29.1	23.7

Table 1.10. Distribution of answers to the question "In the last 7 days how many kilos of fresh fruit or berries (apples, pears, bananas, oranges etc.) have you personally consumed?" by social and demographic characteristics

Social and demographic characteristics		***N***	**Did not consume, %**	**Few, %**	**Enough, %**	**A lot, %**
SEX*	men	3,341	17.9	34.6	27.8	19.6
	women	4,425	13.6	34.1	26.1	26.2
AGE GROUP*	18–29	1,604	7.1	32.8	29.3	30.8
	30–44	2,213	12.5	33.4	29.1	25.0
	45–59	1,964	15.1	34.6	28.0	22.3
	60 and older	1,984	25.9	36.2	21.3	16.6
TYPE OF LOCALITY*	urban	5,320	14.0	35.1	27.6	23.3
	rural	2,446	18.7	32.5	25.3	23.4
EDUCATION*	high	1,770	25.6	32.9	21.5	20.0
	vocational	1,472	20.4	35.1	24.1	20.5
	incomplete higher	2,215	12.5	36.9	27.3	23.3
	higher	2,300	7.4	32.4	32.4	27.8

* *Statistically significant difference*

Out of ten respondents, five had moderate exercise more than 1.5 hours per day (48.3%). Another two (21.0%) did their exercise 40 min. to 1.5 hours per day, one person (8.2%) — 20 to 40 min. per day[15] and one more — up to 20 min. per day (12.1%). Only one person out of ten surveyed, according to respondents, did not have any moderate exercise during a day or a week (10.5%).

Respondents self-reported that the least time for at least moderate exercise was spent by respondents in the city of Kyiv (5 hours per week) and Luhansk Oblast (6 hours per week). The longest time for moderate exercise was spent by people living in Ternopil Oblast (almost 42 hours per week).

Moderate exercise more than 1.5 hours per week were practiced by 87.4% citizens of Kirovograd Oblast and only 10.1% of citizens of the city of Kyiv. The majority of people not exercising even moderately live in city of Kyiv (38.8%) and Lviv Oblast (29.1%) and the least or none — in Kharkiv and Mykolayiv Oblasts (0% and 0.8%, respectively) (***Table 1.11***).

Higher levels of at least moderate exercise were reported by men, people under 60, rural citizens and people with lower income and high and incomplete higher education.

Comparison of 2017 and 2016 Results

Compared to 2016, share of daily **smokers** has decreased by 4% (25% to 21%). Share of non-smokers has increased, respectively. Share of occasional smokers has not changed. Smoking intensity among smokers has not changed.

In 2017, **alcohol consumption** issues were asked and analyzed somewhat differently, but it is possible to make an approximate comparison of alcoholic drinks consumption frequency. Currently, alcohol use frequency in 2017 vs 2016 has not changed significantly.

In 2017, respondents were asked to assess **fruit** consumption in kilos per week, and in 2016 — in each. Thus, 15.5% of respondents in 2017 and 19% of respondents in 2016 reported not eating fruit at all in a previous week.

Exercise in 2017 was assessed in time per week, but in 2016 — in frequency of exercising episodes. In 2016, 11% of respondents reported having no exercise at all, in 2017 – 10.5%. It is not possible to assess exercise intensity in the rest of people.

[15] WHO recommended for adults: http://www.who.int/dietphysicalactivity/factsheet_adults/en/

Table 1.11. Distribution of the answers to the question "How much time of your day do you exercise at least moderately?" by Oblasts

Region	*N*	Not exercising, %	Up to 20 min. a day, %	21–40 min. a day (recommended), %	41–90 min. a day, %	More than 1.5 hours a day, %
UKRAINE	*7938*	*10.5*	*12.1*	*8.2*	*21.0*	*48.3*
Vinnytsya	320	7.4	9.0	7.1	27.1	49.4
Volyn	165	3.8	7.7	5.8	20.4	62.3
Dnipropetrovsk	697	10.2	20.8	11.7	19.8	37.6
Donetsk	761	5.2	3.9	4.5	14.2	72.2
Zhytomyr	243	5.2	23.9	6.9	15.7	48.3
Transcarpathian	261	2.2	6.1	7.0	31.0	53.8
Zaporizzhya	289	4.6	18.6	19.1	40.5	17.2
Ivano-Frankivsk	287	5.5	8.4	3.7	18.1	64.3
Kyiv	365	1.3	4.7	4.3	19.3	70.4
Kirovograd	27	2.6	0.0	2.0	7.9	87.4
Luhansk	196	4.7	51.6	10.1	15.5	18.1
Lviv	575	29.1	9.9	17.0	22.1	21.9
Mykolayiv	151	0.8	8.8	15.8	35.7	39.0
Odesa	486	7.5	18.3	3.3	16.5	54.5
Poltava	163	11.5	4.1	3.7	28.9	51.7
Rivne	244	1.6	27.4	12.9	24.9	33.2
Sumy	233	6.0	5.6	2.7	31.6	54.0
Ternopil	249	11.1	2.4	1.4	8.4	76.6
Kharkiv	507	0.0	2.4	5.4	18.6	73.7
Kherson	210	17.8	10.8	3.2	11.4	56.9
Khmelnitsky	177	3.6	19.4	14.4	45.5	17.1
Cherkassy	220	7.2	4.4	3.1	23.8	61.5
Chernivtsy	207	3.2	10.0	4.0	22.3	60.5
Chernihiv	228	12.6	1.7	0.4	7.7	77.7
Kyiv city	682	38.8	16.9	15.2	19.0	10.1

1.6. Environment

As part of the survey respondents answered questions about various aspects of environment. Numbers and shares of this assessment are provided in ***Table 1.12***.

About one third of respondents assessed number of open sports grounds and condition of their equipment as good or very good (35.5% and 32.3%, respectively) (***Fig. 1.19***). A bit bigger share of respondents assesses number and condition of children playgrounds as good or very good (45.5% and 37.7%, respectively). Seven out of ten respondents positively assessed availability of green areas (trees, parks, walkways, lawns etc.) (67.8%), however, only half of the respondents are satisfied with environmental situation (cleanness of air, water etc.) (43.9%). Availability of bikeways was assessed as good or very good only by 10% of adult Ukrainians. Finally, two thirds (67.8%) and half (43.7%) of respondents reported that safety during the day/ at night is good or very good.

In total, environment was assessed as good or very good by 51% of respondents, moderate (neither good nor bad) — by 36.4% of the respondents, and bad or very bad — 12.6%.

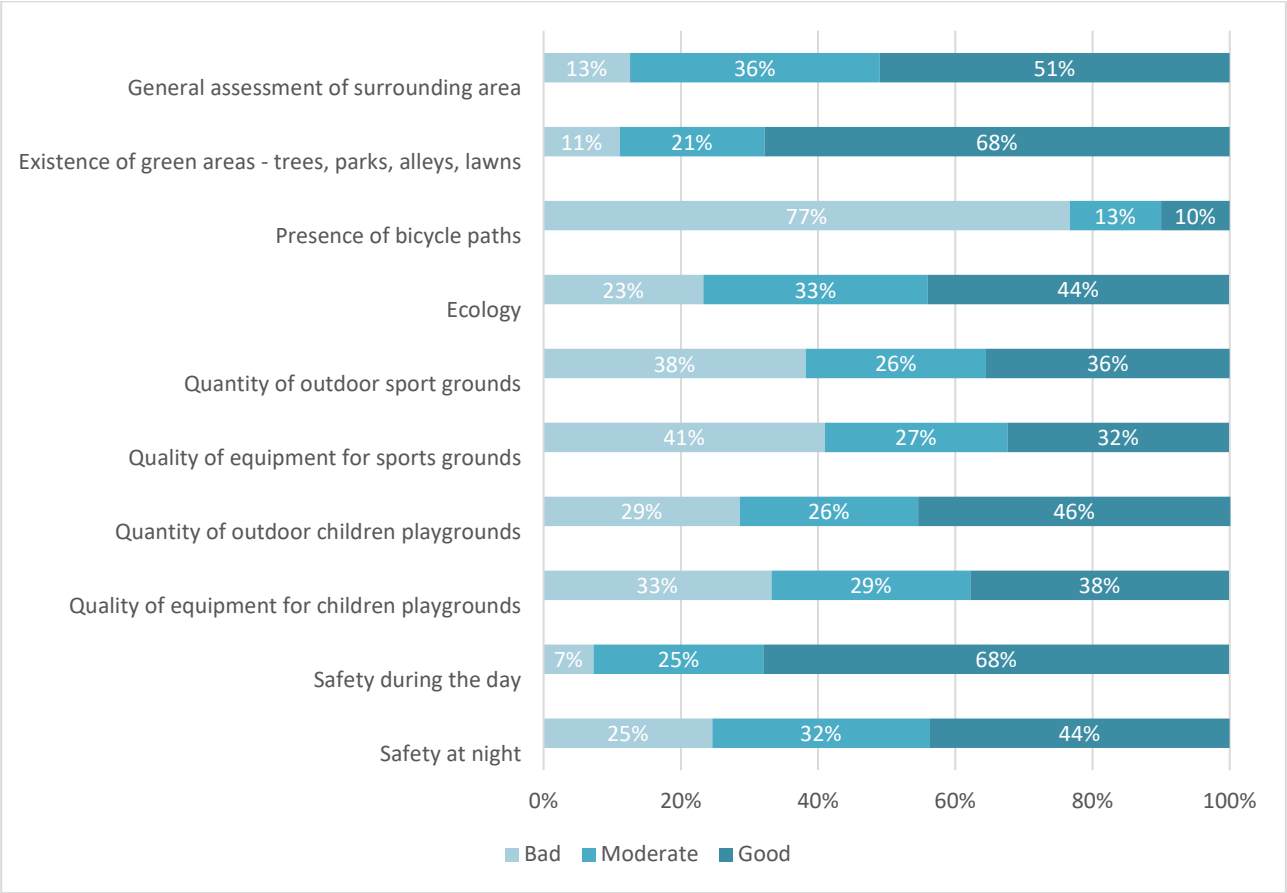

Fig. 1.19. Distribution of answers to the question "How would you assess the environment you live in?"

Number and condition of open sports grounds was best assessed in Kharkiv Oblast (67% and 61%, respectively) and the worst — in Zaporizzhya (6% and 7%) and Kirovograd (8% and 4%) Oblasts (***Table 1.12***). Almost the same situation was regarding number and condition of playgrounds for children. The highest assessment (good and very good) was provided by Kharkiv Oblast (73% and 59%, respectively). The smallest share of citizens assessing number of open playgrounds as good or very good was reported for Zaporizzhya Oblast (14%), and the smallest share assessing playgrounds' equipment and condition as good (7%) was reported for Kirovograd Oblast.

Presence of green areas and ecological situation was best assessed by citizens of Chernihiv Oblast (95% and 68%), and the worst — by citizens of Zaporizzhya Oblast (33% and 20%). Citizens of Chernihiv Oblast were least satisfied with the number of bikeways in Ukraine (1%), and citizens of Kharkiv Oblast — the most (35%). Regarding safety during daytime and at night, citizens of Kirovograd and Zaporizzhya Oblast expressed opposite opinions. Thus, people living in Kirovograd Oblast assessed both aspects the highest in Ukraine (98% and 94%, respectively), and people in Zaporizzhya Oblast — the lowest (32% and 12%, respectively). Total assessment of environment as being good or very good ranged from 75% in Vinnitsya Oblast to 33% in Mykolayiv Oblast, the lowest again being in Zaporizzhya (8%).

Comparison of 2017 and 2016 Results

Total assessment of environment slightly increased in 2017 compared to 2016. Total share of those assessing environment as very good or good increased from 45% to 51%. Share of people assessing presence of green areas as good or very good also increased by 7% (from 61% in 2016 to 69% in 2017). Share of respondents assessing presence of bikeways as good or very good stayed the same. There was no question about assessing ecological situation in 2016.

Assessment of number and condition of open sports grounds and playgrounds improved in 2017 compared to 2016. Thus, positive assessment (good or very good) of the number of open sports grounds increased by 8%; positive assessment of the condition of open sports grounds increased by 6%. Share of respondents assessing the number of open playgrounds as good or very good increased by 10% and share of the surveyed assessing equipment as good increased by 3%.

Finally, 10% more respondents started to assess safety during the day as good, and 4% more assessed safety at night as good in 2017 compared to 2016.

Table 1.12. Distribution of answers to the question "What would be your assessment of the area you live in?" by Oblasts
(*among those who assessed each aspect as good or very good, %)*

Region	Overall assessment of environment		Number of open sports grounds		Status of equipment of sports grounds		Number of open playgrounds		Status of equipment of playgrounds		Presence of green areas — trees, parks, walkways, lawns		Safety during the day		Safety at night		Presence of bikeways		Ecological situation: clean air, water etc.	
	N	**%**	***N***	**%**	***N***	**%**	***N***	**%**	***N***	**%**	***N***	**%**	***N***	**%**	***N***	**%**	***N***	**%**	***N***	**%**
UKRAINE	***5099***	*51.0*	***3222***	*35.5*	***2850***	*32.3*	***4251***	*45.5*	***3443***	*37.7*	***6814***	*67.8*	***6649***	*67.8*	***3769***	*43.7*	***836***	*10.0*	***4383***	*43.9*
Vinnytsya	**371**	74.9	**342**	49.7	**335**	46.3	**355**	57.7	**347**	51.6	**378**	81.2	**375**	84.5	**330**	69.4	**312**	24.0	**371**	54.7
Volyn	**238**	68.1	**198**	31.8	**195**	24.6	**204**	37.7	**201**	29.9	**241**	82.2	**242**	66.1	**236**	61.9	**160**	11.3	**241**	66.4
Dnipropetrovsk	**768**	33.7	**748**	43.6	**712**	44.8	**761**	61.5	**742**	55.5	**770**	62.6	**752**	52.8	**705**	35.7	**717**	13.1	**768**	25.3
Donetsk	**973**	60.2	**792**	25.3	**773**	27.0	**934**	50.1	**909**	39.2	**978**	70.9	**958**	63.9	**526**	26.0	**587**	3.6	**980**	54.2
Zhytomyr	**297**	52.2	**259**	51.4	**254**	47.2	**261**	54.0	**251**	38.6	**295**	70.8	**293**	75.8	**293**	45.7	**232**	11.6	**294**	29.3
Transcarpathian	**300**	57.3	**291**	32.0	**283**	24.7	**289**	31.5	**283**	24.0	**299**	68.2	**295**	80.7	**291**	64.3	**287**	7.3	**299**	57.9
Zaporizzhya	**414**	8.2	**385**	5.5	**354**	6.8	**403**	14.4	**385**	16.1	**413**	33.2	**393**	32.3	**376**	11.7	**387**	0.8	**409**	20.3
Ivano-Frankivsk	**325**	43.7	**314**	43.9	**306**	37.9	**306**	38.2	**288**	33.3	**324**	71.3	**322**	79.2	**308**	66.2	**302**	7.6	**324**	41.0
Kyiv	**411**	56.7	**381**	42.3	**394**	51.5	**363**	50.1	**394**	48.5	**412**	60.9	**413**	59.3	**394**	35.8	**357**	13.7	**402**	36.1
Kirovograd	**215**	47.0	**146**	8.2	**131**	3.8	**182**	16.5	**159**	6.9	**229**	82.1	**230**	98.3	**172**	93.6	**144**	9.7	**228**	51.3
Luhansk	**512**	64.6	**435**	22.3	**430**	21.6	**463**	31.1	**459**	32.5	**514**	66.5	**472**	80.7	**361**	65.9	**468**	3.0	**511**	67.1
Lviv	**601**	43.1	**577**	51.0	**568**	47.0	**577**	68.6	**573**	59.2	**602**	80.1	**602**	89.5	**570**	69.6	**553**	8.3	**596**	34.9
Mykolayiv	**272**	33.1	**253**	22.1	**251**	20.3	**251**	23.9	**249**	20.5	**273**	59.7	**262**	43.1	**219**	24.7	**257**	1.6	**273**	29.7
Odesa	**559**	44.0	**501**	27.3	**477**	19.5	**494**	33.4	**472**	24.8	**559**	75.0	**556**	68.7	**471**	34.4	**479**	0.8	**560**	45.4
Poltava	**336**	57.1	**309**	29.1	**325**	23.7	**309**	31.7	**328**	23.5	**340**	78.2	**335**	69.6	**312**	33.7	**304**	2.0	**335**	46.0
Rivne	**269**	53.2	**270**	39.3	**265**	34.7	**264**	34.8	**261**	33.0	**275**	60.4	**270**	60.4	**271**	43.2	**254**	33.1	**269**	44.2
Sumy	**263**	33.8	**240**	10.4	**241**	11.2	**242**	14.5	**242**	7.0	**265**	60.8	**248**	46.8	**240**	43.8	**234**	4.7	**264**	42.4
Ternopil	**254**	61.8	**250**	21.2	**250**	20.8	**251**	28.3	**251**	27.9	**254**	71.7	**254**	91.7	**254**	80.3	**247**	4.9	**255**	39.6
Kharkiv	**636**	69.2	**572**	66.6	**510**	61.2	**594**	73.1	**520**	56.3	**641**	57.7	**635**	68.0	**507**	32.0	**393**	35.1	**636**	47.2
Kherson	**251**	69.7	**240**	46.3	**230**	40.4	**241**	55.6	**238**	43.7	**251**	82.9	**252**	75.0	**227**	29.5	**202**	11.9	**253**	66.0
Khmelnitsky	**289**	68.9	**250**	44.8	**247**	42.5	**249**	43.4	**247**	36.8	**299**	80.3	**225**	58.7	**217**	43.8	**222**	12.6	**279**	60.9
Cherkassy	**295**	39.3	**225**	28.4	**203**	26.6	**229**	39.7	**212**	31.6	**290**	63.1	**279**	47.7	**258**	30.2	**196**	12.8	**293**	36.5
Chernivtsy	**217**	50.7	**212**	19.8	**210**	13.3	**213**	17.8	**212**	16.5	**217**	73.3	**215**	59.5	**212**	40.6	**209**	15.8	**216**	51.4
Chernihiv	**246**	66.3	**219**	42.5	**213**	41.3	**228**	64.5	**227**	54.2	**248**	94.8	**240**	67.9	**221**	57.5	**221**	0.5	**244**	68.4
Kyiv city	**685**	39.1	**668**	36.7	**655**	22.7	**679**	58.5	**680**	42.9	**685**	49.6	**684**	74.9	**649**	21.4	**626**	10.1	**685**	24.2

Section 2

EARLY DETECTION OF DISEASE AND EXPERIENCE ON DISEASE MANAGEMENT

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Section Summary

- The most frequently used type of screening in 2017 was fluoroscopy, most frequently used by patients of 18–39 years of age.
- Percentage of men who underwent ECG is higher for younger age group (42.8%), and vice versa 48% of women in the age over 40 underwent cardiogram within the last year.
- Among all women surveyed 47.5% reported visiting a gynecologist, at the same time only 37.9% of women over 40 gave a positive answer to this question.
- Only 13.4% and 14.9% of patients in 2017 underwent at least two above mentioned examinations in Kirovograd and Volyn Oblasts, respectively. At the same time, in Chernivtsy Oblast the share of such patients amounted to 67.5%.
- The most frequent reason for Ukrainians not to seek medical care is their knowledge how to treat based on their own previous experience.
- Key reasons not to seek medical care are too expensive treatment (22.9% of the surveyed) and long lines in health care facilities (19.5%), and 11.2% of respondents do not visit physicians as they do not trust their qualifications.

Disease prevention is an integral part of public health that promotes decline of incidence and improves health status of population. It helps to decrease necessary health expenditures both on part of population and on part of the state, promotes higher life expectancy. Its key components are screening, vaccination and health activities including healthy lifestyles education.

Screening being one of prevention elements helps to identify a disease as soon as possible and facilitates successful treatment. Screenings can include only one or several tests and/or examinations. WHO Guidelines on Screening define several types according to so called Wilson criteria (Wilson, 1968)[16]:

1. Mass public health screening: pertains to all population or a certain group, it doesn't take people's risk status into account. Screening of all population is an expensive intervention, that is why it is less and less used globally. Instead, the following approaches are used.
2. High risk group screening, selective screening: includes only risk group representatives – these could be age, sex or occupational groups.
3. Individual screening: pertains to an individual person.

When initiating screening several criteria need to be considered including, in particular: (a) importance of the problem that is sought to be identified with the help of screening to health, (b) treatment of a specific disease should exist and be in place (c) cost of screening should be economically balanced.

In Ukraine, both mass and selective screening exist[17]. According to the Ukrainian legislation, TB screening of adult population with the help of fluoroscopy is mandatory. GPs and family physicians are responsible for this screening, they also refer women for a gynecological examination. All pregnant women are also screened for HIV/AIDS. These three types of screening were initiated because of high incidence levels of TB, cervical cancer and HIV/AIDS compared to other countries.

[16]Wilson JMG, Jungner G.,Principlesandpracticeofscreeningfordisease // WHO ChronicleGeneva: WorldHealthOrganization. 22(11):473. PublicHealthPapers, #34, 1968 рік: http://apps.who.int/iris/handle/10665/37650.

[17]Mandatory screenings are adopted as part of several National Programs and per Orders of the Ministry of Health.

At the same time, mandatory nature of these screenings is rather conditional because only those people who seek help from a primary health care physician because of their problem are referred to undergo fluoroscopy and gynecological examination.

Also, neonatal screening of newborns right after birth is mandatory. It includes physician's examination and testing for four diseases: phenylketonuria (PKU), congenital hypothyroidism, cystic fibrosis (CF), adrenogenital syndrome (AGS).

Due to high cardio-vascular mortality rate GPs are mandated to check patient's blood pressure at each visit. Regular high school students' healthy check-ups with Ruffier test are mandatory. Some types of screening are mandatory for certain professions [18]. In particular, for education and health care professionals as well as other professions at high risk of contracting an infectious disease.

Another important prevention element is vaccination. In Ukraine the Ministry of Health adopts a vaccination calendar for children, pediatricians and family physicians are mandated to follow it. At the same time, vaccination rates remain low in the country. Thus, according to UN in 2016 only 30% of children were covered with measles vaccination, 10% — Hepatitis B, and only 3% — diphtheria, pertussis and tetanus vaccination. This is due to lack of trust towards physicians, poor awareness of importance of vaccination and often due to stock-outs of vaccines in health care facilities.

Because of this situation, health promotion system becomes extremely important. According to WHO definition, such system allows people to control their health and its determinants and, thus, to improve it [19]. Currently, WHO believes that any national policy-building activities should be informed by their projected health impacts. At the same time, health promotion activities system starts to be developed in Ukraine, like sport promotion, healthy diet, anti-smoking and anti-alcohol campaigns.

The situation is expected to improve in the nearest years as primary health physicians will be interested in healthier patients, so they will pay more attention to disease prevention.

2.1. Medical Examination — Early Detection of Disease

Survey results show that the most prevalent screening form in 2017 was fluoroscopy (reported by 56.0% of men and 57.8% of women) (***Table 2.1***). More often fluoroscopy was undergone by 18–39 age group.

41.4% of men and 46.1% of women underwent electrocardiography (ECG) as a prevention measure. Share of men undergoing ECG is higher in younger age group (42.8%), and, vice versa, 48% of women over 40 underwent electrocardiography in the previous year.

47.5% of the surveyed women reported visiting a gynecologist, at the same time 37.9% of women over 40 positively answered this question. This is quite an alarming sign considering the fact that probability of getting cancer is higher in older women. At the same time, not all women underwent a Pap-test (share of women who had a Pap-smear test is also lower for women over 40). 21.2% of women in 18–39 age group, 17.1% - over 40 and 12.1% - over 60 underwent mammography in the previous 12 months.

[18] Order of Ministry of Health, №246 of 21.05.2007:http://zakon4.rada.gov.ua/laws/show/z0846-07/print1439669860884703(request date 20.11.17).
[19]BangkokCharterforHealthPromotion: The 6th GlobalConferenceonHealthPromotion,http://www.who.int/healthpromotion/conferences/6gchp/en/ (request date 21.11.17).

Table 2.1. Experience of undergoing medical check-ups in the previous 12 months (percentage of those people who reported undergoing it for prevention purposes), %

Survey Question B1	TOTAL	Men			Women		
		Men total	18–39	40 and older	Women total	18–39	40 and older
Dentist	36.4	34.9	44.6	27.6	37.7	52.7	29.8
(MEN) Urologist	24.0	24.0	27.8	21.1	—	—	—
(WOMEN) Gynecologist	47.5	—	—	—	47.5	65.9	37.9
(WOMEN) Smear	35.1	—	—	—	35.1	45.7	29.5
(WOMEN) Mammography	18.5	—	—	—	18.5	21.2	17.1
Fluoroscopy	56.0	53.8	59.9	49.2	57.8	64.4	54.3
Electrocardiogram as prevention	44.0	41.4	42.8	40.4	46.1	42.6	48.0

Men see a urologist for prevention purposes very rarely. Only 24% of men reported seeing a urologist in the previous 12 months. Smaller share of older men see a urologist.

According to survey results, the least prevention activities were used in Kirovograd, Volyn, Zaporizzhya Oblasts and the city of Kyiv (***Table 2.2***). Only 15% of women visited a gynecologist, and in Volyn Oblast 5% underwent mammography. In this Oblast share of those undergoing ECG was also the lowest (17.8%). In Kirovograd Oblast, only 3.3% of men visited a urologist. In the city of Kyiv with its plenty of health care facilities the rates of people using prevention examinations were comparatively low. Somewhat better situation with check-ups was seen in Cherkassy, Dnipropetrovsk, Chernivtsy, Kyiv and Rivne Oblasts: share of men and women undergoing examinations was higher than the average for Ukraine.

The survey did not find a difference between rural and urban citizens in healthy check-ups. At the same time, there is a difference for different levels of education: check-ups are more often undergone by those with basic high and complete high education.

Table 2.2. Experience of undergoing medical check-ups in the previous 12 months: distribution by Oblasts (% of respondents who reported undergoing it for prevention purposes)

Survey Question B1	**Medical check-ups or tests in the previous 12 months**			
	Urologist	***Gynecologist***	***Cardiogram***	***Mammography***
	men, %	***women, %***	***over 40, %***	***women, %***
UKRAINE	***24.0***	***47.5***	***44.0***	***18.5***
Vinnitsya	23.9	52.4	44.7	30.2
Volyn	18.7	15.0	17.8	5.0
Dnipropetrovsk	28.2	68.7	55.5	22.4
Donetsk	33.2	38.6	41.7	5.4
Zhytomyr	24.9	57.0	42.9	8.3
Transcarpathian	35.1	47.6	36.1	13.2
Zaporizzhya	12.7	31.0	40.3	9.1
Ivano-Frankivsk	22.3	56.0	54.9	17.5
Kyiv	29.9	55.8	54.1	30.0
Kirovograd	3.3	20.0	19.9	4.9
Luhansk	31.8	39.1	52.7	16.0
Lviv	22.3	45.6	48.6	13.3
Mykolayiv	19.0	67.4	51.4	53.8
Odesa	23.4	43.2	41.4	27.4
Poltava	27.0	54.4	42.9	10.8
Rivne	34.7	50.8	53.6	29.5
Sumy	28.5	48.9	38.7	26.9
Ternopil	28.6	45.9	62.5	19.9
Kharkiv	8.3	43.5	27.1	16.9
Kherson	30.7	56.4	48.3	34.5
Khmelnitsky	20.5	41.8	38.5	16.2
Cherkassy	30.1	68.1	59.6	25.2
Chernivtsy	25.4	69.8	55.5	21.4
Chernihiv	23.0	63.4	58.9	17.5
Kyiv city	14.0	32.0	28.1	16.7

Comparison of 2017 and 2016 Outcomes

In 2017, share of people undergoing fluoroscopy in the previous 12 months decreased by 3.6% compared to 2016[20]. Share of those undergoing ECG increased by 2%. Share of women visiting a gynecologist decreased by 3.5%, and those undergoing mammography has changed significantly. Healthy check-ups rates improved in Odesa and Ternopil Oblasts, whereas in the previous surveys their results were among the worst.

Recently, importance of prevention is being discussed more and more in Ukraine. There are numerous national and NGO-run initiatives and campaigns aimed at increasing people's awareness about healthy check-ups. In particular, there was a strong campaign to encourage women undergo breast cancer testing. That is why it was quite unexpected in 2017 to see a decreased share of women who visited a gynecologist and underwent mammography in the previous 12 months compared to 2016.

[20] Timoshevska V., Zakhozha V., Stepurko T., Shevchenko M., Yurochko T. Health index. Ukraine. Kyiv, 2016. p. 68-72.

We are faced with TB epidemic, yet we see a certain decrease in fluoroscopy rates. At the same time, it is difficult to interpret fluoroscopy coverage rates (according to 2017 survey 56% of respondents reported undergoing it), because according to MOH recommendations people 16 and older have to undergo it no less than once every two years.

In future healthy check-up rates are expected to increase. In accordance with the approved health care reform PHC physicians are supposed to be interested in a healthier patient because a physician will be paid per contracted patients, not per treated cases. Efficient prevention significantly decreases chances of diseases and acute conditions, it also facilitates early identification of infectious and non-communicable diseases.

2.2. Behavior in Case of Disease

36.2% of the surveyed (*N* = 3877) reported experiencing disease or trauma in the previous 12 months. Of them 73% (*N* = 2743) sought medical care from a physician or feldsher (***Fig. 2.1***).

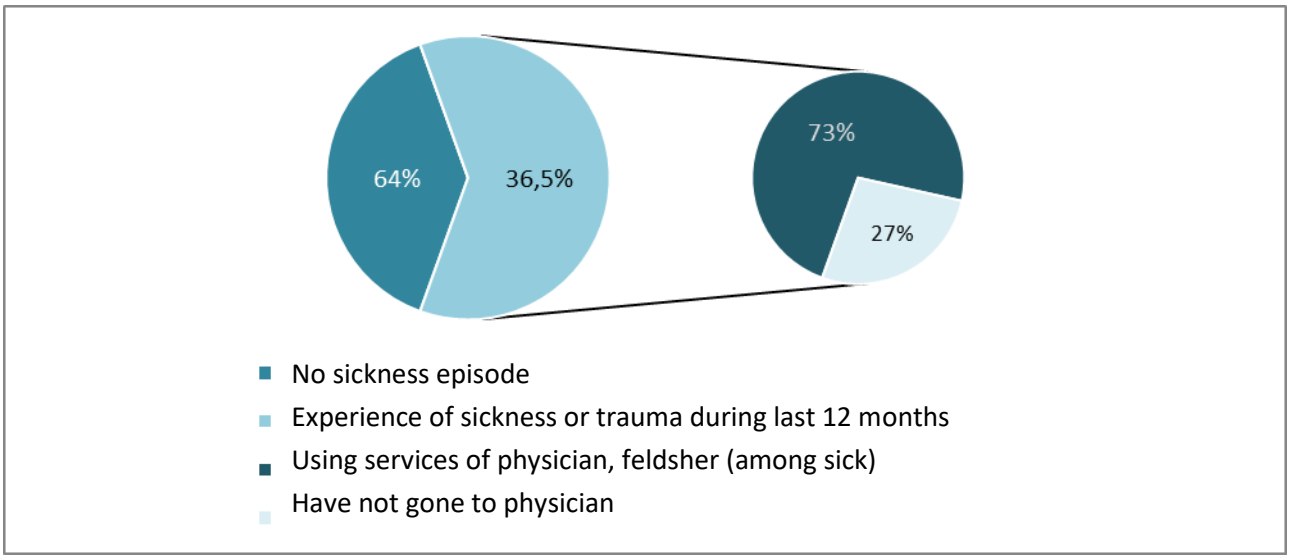

Fig. 2.1. *Share of respondents reporting an illness episode*

Urban citizens see physicians more often than rural citizens, the same pertains to people with higher income. Respondents with Bachelor's degree and academic degree visited physicians less often in case of illness (67.5% and 56.9%, respectively).

Big share of respondents uses folk remedies without official medicines (19.4%) or they use medicines but they do self-treatment (27.6%). Only 18.6% reported that their typical strategy is seeing a family physician, and 5.2% — seeing a subspecialist in an outpatient or inpatient clinic. At the same time, 14.7% reported that their decision-making is based on symptoms.

Table 2.3. Disease Behavior

Disease Behavior	%	*N*
Self-treatment with folk remedies without medicines	19.4	1,960
Self-treatment with medicines	27.6	3,033
Seek advice from a pharmacist at a pharmacy	5.1	467
Call an ambulance	2.3	240
Visit a family physician / GP	18.6	1,891
Visit a subspecialist at an out-patient clinic	4.4	444

Visit a subspecialist at an in-patient clinic	0.8	86
Visit a traditional medicine specialist	0.2	19
Seek advice from physicians who they know (relatives, friends etc.)	2.8	267
Search Internet for ways of treating similar symptoms, diseases	1.3	98
Do something different	0.3	25
Do nothing	2.5	207
Depending on symptoms	14.7	1,379
No answer	*0.9*	*68*

Throughout all Oblasts the share of respondents self-treated with folk remedies or medicines is higher compared to those seeking care from a family physician or a subspecialist. The smallest difference in these shares is in Volyn Oblast and the city of Kyiv.

Only in Zhytomyr Oblast and the city of Kyiv share of people seeking care from a physician in case of illness or trauma is about 40% (***Fig.2.2, Table 2.4***). In another three Oblasts (Vinnitsya, Volyn and Lviv) the share of such answers was about one third. Share of respondents seeking care from a physician was the smallest in Mykolayiv and Poltava Oblasts (5.6% and 9.4%, respectively). Also, it was small in Rivne, Kherson, Odesa and Khmelnitsky Oblasts. At the same time, the number of respondents preferring self-treatment was three times higher in these Oblasts (and in Mykolayiv Oblast — 9-fold higher) compared to those seeking care from a physician.

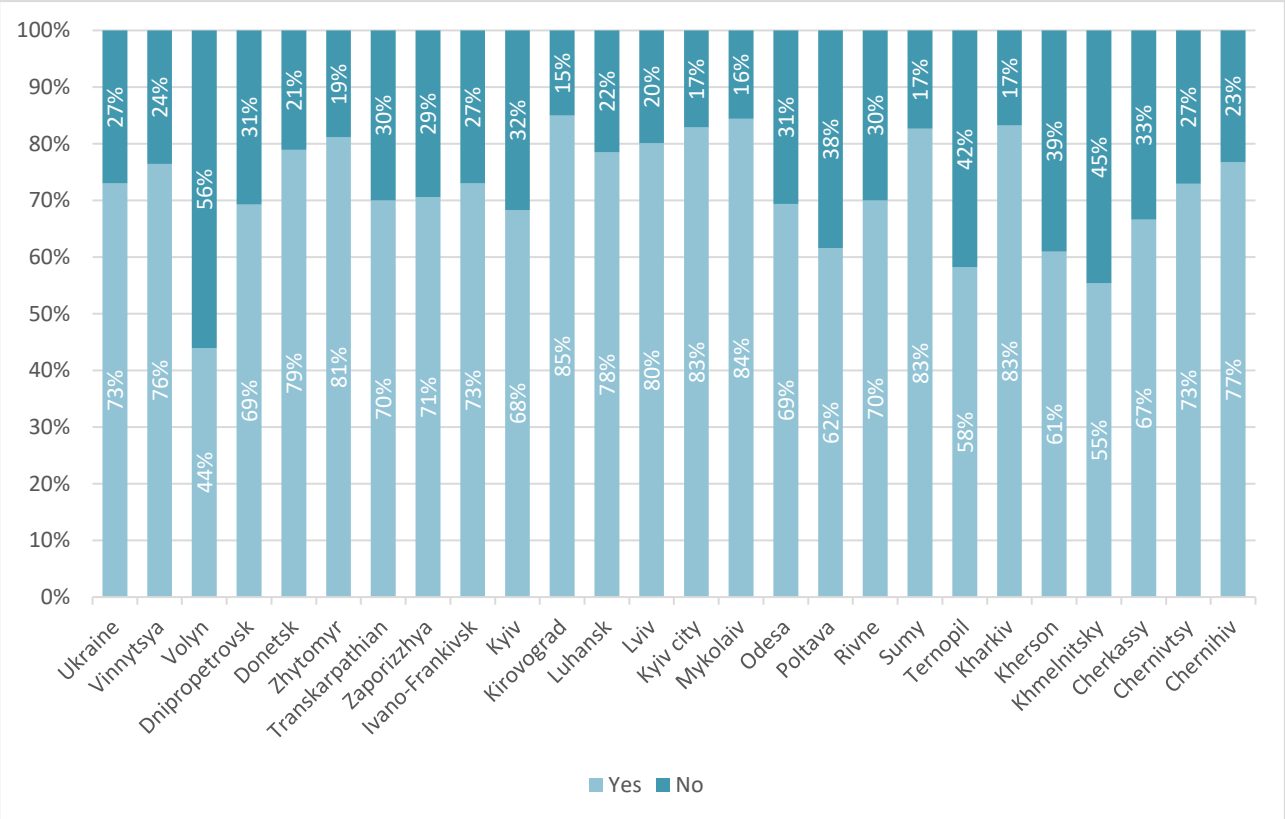

Fig. 2.2. Regional distribution of answers on the question: Have you visited physician (the question was asked to those who reported sickness episode during last year)[21]

[21]*Note: Sumy Oblast is excluded because its value (100%) includes very few answers.*

Table 2.4. Behavior in Case of Sickness: distribution by regions, %

B1.12. What do you usually do in the first place in case of illness?	UKRAINE	Vinnitsya	Volyn	Dnipropetrovsk	Donetsk	Zhytomyr	Transcarpathian	Zaporizzhya	Ivano-Frankivsk	Kyiv	Kirovograd	Luhansk	Lviv	Mykolayiv	Odesa	Poltava	Rivne	Sumy	Ternopil	Kharkiv	Kherson	Khmelnitsky	Cherkassy	Chernivtsy	Chernihiv	Kyiv city
Self-treatment with folk remedies without medicines	**19.4**	28.8	18.7	18.3	18.0	12.4	26.0	18.1	14.1	11.9	10.7	4.3	27.7	31.0	32.6	11.8	17.9	18.9	19.2	27.2	27.1	14.5	13.2	43.4	14.3	10.3
Self-treatment with medicines	**27.6**	20.5	9.5	36.9	13.6	30.8	21.7	29.2	25.6	40.4	28.0	24.0	18.5	20.7	30.2	49.5	43.8	41.3	34.4	23.5	31.4	28.5	33.5	29.3	44.9	19.8
Seek advice from a pharmacist	**5.1**	5.5	4.1	6.3	11.1	0.0	11.8	7.2	6.9	10.4	1.0	2.3	0.7	0.5	1.9	8.2	2.3	6.5	1.1	0.4	5.6	6.4	7.5	1.8	4.9	5.3
Call ambulance	**2.3**	0.8	1.4	3.0	3.9	0.7	0.8	3.3	1.9	2.2	0.8	4.8	1.2	0.9	1.9	1.0	1.9	1.7	1.5	3.4	2.5	5.7	3.8	0.6	1.4	0.8
Visit family physician / GP	**18.6**	31.1	28.5	21.4	17.3	36.7	23.2	18.9	16.5	22.6	17.1	12.6	27.2	3.8	11.6	8.7	15.7	13.8	11.2	13.6	11.5	10.1	13.4	14.9	14.8	31.1
Visit a subspecialist at an out-patient clinic	**4.4**	2.2	3.7	4.6	4.3	3.8	4.3	3.5	6.4	4.9	3.3	6.6	2.5	1.3	6.8	0.6	2.1	3.1	5.8	5.8	6.6	5.5	4.1	4.7	3.6	6.4
Visit a subspecialist at a hospital	**0.8**	0.7	0.8	0.8	0.2	0.5	0.5	1.0	3.0	0.3	1.0	1.6	1.0	0.5	0.3	0.0	0.6	0.7	0.7	0.8	0.6	0.2	1.5	1.9	1.0	1.4
Seek care from traditional medicine specialists	**0.2**	0.6	0.3	0.7	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.2	0.0	0.9	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.2	0.0	0.0
Seek advice from physicians who they know (relatives, friends, etc.)	**2.8**	3.8	3.5	2.1	1.3	1.7	4.3	3.6	7.5	2.5	0.0	5.1	1.0	0.5	2.9	5.2	1.6	1.3	3.7	3.3	2.0	2.0	5.8	2.3	0.6	3.7
Search Internet for treatment of similar symptoms	**1.3**	0.2	1.8	1.2	2.7	3.0	0.6	0.9	2.2	0.0	0.0	1.7	1.3	0.0	1.4	0.4	2.4	0.2	0.5	0.8	0.8	2.2	2.4	0.6	0.2	1.7
Act differently	**0.3**	0.0	0.6	0.6	0.0	0.3	0.2	0.0	0.3	0.0	0.0	0.5	0.6	0.6	0.6	0.2	0.0	0.0	0.5	0.5	0.0	0.2	0.4	0.0	0.0	0.2
Do nothing	**2.5**	2.5	7.5	2.6	5.1	1.5	2.1	0.1	4.2	0.5	3.1	2.1	1.4	0.0	4.5	1.9	3.2	0.7	0.5	1.8	3.7	6.1	4.3	0.3	0.5	0.2
Depending on symptoms	**14.7**	3.4	19.6	1.8	22.5	8.6	3.9	14.0	11.4	4.3	35.0	34.3	16.8	39.3	5.1	12.3	8.5	11.9	21.0	18.9	8.3	18.2	9.6	0.0	13.7	19.2

Table 2.5. Behavior in Case of Sickness: distribution by social and demographic groups, %

B1.12. What do you usually do in the first place in case of illness?	Total			By age						By education								By income			
		Men	Women	18–29	30–44	45–59	60 and older	urban	rural	incomplete high	complete high	vocational	basic college	higher, bachelor	complete higher	scientific degree	up to 1000 UAH	1001–1500 UAH	1501–2000 UAH	2001–2500 UAH	over 2500 UAH
Self-treatment with folk remedies without medicines	**19.4**	21.0	18.0	16.6	19.4	21.5	19.3	18.1	22.2	18.5	22.4	22.1	17.1	18.8	17.7	0.0	22.8	19.1	18.9	19.2	18.1
Self-treatment with medicines	**27.6**	24.3	30.3	25.3	27.8	26.7	29.8	27.0	29.0	26.1	30.7	23.9	29.9	24.3	26.1	39.4	29.1	30.3	25.3	28.7	22.5
Seek advice from a pharmacist	**5.1**	5.3	4.9	6.0	5.6	5.6	3.6	5.5	4.3	5.5	4.1	6.3	5.4	5.8	4.3	4.9	3.7	5.8	4.2	5.9	7.4
Call ambulance	**2.3**	1.6	2.8	0.9	1.6	1.8	4.6	2.5	2.0	3.8	2.4	2.9	2.2	1.7	1.6	9.1	2.2	3.3	3.4	2.1	1.1
Visit family physician / GP	**18.6**	16.1	20.6	19.1	15.5	17.4	22.4	18.0	19.9	23.3	18.0	17.0	18.9	21.2	18.6	9.1	21.4	21.6	21.0	18.4	21.0
Visit a subspecialist at an out-patient clinic	**4.4**	4.4	4.5	3.5	4.0	5.3	4.8	4.8	3.8	3.3	3.4	4.6	4.0	6.0	5.6	0.0	3.6	3.4	6.0	5.2	4.0
Visit a subspecialist at a hospital	**0.8**	0.8	0.8	0.5	0.8	1.0	0.8	0.8	0.9	1.1	0.5	0.5	1.1	1.0	1.0	0.0	1.3	0.7	0.8	0.6	1.2
Seek care from traditional medicine specialists	**0.2**	0.2	0.2	0.3	0.1	0.1	0.2	0.2	0.1	0.5	0.2	0.1	0.2	0.0	0.1	0.0	0.4	0.2	0.1	0.2	0.0
Seek advice from physicians who they know (relatives, friends, etc.)	**2.8**	3.6	2.2	3.3	3.0	3.0	2.2	3.2	2.2	2.8	1.8	1.8	3.5	4.5	3.5	0.0	2.8	2.4	2.6	2.2	3.3
Search Internet for treatment of similar symptoms	**1.3**	1.5	1.2	2.6	2.1	0.6	0.2	1.7	0.4	0.0	0.9	0.9	1.4	2.4	1.8	0.0	1.0	0.7	1.1	0.5	2.5
Act differently	**0.3**	0.3	0.3	0.3	0.4	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.1	0.2	0.6	0.0	0.1	0.1	0.1	0.6	0.2
Do nothing	**2.5**	4.0	1.3	3.6	2.4	2.2	2.0	2.3	3.0	4.6	2.6	3.4	1.9	2.0	2.1	0.0	2.4	1.7	1.9	3.5	1.9
Depending on symptoms	**14.7**	17.0	12.9	18.1	17.1	14.6	9.9	15.9	12.2	10.3	12.7	16.1	14.2	12.3	17.0	37.6	9.1	10.8	14.5	12.9	17.0

There are certain differences in behavior in case of disease in different social and demographic groups ***(Table 2.5.)***: rural citizens often self-treat compared to urban citizens (51.1% and 45.1%, respectively). People with complete high education prefer self-treatment compared to others, poorer households also do the same: 51.9% of households with up to 1000 UAH income per person prefer self-treatment, and 40.6% of households with income over 2500 UAH per person choose the same treatment strategy. Tendency towards self-treatment also increases with age.

Comparison of 2017 and 2016 Outcomes

Behavior in case of disease has somewhat changed compared to 2016 survey outcomes. Share of respondents reporting visiting a physician has increased by 12%. However, typical behaviors have partially changed: greater share of respondents reported choosing a behavior based on symptoms (14.7% in 2017 vs 8.9% in 2016). At the same time, share of respondents whose typical behavior was seeing a family physician or a subspecialist remains unchanged, and share of those who prefer self-treatment has decreased by 5 percent points, respectively.

The survey revealed certain differences in respondents' behaviors by regions. In particular, in Mykolayiv Oblast last year patient distribution by behavior types did not differ much from the average, whereas in 2017 extremely low rates of seeking care from physicians were registered. Conversely, in Lviv Oblast share of people visiting physicians had increased.

Share of rural citizens preferring self-treatment has decreased by 7.8%. The same pertains to 18–29 age-group preferring self-treatment; instead, share of those considering symptoms has increased.

Decrease in self-treatment share and respective increase in those making decision based on symptoms is viewed as positive dynamics. It could be related to medical reform debates that increase people's awareness and responsibility for their own health.

It is important that in all regions respondents reported visiting family physician more often, and rates of directly visiting subspecialists in hospitals have significantly decreased. Within the future health care system after reforms implementation the role of a primary care physician (family physician, GP, pediatrician) should significantly increase. Primary health care physician should become a central person in care provision accumulating all information about patient's health status.

2.3. Barriers to Health Care Service Utilization

Most often Ukrainians do not seek medical care because they know how to treat based on their previous experience (55.5%). However, 22.9% reported medical care to be too expensive, and 19.5% reported long lines in health care facilities which means poor accessibility of health services. 22.7% expected their disease to self-limit (***Table 2.6***), and 11.2% of respondents did not seek medical care because they do not trust doctors' qualifications.

Table 2.6. Reasons of not seeking care in case of disease or trauma, %

Region	B1.17. Why did not you seek care from a physician?								
	Too expensive	Do not trust healthcare workers	Bad attitude of HCWs	Long lines in HCFs	No public transportation	Remember how to treat from previous experience	Do not know who to go to	Expected their disease to be self-limiting	Other reasons
UKRAINE	**22.9**	**11.2**	**3.7**	**19.5**	**3.5**	**55.5**	**2.6**	**22.7**	**2.5**
Vinnitsya	32.0	11.2	3.5	5.8	5.7	64.4	8.0	20.4	0.0
Volyn	4.4	4.2	0.6	47.9	6.6	54.6	2.3	38.9	1.6
Dnipropetrovsk	37.1	12.8	3.2	12.6	0.0	39.7	5.2	29.5	1.6
Donetsk	42.8	25.9	8.2	31.5	7.4	28.2	0.0	3.5	0.0
Zhytomyr	10.9	14.9	5.4	19.3	0.0	66.1	0.0	20.4	0.0
Transcarpathian	44.4	17.2	3.2	13.2	27.5	28.9	3.8	12.3	0.0
Zaporizzhya	29.7	15.7	10.8	23.4	11.5	47.1	1.4	14.0	3.6
Ivano-Frankivsk	13.8	8.0	2.1	10.4	1.8	23.8	3.9	55.7	9.7
Kyiv	20.8	2.9	3.3	47.1	1.2	93.1	0.8	9.4	2.8
Kirovograd	7.6	0.0	0.0	3.8	0.0	73.0	0.0	9.7	5.9
Luhansk	34.7	12.5	9.0	14.1	6.7	42.4	5.0	15.6	0.0
Lviv	22.6	12.6	2.1	13.4	0.0	40.6	7.5	23.3	6.2
Mykolayiv	35.2	36.3	7.5	22.9	0.0	38.7	0.0	37.3	0.0
Odesa	32.2	19.2	2.1	22.6	1.4	61.7	1.4	19.9	4.5
Poltava	6.6	0.0	0.0	46.2	2.1	86.0	0.0	18.3	1.7
Rivne	6.6	5.0	3.9	4.8	0.0	81.4	5.5	7.2	0.0
Sumy	14.5	17.1	0.0	31.6	0.0	31.6	0.0	53.8	0.0
Ternopil	5.5	1.5	0.0	1.1	0.0	61.7	1.2	27.7	7.1
Kharkiv	44.1	2.4	0.0	0.0	0.0	41.6	0.0	53.4	0.0
Kherson	15.2	6.5	1.1	2.4	0.0	83.0	1.1	6.4	1.2
Khmelnitsky	23.9	17.1	2.9	12.6	1.7	32.3	3.8	26.3	0.0
Cherkassy	26.9	10.3	3.8	13.5	10.5	29.9	0.9	32.4	3.8
Chernivtsy	18.0	20.8	3.8	4.2	3.3	55.5	3.5	22.7	2.9
Chernihiv	8.1	7.7	4.2	3.9	3.5	65.0	0.0	7.8	7.5
Kyiv city	16.5	19.0	9.6	22.4	1.5	74.1	1.5	17.1	1.9

Over 40% of respondents from Transcarpathian, Kharkiv and Donetsk Oblasts did not seek care from a physician because of high cost of treatment (***see Table 2.6***). Main reason not seeking care in Volyn, Kyiv and Poltava Oblasts was waiting lines (46–49%). In Mykolayiv Oblast, where a very low level of seeking medical care was registered, people trust health care professionals the least (36.3%). Over 80% of the surveyed in Kyiv, Poltava, Rivne and Kherson Oblasts reported previous treatment experience being the main reason not seeking care.

Poor attitude of physicians towards patients as the reason not to seek care was reported by 3.7% of respondents: 9–10% of respondents in Zaporizzhya and Luhansk Oblasts and the city of Kyiv.

Men do not trust physicians more often than women (15.1% vs 8.3%), no other significant difference between reasons was found (***Table 2.7)***. People aged 30–44 reported better knowledge about how to treat compared to older respondents: 60.5% of respondents in this age group did not seek care from a physician as "they know how to treat". For this age group a significant reason not to

see a physician is long lines. High treatment cost as a reason not to seek care gains more significance with increasing age.

For respondents with lower education level an important reason not to seek medical care is high treatment cost (about 30% of respondents). At the same time, only 6.8% of respondents with basic higher education and 15.5% with complete higher education reported this factor to be the reason not to seek care; conversely, they knew how to treat better that is why they did not seek care.

It is interesting to note that high treatment cost was most often mentioned by people whose income is not the least. Thus, it was the reason not to seek care for 30.6% with income 1501–2000 UAH, whereas share of this answer in below 1,000 UAH income group was 24%.

High treatment cost is a bigger problem for people with poor health. Respondents with chronic diseases more often reported high treatment cost to be the reason not to seek care compared to others: 31% vs 15.1% without chronic diseases. This is also the reason for 34% of disabled people. It is of interest that only 9% of disabled people reported long lines to be the reason. At the same time, for people with better health long lines and lack of trust towards physicians are the reasons.

Table 2.7. Reasons not to seek care in case of disease or trauma: distribution by sex, age, place of residence, education and household income per person, %

	B1.17. Why didn't you seek medical care?								
	Too expensive (services, medicines, transportation)	Lack of trust (qualification)	Bad attitude of person-nel	Long lines	No transportation	Have previous treatment experience	Do not know who to go to	Expected disease to be self-limiting	Other reasons
Total	**22.9**	**11.2**	**3.7**	**19.5**	**3.5**	**55.5**	**2.6**	**22.7**	**2.5**
SEX									
Men	21.1	15.1	4.8	19.1	2.8	56.2	1.8	21.5	1.4
Women	24.3	8.3	3.0	19.7	4.0	55.0	3.1	23.5	3.3
AGE GROUP									
18–29	6.7	10.0	3.4	10.4	2.3	56.6	2.6	27.9	6.0
30–44	14.5	15.2	3.3	23.6	4.0	60.5	1.8	22.1	0.3
45–59	28.3	9.6	5.3	21.4	2.3	53.9	1.5	27.2	2.1
60 and older	34.1	9.9	3.0	19.6	4.7	52.3	3.8	17.0	2.7
TYPE OF LOCATION									
Urban	21.9	12.5	4.2	20.8	1.3	54.6	2.7	23.5	2.9
Rural	24.9	8.8	2.9	17.0	7.6	57.1	2.3	21.2	1.8
EDUCATION LEVEL									
Primary of incomplete high	36.2	2.1	0.0	5.1	10.4	52.8	0.0	26.3	4.1
High	27.4	6.8	2.6	18.3	2.5	61.2	4.0	21.7	1.0
Vocational	31.9	17.4	5.0	18.2	5.8	49.1	2.0	22.2	2.0
Incomplete higher / basic college	22.1	11.1	4.7	24.9	3.8	54.5	2.2	20.2	1.5
Basic higher (Bachelor)	6.8	11.7	3.7	25.5	0.0	59.7	6.0	22.9	3.4

Complete higher (Master)	15.5	11.1	3.3	15.3	2.2	56.9	1.7	26.1	5.3
Academic degree (PhD,Dr.Hab)	0.0	55.9	0.0	0.0	0.0	0.0	0.0	44.1	0.0
HOUSEHOLD INCOME PER PERSON									
Up to 1000 UAH	24.0	7.9	0.6	13.4	2.9	53.3	5.4	17.3	5.4
1001–1500 UAH	28.3	11.4	4.3	22.1	4.4	56.3	1.3	20.1	3.0
1501–2000 UAH	30.6	14.4	7.4	20.6	7.0	47.2	2.7	18.4	1.6
2001–2500 UAH	19.5	6.6	2.7	26.7	3.2	52.1	2.9	32.9	0.0

Comparison of 2017 and 2016 Outcomes

Weight of factors in 2017 has not particularly changed compared to 2016 survey outcomes: weight of high treatment cost factor has decreased (by 1.7%). At the same time, share of long waiting lines factor has increased by 6.5%. Previous treatment experience remains to be the main reason not to seek care.

These survey outcomes somewhat differ from health self-assessment and health services accessibility survey conducted by State Statistics Dept. Thus, in 2016, 22.6% of respondents could not get necessary care or get necessary medications. At that, 97% of households could not purchase necessary medications because of their high cost. Reported reasons of not visiting a physician were: high visit cost (78.1%), absence of necessary professional (13.7%), and long lines (8.2%). Much higher share of high treatment cost answers could be explained by both sample differences, and different answer options in the Health Index survey.

The recently adopted reform is intended to decrease factors preventing from visiting a physician. Primary care physician is planned to become a key person in the reformed health system. He should become a person who patients trust, so the government needs to motivate primary care professionals to provide quality services. Implementing electronic registry will simplify work of health care professionals, and will enable PHC physician to track how his referred patients are followed-up by other physicians. Switching to mandatory care provision as part of a benefit package is a prerequisite to increasing accessibility of care because today a lot of patients refuse to be treated because of high treatment cost.

Electronic patient registry that has already been introduced in some health facilities will decrease the weight of such reason as long lines. Besides, in future Ukrainians are supposed to understand that they are responsible for their own health, and physician's responsibility is treatment outcome.

Section 3
CARDIOVASCULAR DISEASES

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Section Summary

- 20% respondents report having high blood pressure.
- Women report having high blood pressure and hypertension twice more often (26.5% and 28 %), than men (12.7% and 13.8%).
- 2% of the surveyed or their relatives had an infarction, and also 2% had a stroke of consequences of stroke.
- By regions, arterial hypertension is most often reported in Cherkassy (58%) and Kyiv (57.1%) Oblasts, the least often — in Transcarpathian (18%) and Volyn (20.8%).
- Majority of doctor's recommendations were about treatment process: anti-hypertensive medications and blood thinners, less — anti-cholesterol drugs, and very few recommendations were about lifestyle modifications.
- Out of people surveyed or their relatives with infarction (*N* = 1,064), 14% underwent minimally invasive interventions: 5% stenting, 7% shunt placement, 5% coronography.
- Median (mean) payment for stent grafting was 25,731 UAH, shunt placement — 25,000, coronography — 4,428 UAH.

Cardiovascular diseases is a leading cause of mortality and disability, especially considering global aging. According to WHO, out of 56.4 million of global deaths in 2015 more than a half (54%) were due to 10 causes, the majority of them being cardiovascular. The majority of lives are taken up by ischemic heart disease and stroke — total of 15 million in 2015. For the last 15 years these diseases remain the leading causes of death globally[22]. In 2014, 1.83 million people died due to circulation diseases in EU-28 which equals to 37.1% of all deaths, and this is much more than the second leading cause of death — cancer (malignant neoplasms, 26.4%)[23]. Besides, systematic reviews and analytical literature report circulation diseases to be a significant burden for health systems and state budgets.

Ukraine also has an unfavorable situation, it is number one country in Europe in cardiovascular deaths. According to WHO, only in 2011–2012 CVDs took 440 thousands of lives in Ukraine. Ukraine rates the first among European countries in deaths due to "epidemic" of stroke, infarction and other cardiovascular diseases[24]. **According to official statistics,** almost 70% of deaths in Ukraine are due to cardiovascular diseases (***Table 3.1***)[25].

[22] http://www.who.int/mediacentre/factsheets/fs310/ru/

[23] Cardiovascular diseases statistics: http://ec.europa.eu/eurostat/statistics-explained/index.php/Cardiovascular_diseases_statistics.

[24] How much is infarcton and stroke? Government allocates 200 Mio for a health care experiment (Скільки коштують інфаркт та інсульт? Уряд дає 200 млн на медичний експеримент): https://glavcom.ua/publications/skilki-koshtuje-infarkt-ta-insult-uryad-daje-200-mln-na-medichniy-eksperiment-422528.html.

[25] Academician Volodymyr KOVALENKO: "Prevention is a priority in CVDs reponse" (Академік Володимир КОВАЛЕНКО: «У протидії серцево-судинним захворюванням пріоритет має надаватися профілактиці») http://www.golos.com.ua/article/284458.

Table 3.1. Disease structure and prevalence by classes and individual diseases in Ukraine according to data from health care facilities

#	Name	Prevalence		
		absolute data	**per 100 thousand population**	**share, %**
1	All diseases	73,551,424.0	172,692.9	100.0
2	– including: some infectious and parasitic diseases	1,413,969.0	3,319.9	1.9
3	Neoplasms	1,755,208.0	4,121.1	2.4
4	Diseases of blood, hematopoietic organs, and some conditions involving immune mechanisms	668,384.0	1,569.3	0.9
5	Endocrine system diseases, nutrition disorders, metabolic disturbances	3,649,724.0	8,569.3	5.0
6	Mental and behavioral disorders	1,691,891.0	3,972.4	2.3
7	Nervous system diseases	1,989,120.0	4,670.3	2.7
8	Diseases of the eye and adnexa	3,518,964.0	8,262.2	4.8
9	Disease of the ear and mastoid process	1,334,946.0	3,134.3	1.8
10	Circulation diseases	22,560,557.0	52,970.4	30.7
11	Respiratory diseases	15,208,897.0	35,709.3	20.7
12	Diseases of the digestive system	7,166,118.0	16,825.5	9.7
13	Disease of the skin and subcutaneous tissue	1,922,246.0	4,513.3	2.6
14	Diseases of the musculo-skeletal system and connective tissue	3,966,573.0	9,313.2	5.4
15	Diseases of the genitourinary system	3,990,784.0	9,370.0	5.4
16	Pregnancy, delivery and the postpartum period	511,665.0	4,575.6	0.7
17	Congenital abnormalities (birth defects), deformities and chromosomal aberrations	294,286.0	691.0	0.4
18	Symptoms, signs and abnormalities identified during lab or clinical testing not categorized in other sections	38,289.0	89.9	0.1
19	Trauma, poisoning and some other effects of external causes	1,817,036.0	4,266.3	2.5

Predominantly, those are people of productive age — in recent years mortality rates in people of productive age has dramatically increased —30 to 59 years of age. According to the European Society of Cardiologists, Ukrainian men of relatively young age (30–44) die six times more often compared to their counterparts in EU countries. In general, in Ukraine in 2015 over 420 thousand people died due to cardiovascular diseases (cancer rates second — over 83 thousand)[26].

This means a very poor culture of prevention, diagnosis and treatment of cardiovascular diseases. According to the European Society of Cardiology, 80% of infarctions and stroke can be prevented[27].

That is why in 2017 survey a special attention is paid to behaviors of people with circulation diseases. We are investigating population's awareness about symptoms of stroke and infarction and defining typical scenarios of disease behaviors. Health Index survey has several directions: (a) overall awareness of people about their cardiovascular health; (b) behavioral aspect — what do respondents do in case of BP? do they follow doctor's recommendations? (c) availability of medicines, and which share of people had a stent placed and how much did they pay for that?

[26] How much is infarction and stroke? Government allocates 200 Mio for a medical experiment: https://glavcom.ua/publications/skilki-koshtuje-infarkt-ta-insult-uryad-daje-200-mln-na-medichniy-eksperiment-422528.html.
[27] http://www.who.int/cardiovascular_diseases/about_cvd/ru/.

3.1. Cardiovascular Diseases in Ukraine: Prevalence and Symptom Awareness

In 2017, the survey instrument included the following questions: “Have you ever had an infarction?”, “How old were you when it happened (for the first time)?”, “Do you have the following disease: hypertension, stroke (consequences of stroke)?” etc.

Survey results show that 20% reported having high blood pressure, 2% had a stroke or its consequences, had an infarction or its consequences, and 11% reported cases of infarction in their family (***Fig. 3.1***).

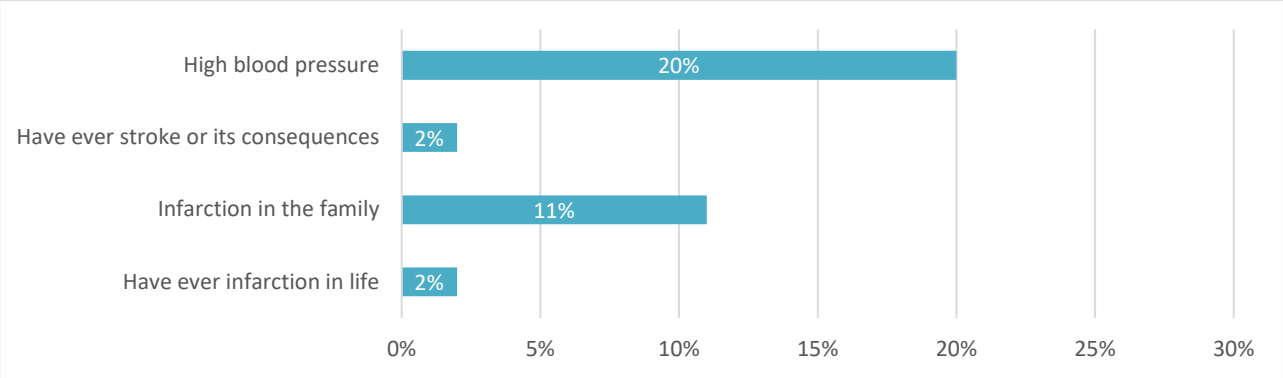

Fig. 3.1. Distribution of CVD diseases among respondents

Data about hypertension and elevated blood pressure can be presented by regions considering high prevalence. Hypertension is the most prevalent in Cherkassy, Kyiv, Chernihiv and Poltava Oblasts, the least — in Transcarpathian, Volyn and Khmelnitsky Oblasts (***Fig. 3.2***).

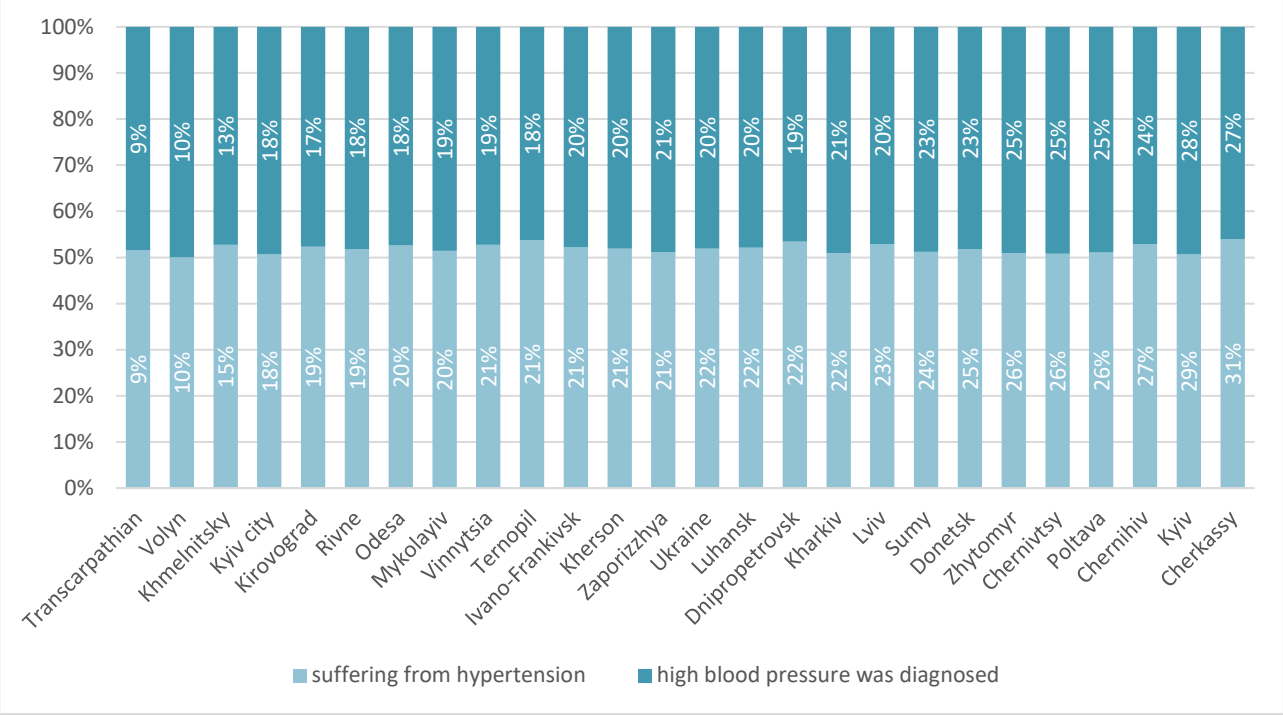

Fig. 3.2. Hypertension cases among respondents: distribution by the regions

In women, diagnosis of hypertension and blood pressure is made twice as often as in men (29–27% vs 13–14%, respectively). This pathology is the most prevalent in people of productive (45–59) and older (60 and older) age: 23% and 48%, respectively (***Fig. 3.3***).

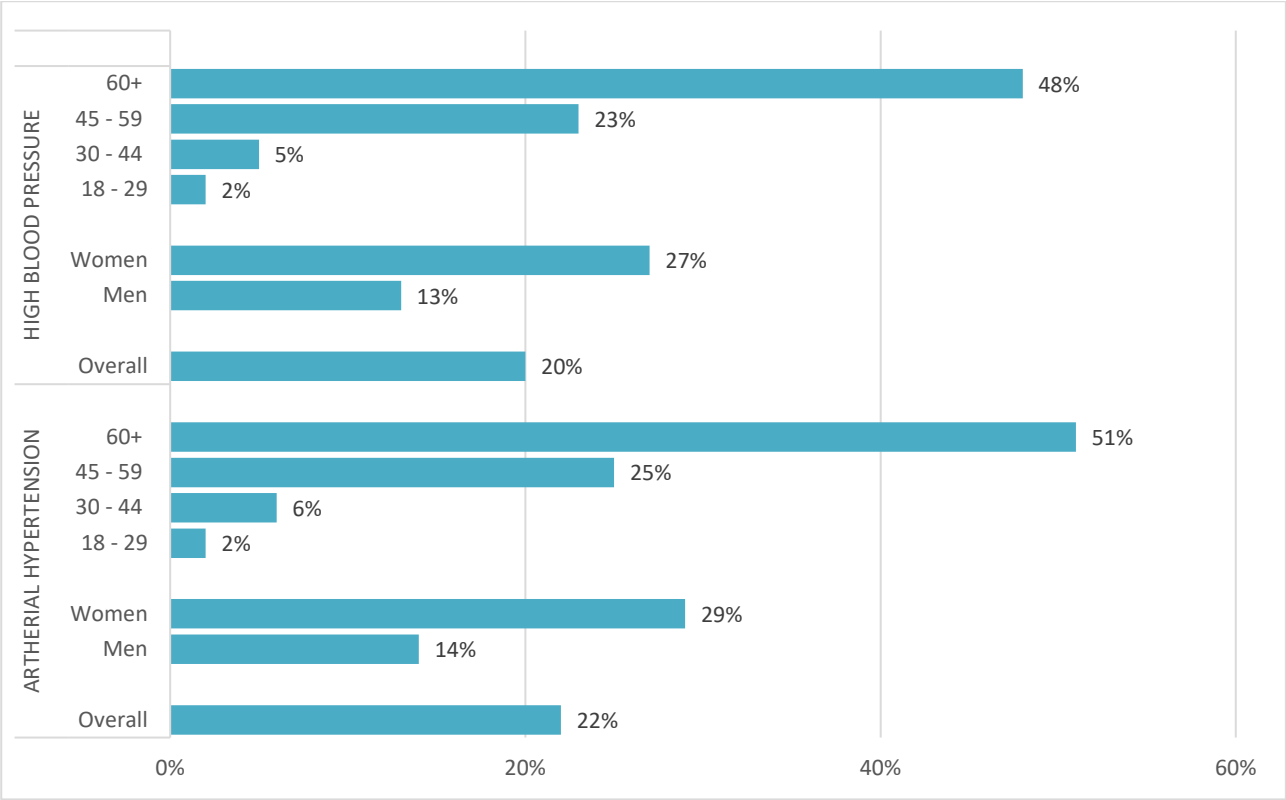

Fig. 3.3. Cases of hypertension among respondents: distribution by sex and age

It is widely known that the epidemic of non-communicable diseases including cardiovascular diseases is greatly related to lifestyle and disease behavior. Decreasing risk factors in everyday life leads to decreased morbidity and mortality, and timely disease identification and treatment – to increased treatment efficacy and its decreased cost. Countries that managed to significantly decrease cardiovascular mortality (Austria, Finland) did that through prevention programs. Thus, for example, in Finland 82% decrease in deaths due to ischemic heart disease among men was due to significant decrease in high blood pressure, cholesterol and smoking levels during a 30-year period. Similarly, due to decrease in blood pressure, cholesterol, body mass index and smoking levels ischemic heart disease mortality has decreased in Lithuania[28, 29].

This concept is supported by a series of studies that form the evidence base for efficacy of cardiovascular diseases prevention[30]. According to evidence-based medicine, healthy lifestyle and risk factor modification have a positive effect on prevention of cardiovascular diseases and their complications in patients of all age groups.

European Society of Cardiology's Guidelines on CVD prevention, 2012 mentions the following modification activities with proven efficacy: smoking cessation, healthy diet, adequate physical activity, psychosocial risk factor modification, optimal weight maintenance, blood pressure normalization, lipids levels normalization. Special attention is given to educating patients about healthy lifestyles, CVD prevention, motivating them to maintain their health and follow doctor's advice. Among important causes of cardiovascular diseases doctors mention increased cholesterol levels, high blood pressure, excessive weight, smoking and sedentary life.

In this section we will provide survey outcomes pertaining to respondents' awareness about disease symptoms and cardiovascular disease behaviors.

[28] A strategy to prevent chronic disease in Europe.A focus on public health action.The CINDI vision // WHO. 2004. 41 p.
[29] Epidemiological situation regarding cardiovascular diseases in Ukraine: 30-year minitoring: https://angiology.com.ua/ua-issue-article-357.
[30] (a) NationallyrepresentativehealthexaminationsurveysincludingUkraine,Ikeda, 2014;
(b) Hypertension Control Cascade: A Framework to Improve HypertensionAwareness, Treatment, and Control, Wozniak, 2016;
(c) Evidence insufficient to confirm the value of population screening for diabetes and hypertension in low- and middle-income settings, Durao, 2015

Health Index survey demonstrated that out of 9,573 respondents who answered the question "When was the last time you checked your blood pressure?" (***Fig. 3.4***), 78% answered that they did it last year, and 8% — never. 34% of all the respondents (*N* = 9,573) reported having a high blood pressure, 5% — low, the rest — "normal". 31% of the initial group report a doctor telling them about their high BP, another 28% got recommendations regarding managing their high blood pressure. 13% believe they were able to stabilize their blood pressure, and at the same time 10% stabilized it partially, but they take medications only when their BP levels are high.

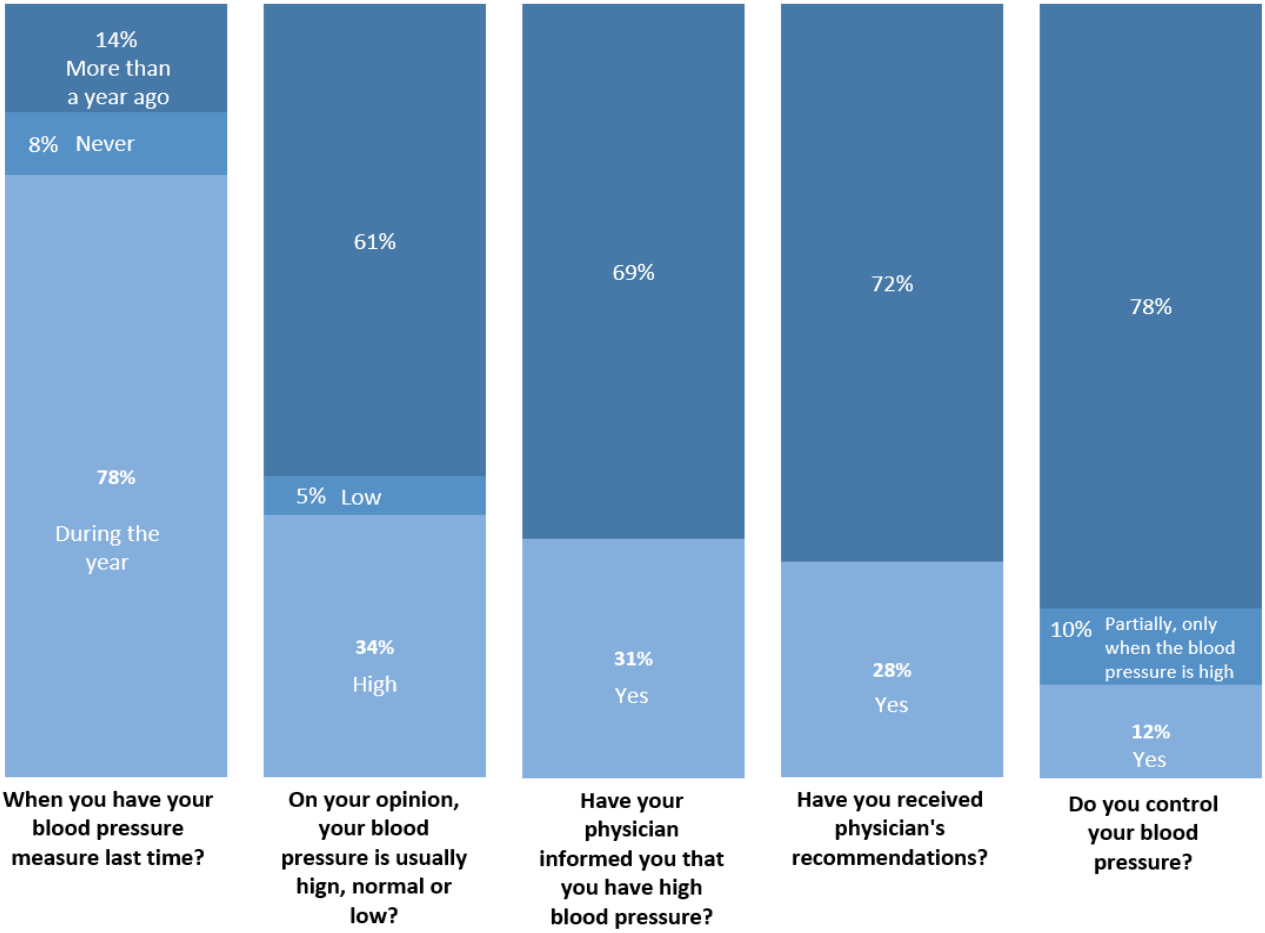

Fig. 3.4. High blood pressure identification and control

Blood pressure control in population is believed to be one of the key approaches not only in treatment but prevention of cardiovascular diseases. In our survey, we also identified (a) share of people who measured their blood pressure, and (b) underwent a cardiogram for prevention purposes in the previous 12 months (***Fig. 3.5***). Blood pressure is measured by the majority of Ukrainians (92.5%). The highest rates are in Rivne (99.4%) and Chernivtsy (99.2%) Oblasts, the lowest — in Luhansk (72.6%), Vinnitsya (79,1%) and Chernihiv (79.3%). Electrocardiography in the previous 12 months was undergone by only 44% of respondents: the lowest rates — in Volyn (17.8%) and Kirovograd (19.9%) Oblasts, the highest — in Ternopil (62.5%), Chernihiv (58.9%), Dnipropetrovsk and Chernivtsy (55.5%). It is interesting that Cherkassy Oblast with its highest levels of BP (97.5%) and ECG (59.6%) screening has the highest cardiovascular morbidity rate (41.6%).

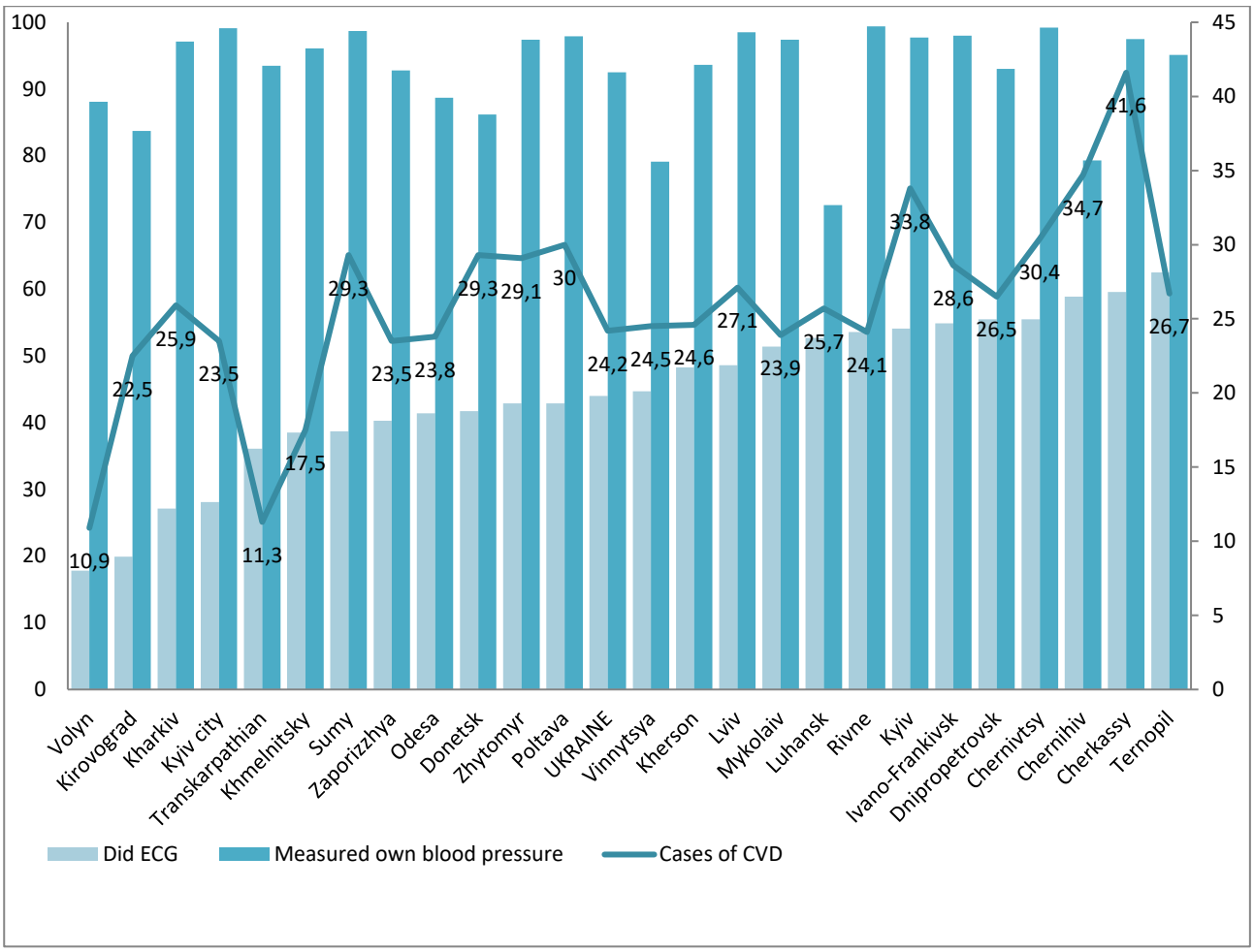

Fig. 3.5. Comparing BP measurements and ECG for prevention (Health Index data) with circulation disease share (statistical data)

In total, 92.5% of population know their BP, urban population share — 92.1% and rural — 93.3%, 88.8% of men and 95.4% of women. With age respondents' BP awareness gradually increases: slightly over 87% of respondents know their BP at 18–29 years of age, but at the age of 60 and over it amounts to 96.1% (***Fig. 3.6***).

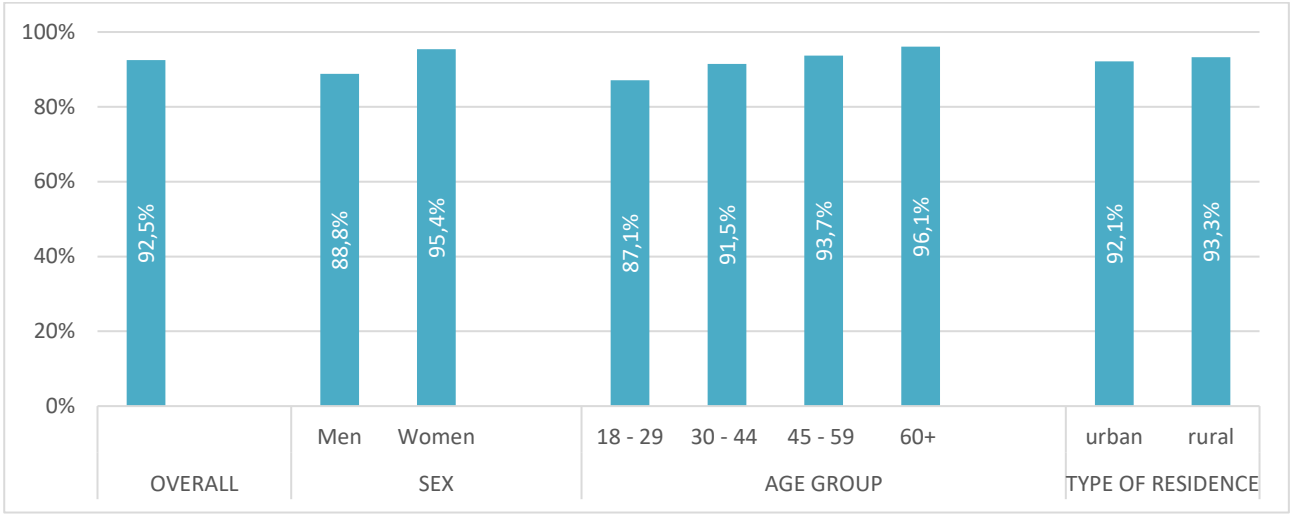

Fig. 3.6. Social and demographic profile of those knowing their blood pressure

Not only knowing BP but its assessment is very much relevant from the point of view of prevention behaviors, because it determines both treatment adherence and lifestyle modification activities (***Table 3.2***). Our survey showed that only slightly over 20% of respondents reporting high BP values assess it as high, 13% — normal. It means inadequate health education of population.

Table 3.2. Comparison of subjective BP assessment with knowing one's BP

Own BP assessed as		**Have normal BP**	**Have high BP**	**Have low BP**	**Do not know their BP**
	all population				
normal	**%**	**49.0**	12.1	1.0	6.6
	N	4,207	1,066	79	459
high	%	5.8	**19.2**	0.0	0.1
	N	661	2,128	3	9
low	%	3.7	0.4	**1.9**	0.1
	N	397	39	186	14
	people who measured their BP				
normal	**%**	**52.6**	13.0	1.0	0.0
	N	4,207	1,066	79	0
high	%	6.3	**20.6**	0.0	0.0
	N	661	2,128	3	0
low	%	4.0	0.4	**2.0**	0.0
	N	397	39	186	0

Recent studies of the American Association of Cardiovascular Diseases demonstrate direct relationship between elevated systolic blood pressure (SBP) and diastolic blood pressure (DBP) and increased cardiovascular risk. Thus, meta-analysis of 61 prospective studies showed that cardiovascular risk increased in a linear fashion with increasing SBP from 115 mmHg to 180 mmHg and DBP from 75 mmHg to 105 mmHg. This analysis also showed that increasing SBP by 20 mmHg and DBP by 10 mmHg increases risk of death due to stroke, ischemic heart disease or other vascular diseases, especially in people of productive age (from 30 to 80)[31].

Other survey outcomes describe knowing symptoms of vascular accidents (stroke and infarction) (***Fig. 3.7***). The survey also demonstrates a big share of those not knowing any symptoms of stroke (29.6%) and infarction (32.8%), even among those respondents who or whose family members had these diseases: 8.5% and 20%, respectively. That means that not only our health culture but our health system is viewed very negatively.

[31] 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines http://hyper.ahajournals.org/lookup/suppl/doi:10.1161/HYP.0000000000000065/-/DC1.

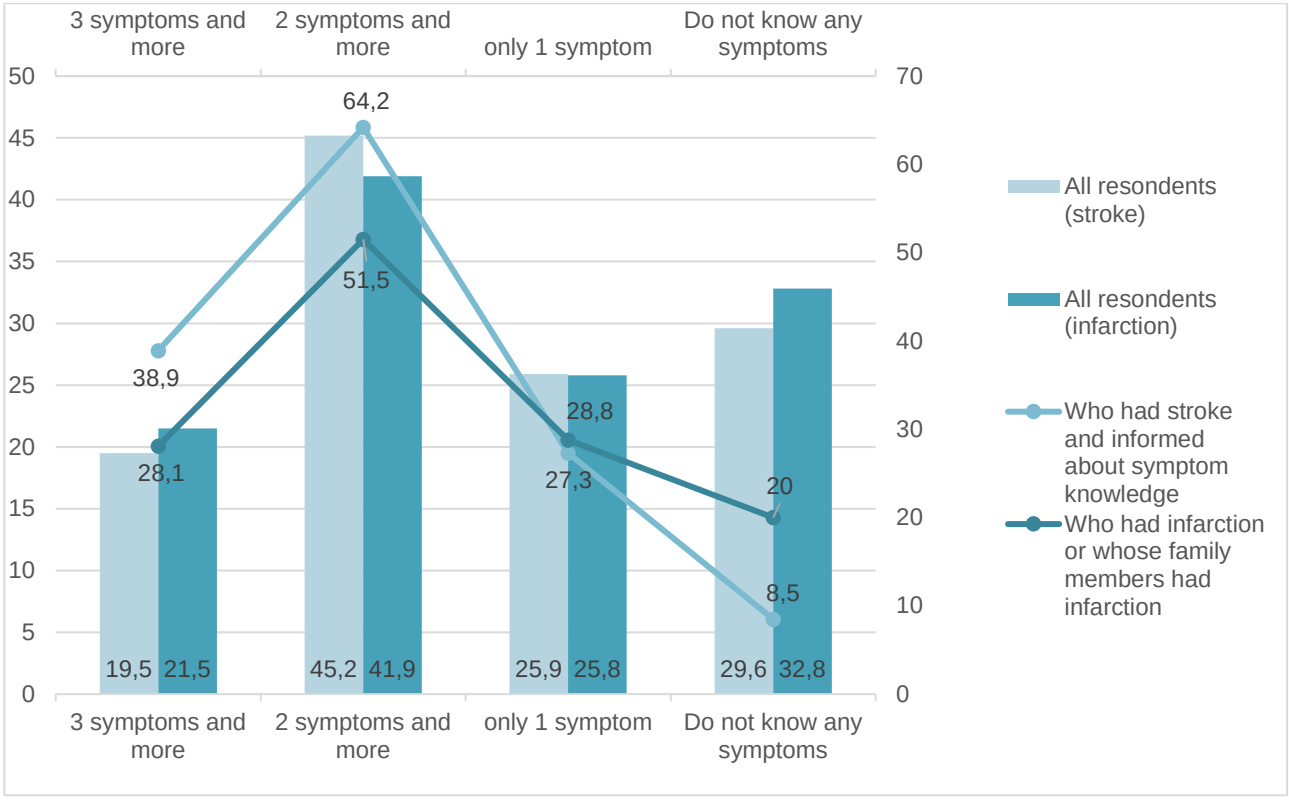

Fig. 3.7. Knowing symptoms of vascular accidents

According to the survey, on average almost 30% of respondents in Ukraine do not know any symptoms of a vascular accident. The best situation with symptom awareness is in Kherson, Donetsk, Zaporizzhya Oblasts and the city of Kyiv, the worst — in Ivano-Frankivsk, Sumy and Cherkassy Oblasts. Of note also is the fact that in the above-mentioned Oblasts cardiovascular morbidity rate is very high, in Cherkassy Oblast it is the highest (41.6%). There is no significant difference in answers in different social groups (***Table 3.3***). It is interesting to see difference (although not significant) in answers of respondents with higher education (without an academic degree): respondents with complete and basic higher education have the lowest rates: 23.9% and 26.4%, respectively.

Table 3.3. Knowing symptoms of vascular accidents: distribution by sex, age, type of inhabited location, %

		Named correctly 2 symptoms and more	Named correctly 3 symptoms and more	Named correctly only 1 symptoms	Know no symptoms
Sex	men	40.2	16.9	24.5	35.8
	women	49.3	21.6	27.0	24.5
Age group	18–29	36.9	15.1	21.36	42.4
	30–44	43.8	19.2	24.7	32.2
	45–59	49.8	20.5	27.1	23.8
	60 and older	48.2	22.0	29.1	23.0
Location	urban	47.4	20.5	26.0	27.3
	rural	40.3	17.3	25.6	34.6

Expectedly, young people have less awareness of vascular accidents (18–29 of age — 42.4% and 30–44 — 32.2%). These data call for development and active health promotion among young people in the first place, as according to well-recognized international professional organizations

cardiovascular diseases got much "younger" despite the fact that the majority of them could be prevented with active screening programs and population education.

Thus, our survey confirms official statistics data. The key medical and demographic challenges are increased morbidity and prevalence of the most socially relevant circulation diseases: arterial hypertension and ischemic heart disease. These data need to be considered when shaping National Health Policy in Ukraine. Because this group of diseases entails a series of social and economic problems: significant primary disability; high mortality of people of productive age; decreased life expectancy.

3.2. Barriers to Health Care Services

Next, no less important from the point of view of emerging, developing and spreading cardiovascular diseases is the following: seeking care, doctor's recommendations and adherence to treatment, hence, treatment outcome.

Out of all responders (*N* = 9,573 people), 34% report high BP. At the same time only 21.9% were diagnosed with hypertension, and only slightly over 40% (40.4%) of them take antihypertensives on a regular basis, only 13% believe they were able to get their BP stabilized and 10% — partially stabilized, as they took medication only at times of BP elevation. Such a "cascade" of poor outcomes means rather consumptive attitude towards their own health.

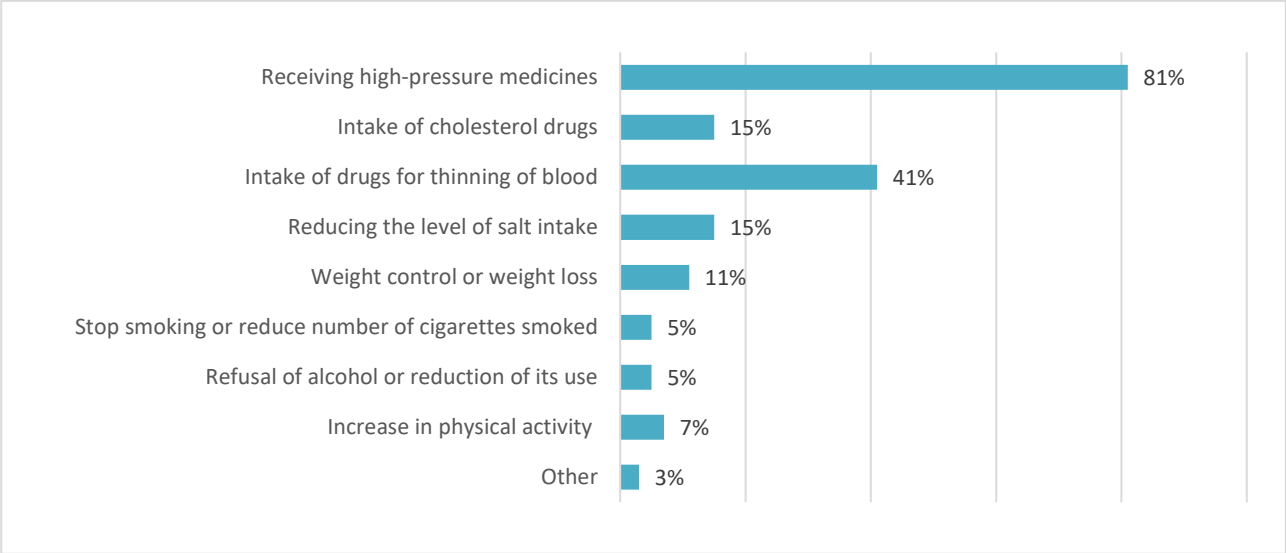

Fig. 3.8. Experience of getting physician's recommendations (for people getting physician's recommendation)

The majority of physicians' recommendations were about management: antihypertensives and blood thinners, less — cholesterol-lowering agents, and too few recommendations about life style modification. Currently, it is important to estimate patients total individual risk as part of management as one person very often has several risks that can subsequently significantly impact both the disease aggravation, and treatment outcome. Management strategies for patients with cardiovascular diseases should mandatorily include risk factor management.

An important prerequisite of cardiovascular diseases response, especially in case a patient already has the disease — is treatment adherence. Complex social and economic situation in our country makes people refrain from seeking care, and, respectively, they do not receive care of high quality and do not take necessary medications. Because of that Affordable Drugs Program was implemented in Ukraine, and one of its goals was to provide patients (including patients with cardiovascular diseases) with medications with proved efficiency.

Less than 21% patients with hypertension used Affordable Drugs Program. Assessment of this Program and experience of getting drugs is provided on ***Fig. 3.9***.

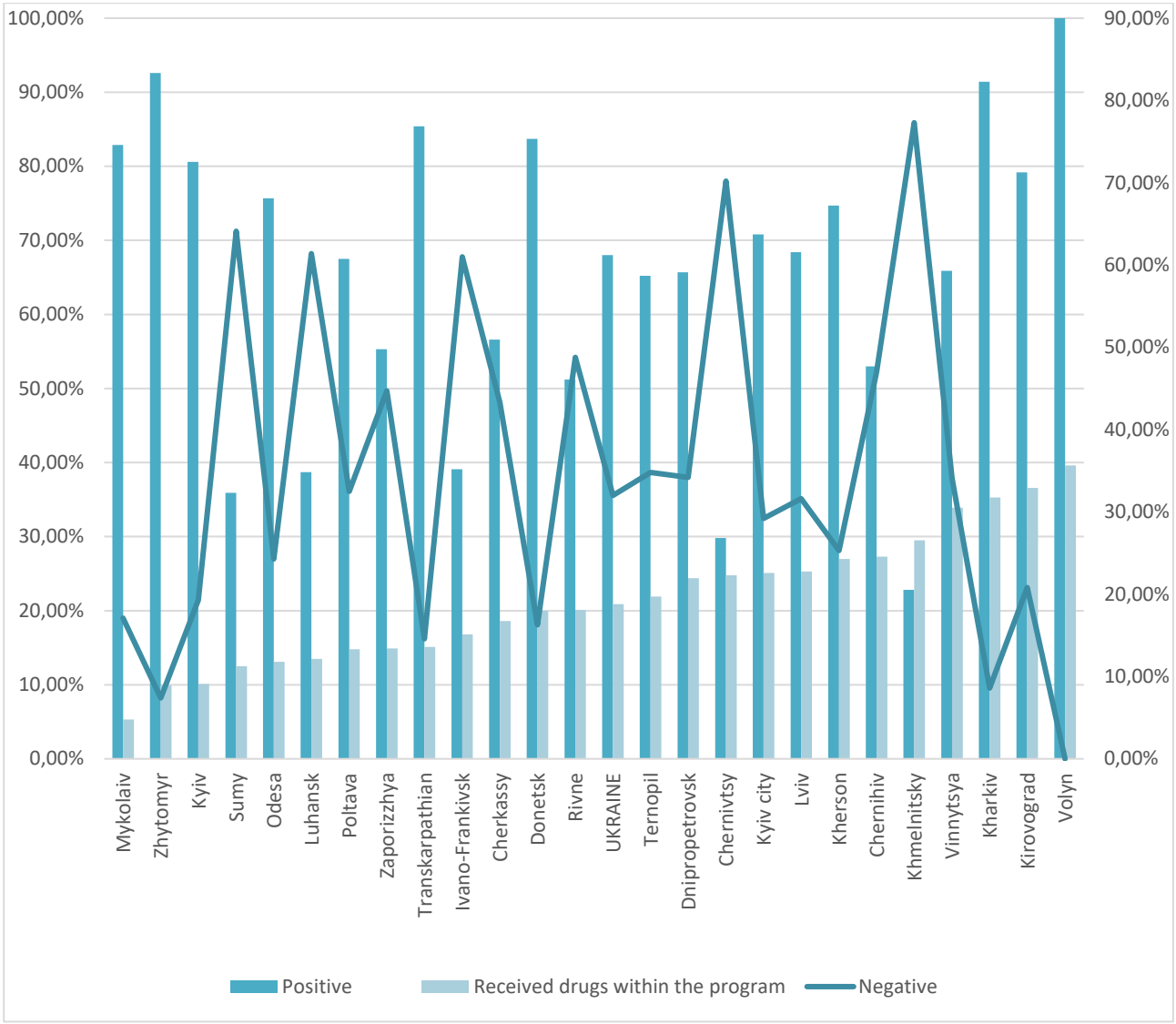

Fig. 3.9. Experience getting drugs under Affordable Drugs Program in people with hypertension (regional measurement)

In total, in Ukraine Affordable Drugs Program was positively (very positive and mostly positive) assessed by 68% of people with hypertension who were eligible to get drugs under this Program. However, a high share of respondents (32%) assessed it as mostly negative or very negative. The best results (by patient coverage and positive assessment) were seen in Volyn (39.6% and 100%, respectively) and Kharkiv (35.3% and 91.3%, respectively) Oblasts. The worst results by coverage (among respondents) were reported in Mykolayiv (5.3%), Kyiv (10.1%) and Zhytomyr (9.9%) Oblasts, and by assessment — in Khmelnitsky (77.3%), Chernivtsy (70.2%), Sumy (64.1%), Luhansk (61.4%) and Ivano-Frankivsk (61%) Oblasts. It has to be noted that the highest percentage of respondents knowing no symptoms of a vascular accident was reported in these Oblasts, and prevalence of this group of diseases in this region is very high.

Along with drug therapy in developed countries such standard health technologies as coronography, stenting and shunting are used. In Ukraine, according to MOH, annual need in so called minimally invasive methods (coronarography, vessel stenting) is about 200,000 per year.

We also looked at accessibility of these diagnostic and treatment methods. Among respondents (with infarction or infarction in their relative $N = 1{,}064$) 14% underwent above-mentioned minimally invasive interventions: 5% — stenting, 7% — shunting, 5% — coronography. The main reason for such situation, to our opinion, is huge financial burden for a patient (***Table 3.4***).

Table 3.4. Experience and amount of out-of-pocket payment for a minimally invasive intervention (last payment for intervention)

			Total	**Underwent surgery in 2014–2017**
Stenting (*N* = 39)	paid for surgery	*N*	**36**	23 (out of 24)
		%	**94**	98
	mean payment, UAH		35,156	44,271
	SD		35,857	36,827
	Median, UAH		25,731	33,963
Shunting (*N* = 21)	paid for surgery	*N*	**20**	11 (out of 11)
		%	**93**	100
	mean payment, UAH		29,535	42,745
	SD		26,799	26,870
	Median, UAH		25,000	30,595
Coronography (*N* = 25)	paid for surgery	*N*	**22**	14 (out of 15)
		%	**88**	94
	mean payment, UAH		11,829	15,728
	SD		22,188	26,334
	Median, UAH		4,428	5,835

Thus, access to modern methods of diagnosis and treatment of cardiovascular diseases is extremely low in Ukraine, notwithstanding the fact that there is a whole network of specialized cardiological clinics, highly professional staff in our country, but current health care services with proven effectiveness are not affordable to our population. Most of the time financial burden for such interventions is carried by patients or their relatives. This situation demands special attention on part of the state. Today it is imperative to develop and implement a National Program to control cardiovascular diseases in Ukraine.

In order to prevent cardiovascular diseases, it is necessary to develop and implement a National Program to control cardiovascular diseases with components:

– system of monitoring epidemiological situation regarding multifactorial impact on cardiovascular morbidity and mortality;

– economic incentives for preventive measures for family doctors (implement quality indicators system);

– development and active implementation of communication activities, public service advertising about health promotion.

Section 4
OUT-PATIENT CARE

Authors:

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Section Summary

- In 2017, 37% of the adult population of Ukraine had sought out-patient care due to health problems within the last 12 months (in 2016 this figure was 36%), 63% did not.
- In 2017, the lowest rates of medical visits were in Volyn (22%), Khmelnitsky and Sumy (23%), the highest ones being in Rivne (55%), Zhytomyr (51%) and the city of Kyiv (50%).
- Almost 71% of the respondents in the city of Kyiv, 72.1% in Sumy Oblast, 71.3% in Kharkiv Oblast, 71% - in Cherkasy and 70.7% in Kherson presented directly for the secondary care (to the doctors-specialists at the polyclinic) almost bypassing the primary care level. Despite the fact that respondents mostly did not notice an increase in the financial affordability of outpatient care, one and a half times - from 39% to 28% - the share of those who did not visit doctor when ill over the last 12 months due to lack of funds decreased in 2017, compared with 2016.
- The residents of Luhansk (62%), Chernivtsy (53%) and Chernihiv (52%) Oblasts rated provision of out-patient care positively, while the residents of Sumy (12%), Mykolayiv (16%) and Zaporizzhya (17%) Oblasts and the city of Kyiv (20%) as well rated it the worst.

The current strategy of changes in the healthcare area is aimed primarily at ensuring equal access of the population to quality medical care and protection of every citizen from a financial catastrophe in case of illness. It is clear that immediate achievement of the expected result is impossible, therefore the reform of the HCS has a certain sequence of implementation of the changes, with defined priorities at each stage**.** Today, the main focus is on outpatient services, because effective work of this particular part of the health care system can provide quality medical care at a lower cost (compared with specialized care).

Depending on the type of outpatient care provided it is divided into the primary and the secondary ones. Primary care is provided by family physicians or primary care physicians in primary health care centers, medical outpatient clinics and by feldshers and nurses at feldsher-midwife stations (FMS). Secondary out-patient care is provided by doctors - subspecialists in consultation-diagnostic centers. According to the Ministry of Health, a powerful network of outpatient medical facilities has been created in Ukraine, namely:

– a network of PHCC as legally independent health care institutions is almost formed;

– there are 616 PHCC in the country, 445 (72.2%) of which operate in rural areas;

– there are 5233 medical outpatient clinics and 11177 FMS operating under PHCC[32].

Accessibility and quality of health care are important indicators of the healthcare system activities as a whole, therefore, in the process of studying outpatient care special attention was paid to such issues as seeking outpatient care by population, the choice of health care provider, the financial affordability of outpatient care, as well as rating of health care aspects.

[32]Annual report on the health status of population, sanitary-epidemiological situation and the results of Ukrainian healthcasre syste operations . 2016 / MOH Ukraine, SE «UISS MOH Ukraine». Kyiv, 2017. p. 167–177.

4.1. Seeking Outpatient Care

According to the 2017 survey results 37% of adult population of Ukraine had sought outpatient care due to health problems within the past 12 months (this indicator in 2016 was 36%), while 63% had not (***Fig.4.1***).

In the regional profile the situation has somewhat changed. Thus, if in 2016 the smallest percentage of people who indicated that they had sought outpatient care was recorded among the residents of Ternopil (21%), Lugansk (24%), Kirovograd (24%) and Kyiv (25%), the highest being in Poltava (55%), Rivne (47%), Zaporizzhya (46%), Cherkasy (45%), Dnipropetrovsk (44%), Vinnytsia (44%) and Kyiv (44%) Oblasts, in 2017 the lowest one was in Volyn (22%), Khmelnitsky and Sumy (23%) regions, and the highest - in Rivne (55%), Zhytomyr (51%) Oblasts and the city of Kyiv (50%). **(*Fig. 4.1*)**. Particularly interesting, as the in-depth analysis shows, are two regions where the figures for 2017 are diametrically opposed to the 2016 figures, - these are Zaporizzhya Oblast (28% in 2017 versus 46% in 2016) and the city of Kyiv (50% in 2017 versus 25% in 2016).

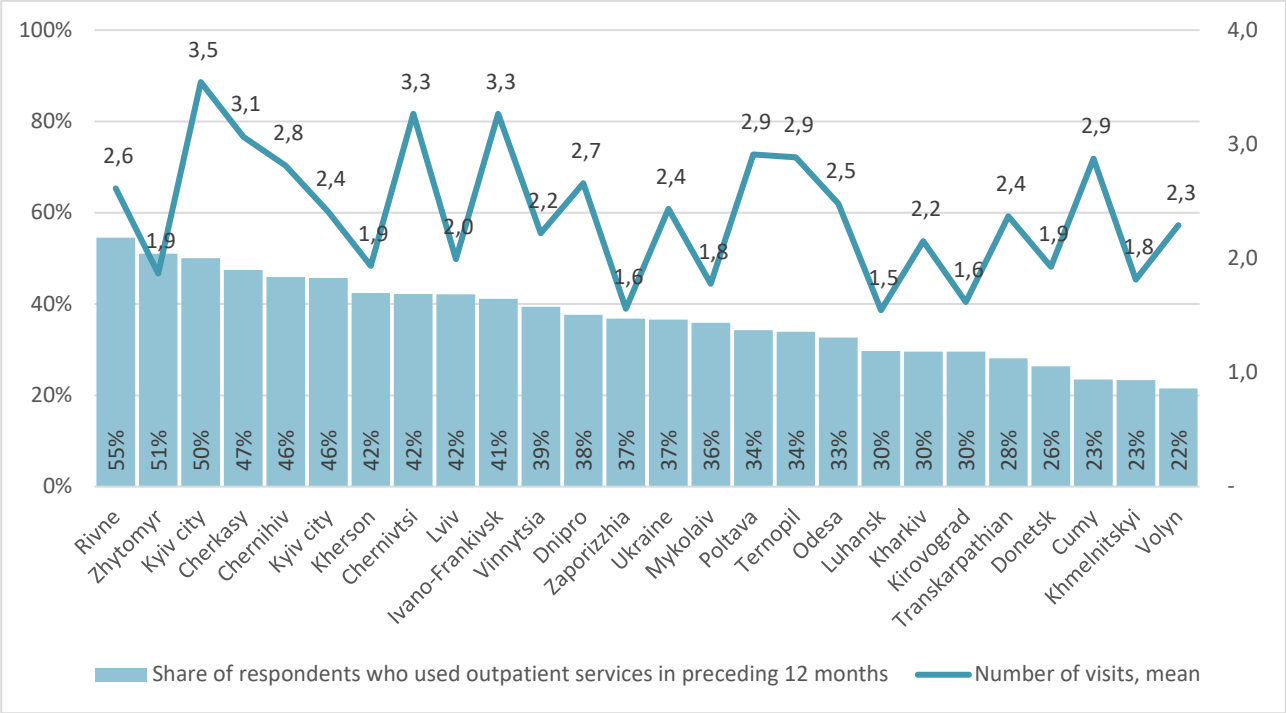

Fig. 4.1. Outpatient visits within the last 12 months: distribution by regions

Among those who visited doctors there were more women than men, and older people than the young ones. To be more specific, 42% among women have visited doctor within the past 12 months and among men this indicator has somewhat improved and equals to 30% (29% in 2016) (***Fig.4.2).***

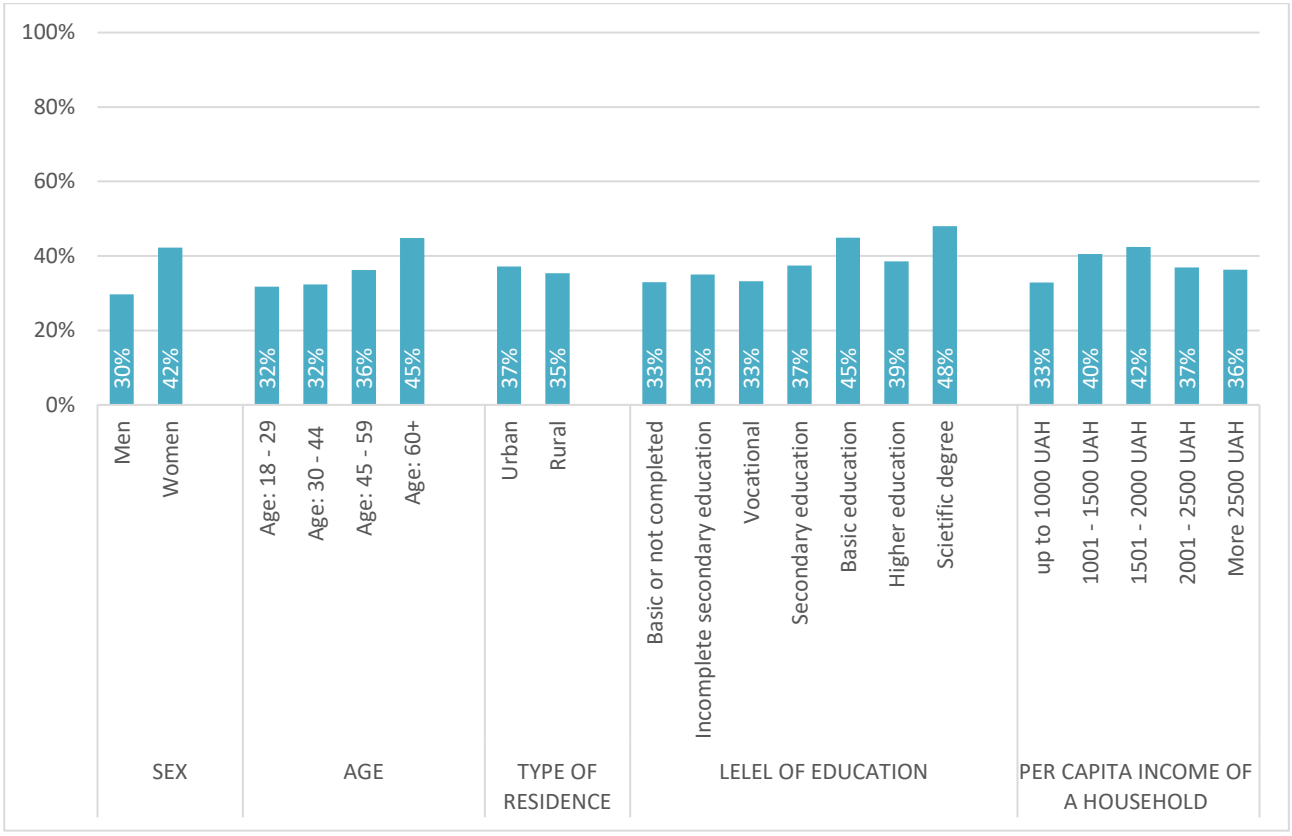

Fig. 4.2. Visits related to outpatient care: distribution by socio-demographic groups

The rate of health-related medical visits according to the distribution of respondents by age remains almost the same as in the previous year and makes up 32% of respondents aged 18-29 and 45% of those older than 60 (in 2016 - 30% and 47% respectively). Statistically significant, although with small difference in percentage, remain the figures on cases of outpatient visits among middle-income households: in families with income of 1001-2000 UAH per one adult only about 41% visited doctors (40% in 2016), 33% in those with up to 1,000 UAH per adult (35% in 2016), 36% in those with more than 2001 UAH (33% - in 2016).

There is no difference between medical visits in urban and rural areas, same as last year: 37% of urban residents and 35% of those living in rural areas have sought outpatient care (versus 36% and 35% respectively in 2016).

The main causes of seeking outpatient care were respiratory and circulatory diseases, although the frequency of visits has slightly increased. If in 2016 30% of respondents sought care for respiratory diseases, in 2017 - 32%, and for cardiovascular diseases - 19% and almost 24% respectively (***Table 4.1***). It is worth noting that the pattern of visits corresponds to data of the official statistics.

4.2. Choosing Healthcare Provider

If in 2016 71% of respondents have visited the district physician or family doctor (37% and 24%, respectively) within the last 12 months, in 2017, 62% of respondents turned for care to primary care physicians (33% and 29%, respectively) **(*Fig. 4.3*)**. Practice of seeking care from family doctors, not the district physicians (although with negative dynamics as compared to 2016) is more typical for Vinnytsia (57% visited family doctors, and 13% - district physicians versus 61% and 6%, respectively in 2016), Mykolayiv (53% and 16% versus 36% and 25%, respectively in 2016), Volyn (52% and 22% versus 17% and 20% respectively in 2016) and Zaporizzhya (48% and 30% versus 46% and 18%, respectively in 2016) Oblasts.

As for the referrals, if in 2016 38% of those who turned for care to a subspecialist had a referral from a district physician or family doctor, and the remaining 62% self-referred, in 2017 these figures were respectively 32% and 68% **(*Fig. 4.4*)**.

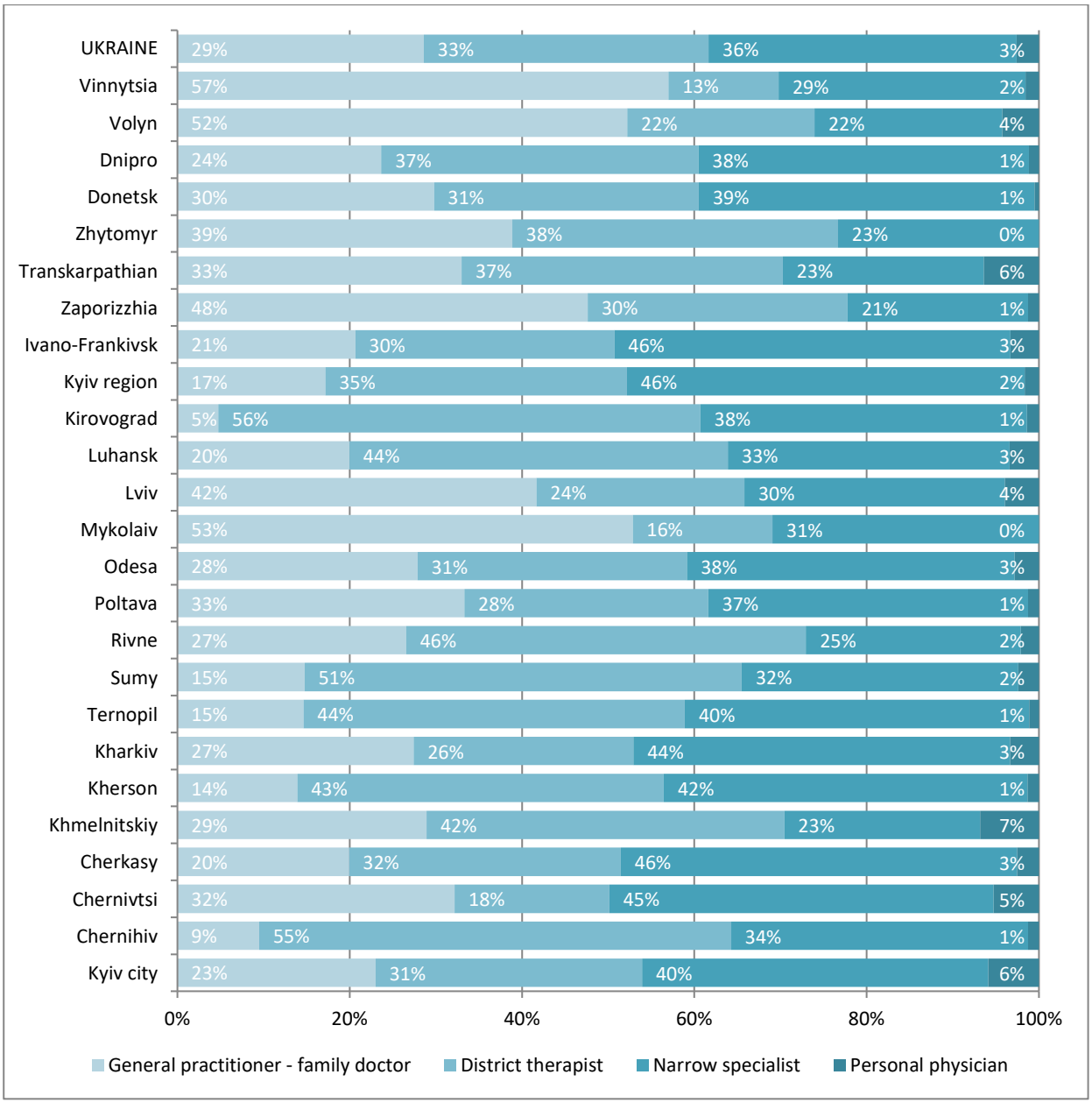

Fig. 4.3. Choosing outpatient care provider during the last visit: distribution by regions

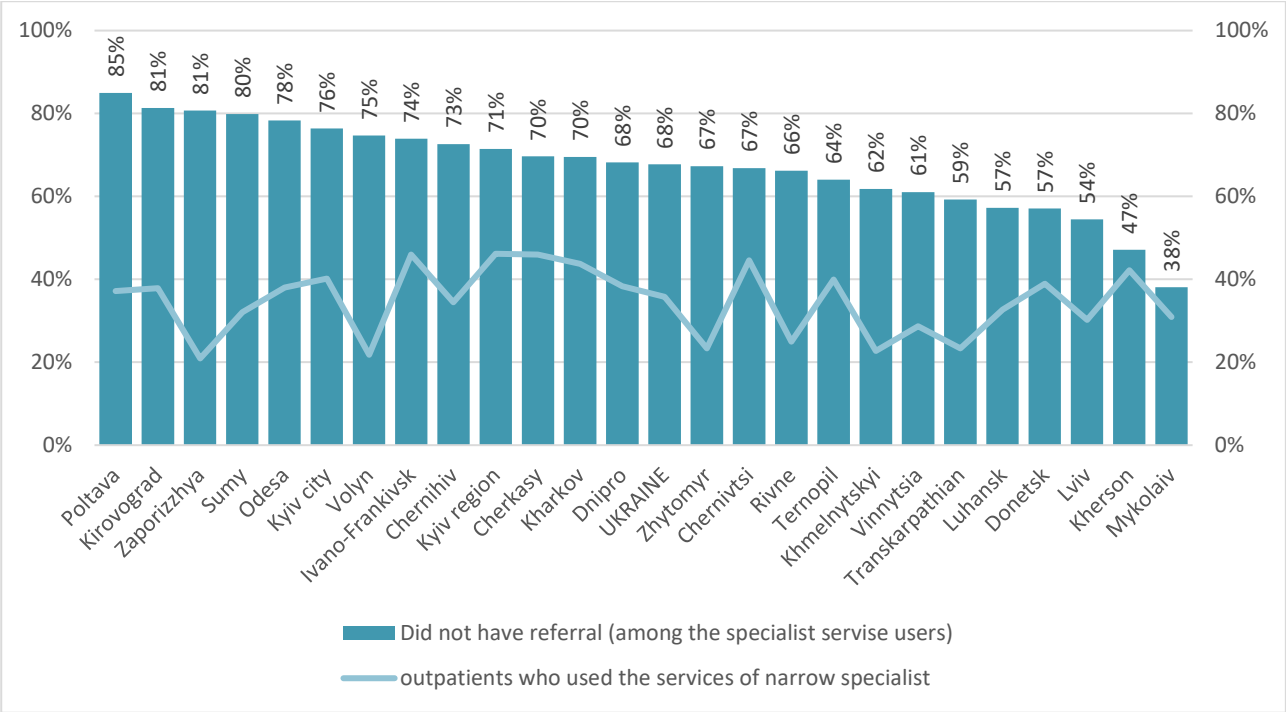

Fig. 4.4. Referral to a subspecialist: distribution by regions

At the same time, if in 2016 the highest percentage of those who self-referred for care to a subspecialist was in Kirovograd (81%) and Ivano-Frankivsk (80%) Oblast, in 2017 - in Poltava (85%) and Kirovograd, Zaporizzhya (81%) and Sumy (80%) Oblast. The lowest percentage of visits "without a care path" was observed only in Mykolayiv (38% vs. 42% in 2016) and Kherson (47%) Oblasts.

Our research showed that in 2017 on the whole in Ukraine the half of respondents (54.9%) turned for outpatient medical care to a polyclinic (city, district or departmental), that is, to the secondary level and very few (just over 17%) - to the primary level **(*Table. 4.2*)**.

In the regional context, situation with regard to the optimal use of healthcare resources (namely, the existing network) was better: the primary use of the primary care level is observed in Vinnytsia - almost 58% (43.2% - family physician outpatient facilities and 14.2% - PHCC), Mykolayiv - slightly more than 47% (43% and 4.2% respectively) and Donetsk (35.0% and 4.0% respectively) Oblasts. People were seeking care quite actively at FMSs in Volyn (31.9%), Zaporizzhya (25.9%), Ternopil (21.2%), Zhytomyr (19.9%) and Kirovograd (17.9%) Oblasts. Almost 71% of respondents in the city of Kyiv, (72.1%) in Sumy, (71.3%) in Kharkiv, (71%) in Cherkasy and (70.7%) in Kherson Oblasts have turned for care directly, to the secondary level (to the doctors-specialists at the polyclinic), almost bypassing the primary care level.

Table 4.1. Reasons for the last outpatient visit: distribution by regions

Region	*N*	Diseases of respiratory organs	Circulatory system diseases	Diseases of the musculoskeletal system and of connective tissue	Injuries, poisonings and some other consequences of the effects of external	Diseases of the genito-urinary system	Diseases of the endocrine system	Diseases of the digestive organs	Diseases of the eye and its appendages	Diseases of skin and subcutaneous tissue	Nervous system diseases	Pregnancy, childbirth and postpartum period	Neoplasms	Diseases of the ear and the mastoid process	Certain infectious and parasitic diseases	Mental and behavioral disorders	Diseases of blood and hemopoietic organs	Diagnosis not established
Ukraine	**3499**	**31.2**	**23.6**	**7.2**	**5.5**	**5.0**	**4.7**	**4.7**	**2.0**	**1.6**	**1.6**	**1.0**	**0.9**	**0,8**	**0,7**	**0,2**	**0,1**	**9,1**
Vinnytsia	**141**	37.1	32.0	4.9	4.3	2.4	1.3	3.1	3.6	0.6	0.6	0.0	0.5	1,1	0,6	0,0	0,0	8,0
Volyn	**75**	34.2	35.1	12.6	2.3	2.1	0.0	1.8	0.0	4.2	2.3	1.0	0.0	0,0	0,0	0,0	0,0	4,5
Dnipropetrovsk	**137**	33.0	19.9	8.4	7.6	7.5	2.8	3.9	2.7	1.2	0.6	0.0	1.2	0,0	1,4	0,0	0,0	9,8
Donetsk	**104**	28.5	23.3	7.8	6.3	2.6	6.5	5.9	2.2	4.5	0.0	2.5	0.7	0,0	0,0	0,0	0,0	9,2
Zhytomyr	**200**	28.7	27.7	11.3	3.5	6.6	3.1	7.7	1.3	3.1	0.8	0.4	0.6	0,0	1,5	0,0	0,4	3,1
Transcarpathians	**97**	40.7	21.3	3.9	9.2	4.6	2.1	4.8	1.0	1.2	1.9	0.0	0.0	0,0	0,0	0,0	0,0	9,3
Zaporizzhya	**145**	42.5	21.2	2.4	9.5	2.6	4.9	4.1	1.3	0.0	1.0	1.3	0.0	0,0	0,0	0,0	0,5	8,6
Ivano-Frankivsk	**153**	32.9	16.8	10.8	2.4	8.2	2.9	3.8	1.2	0.7	2.1	0.5	0.0	1,7	1,1	0,5	0,0	14,3
Kyiv	**168**	37.5	17.0	4.5	5.1	5.7	5.0	5.3	2.2	2.3	2.5	2.0	1.8	2,6	1,8	0,0	0,6	4,3
Kirovograd	**127**	18.6	32.3	8.0	1.5	4.2	9.6	6.7	4.6	0.5	3.8	0.0	0.5	0,0	1,1	0,0	0,0	8,6
Luhansk	**115**	15.3	37.0	6.2	4.8	2.7	3.8	3.6	1.8	2.2	3.8	0.0	0.8	0,0	0,0	0,8	0,0	17,4
Lviv	**160**	39.0	16.7	11.6	4.5	1.9	1.4	1.4	1.6	0.0	0.4	1.0	0.5	1,9	1,5	0,0	0,4	16,0
Mykolayiv	**136**	23.8	29.0	9.6	6.5	5.5	3.8	4.5	3.2	0.0	2.6	1.0	2.5	0,6	0,8	0,0	0,0	6,4
Odesa	**128**	21.6	26.8	7.5	5.4	4.6	4.8	3.2	2.3	1.0	0.0	0.8	1.1	1,5	0,0	0,0	0,0	19,3
Poltava	**119**	36.0	26.7	5.1	4.6	8.2	3.2	5.4	1.1	0.0	1.5	0.0	2.4	0,7	0,0	0,0	0,0	5,1
Rivne	**169**	35.8	19.7	2.6	9.3	3.8	2.9	3.8	1.1	1.7	1.7	0.0	2.4	1,3	1,7	0,0	0,6	11,7
Sumy	**93**	21.6	25.6	6.8	3.0	6.6	6.0	6.1	1.3	1.3	0.9	0.0	0.0	1,1	0,0	2,3	0,0	17,4
Ternopil	**142**	44.4	23.9	7.2	4.0	6.8	2.0	2.6	2.2	2.4	0.6	2.2	1.2	0,0	0,6	0,0	0,0	0,0
Kharkiv	**120**	15.4	26.5	8.5	5.3	8.1	4.9	10.8	2.0	5.6	6.8	1.4	1.7	0,8	0,0	0,5	0,0	1,6
Kherson	**157**	25.8	23.6	9.9	14.2	7.3	3.2	6.6	2.5	1.1	0.0	0.0	0.5	0,0	0,9	0,0	0,0	4,4
Khmelnitsky	**79**	28.6	24.2	5.4	5.1	4.3	2.0	4.3	0.0	2.1	3.4	0.0	0.0	0,0	0,0	0,0	0,0	20,7
Cherkasy	**184**	24.6	24.6	6.3	5.3	11.6	7.8	3.3	1.8	1.1	1.8	0.0	0.9	1,2	0,4	0,0	0,0	9,3
Chernivtsy	**179**	23.6	24.4	9.1	6.2	3.3	7.0	6.0	0.9	2.0	3.3	0.6	0.0	1,4	0,0	0,9	0,0	11,4
Chernihiv	**164**	39.4	23.1	5.0	3.4	6.4	3.9	4.6	1.5	2.0	1.3	0.5	0.0	0,5	1,1	0,0	0,0	7,4
Kyiv city	**207**	37.5	19.6	5.2	3.4	2.8	11.3	4.4	3.1	0.3	0.7	3.1	1.3	0,9	0,4	1,0	0,0	4,9

Table 4.2. Type of the institution in which outpatient care was provided: distribution by regions

Region	*N*	Feldsher-midwife station (FMS), %	Family practice outpatient facility %	Primary care center %	City /district/departmental polyclinic %	City /district/departmental hospital %	Private clinic/practice %	Home visit of a doctor %	Other place %
Ukraine	**3851**	**10.0**	**13.4**	**4.2**	**54.9**	**6.7**	**4.2**	**4.5**	**2.0**
Vinnytsia	**157**	9.6	43.2	14.2	20.2	3.1	3.0	4.2	2.4
Volyn	**85**	31.9	25.7	7.7	21.4	9.3	4.0	0.0	0.0
Dnipropetrovsk	**147**	0.6	9.2	7.0	59.7	12.4	3.5	6.6	1.1
Donetsk	**114**	9.3	35.0	4.0	23.7	7.9	2.1	17.4	0.6
Zhytomyr	**218**	19.9	14.5	2.4	52.7	2.4	3.1	2.4	2.5
Transcarpathian	**112**	7.4	27.3	5.2	40.7	15.5	0.9	1.9	0.9
Zaporizzhya	**159**	25.9	11.6	18.3	37.9	1.9	2.5	1.5	0.4
Ivano-Frankivsk	**170**	13.4	8.9	2.6	56.4	4.5	3.4	4.4	6.4
Kyiv	**185**	4.6	10.7	1.1	65.4	6.7	5.0	4.2	2.2
Kirovograd	**136**	17.9	0.0	31.2	47.9	0.0	0.5	0.6	1.9
Luhansk	**127**	8.9	5.2	0.0	60.6	14.7	2.1	8.5	0.0
Lviv	**173**	11.7	16.7	0.4	61.1	3.8	3.6	0.4	2.2
Mykolayiv	**151**	4.4	43.0	4.2	36.5	8.3	0.7	2.2	0.7
Odesa	**146**	16.9	6.1	4.6	47.8	7.8	8.7	5.9	2.1
Poltava	**135**	12.0	23.2	0.0	58.1	3.1	1.8	1.0	0.9
Rivne	**210**	13.1	7.3	1.4	65.6	8.7	1.9	1.0	1.0
Sumy	**102**	5.9	0.0	0.0	72.1	15.8	4.2	2.0	0.0
Ternopil	**143**	21.2	1.5	0.0	68.2	3.3	2.0	2.0	1.9
Kharkiv	**124**	9.1	3.8	0.0	71.3	2.8	6.8	1.0	5.2
Kherson	**177**	3.1	4.5	1.6	70.7	13.1	4.0	2.2	0.9
Khmelnitsky	**91**	10.3	2.0	0.9	60.1	19.2	2.5	3.2	1.8
Cherkasy	**196**	8.7	5.7	1.0	71.0	3.8	2.4	4.8	2.6
Chernivtsy	**186**	9.6	30.0	0.4	37.4	13.4	4.1	0.4	4.7
Chernihiv	**187**	12.0	8.9	4.3	65.7	4.9	1.8	1.6	0.8
Kyiv city	**220**	0.0	1.8	3.7	70.6	1.5	12.0	7.5	3.0

As already noted, in 2017 the vast majority of respondents (54.9%) sought outpatient medical care at a polyclinic (city, district or departmental), most of them — 90% of respondents — according to the catchment area principle (***Figure 4.5***), which is by 6% more often than in 2016.

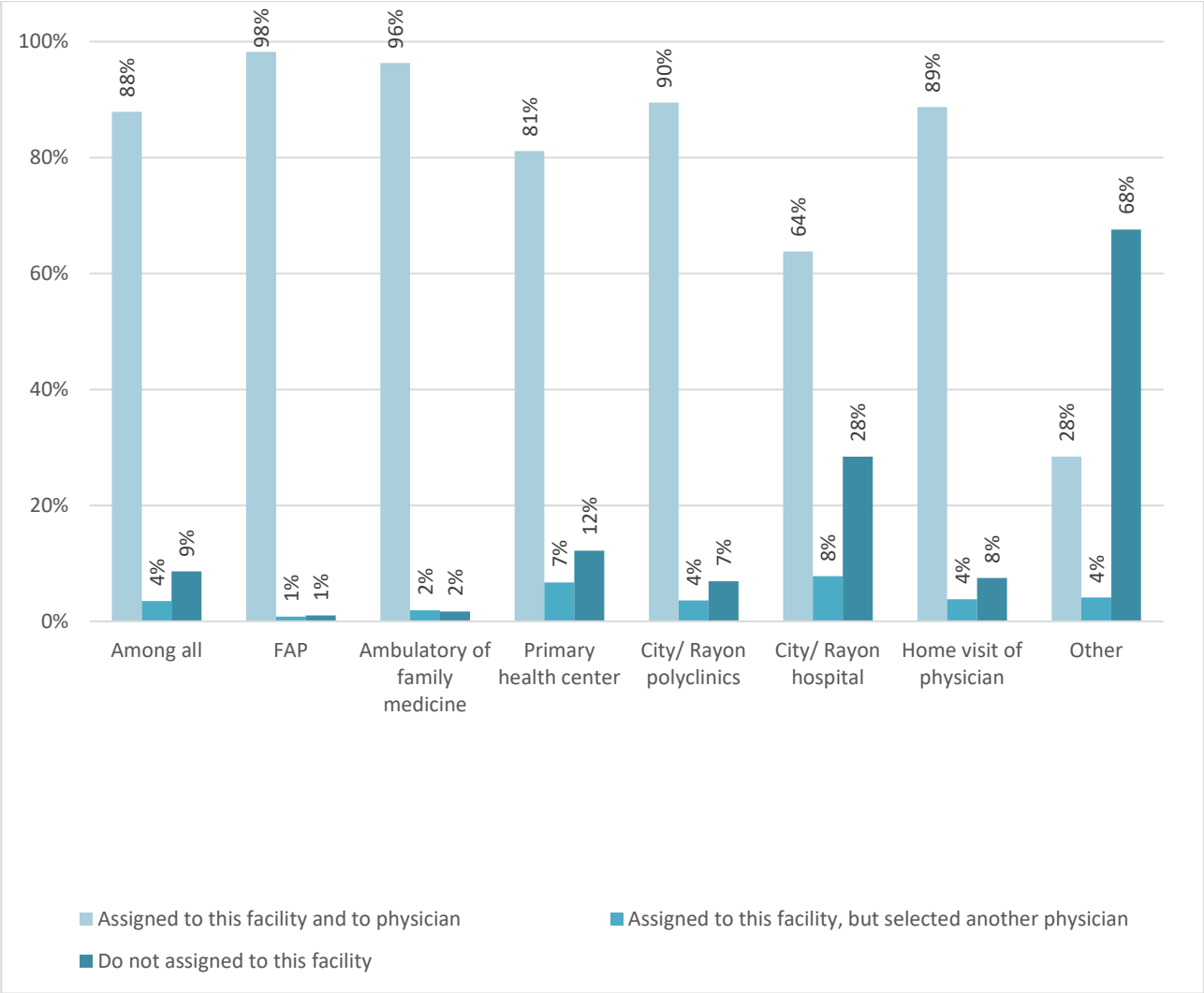

Fig. 4.5. Type of the institution where outpatient service was used

In comparison with 2016, 88% of respondents on the whole chose a healthcare institution by a catchment area principle, against 83.7% in 2016, and by individual medical institutions: 98% — FMS, 98% — family practice outpatient facilities, and 81% — PHCC. 89% of respondents requested medical home visits according to the catchment area principle.

According to respondents, the competence of the doctor is the main reason for almost 40% (33% - in 2016) visits to medical institutions or to doctors to whom they have not been assigned (***Figure 4.6***). Other arguments included: personal acquaintance or recommendation of acquaintances — almost 40% (27% in 2016), the availability of the necessary equipment — almost 17% (16% — in 2016). Interestingly, the friendliness of the doctor as an argument for the choice decreased in 2017 by almost 6% (21% in 2016 and 15.2% in 2017). In addition, the choice of the institution was influenced by such factors as the type of the institution ownership (13.1% of respondents called it “in favor of” argument (in 2016 this factor influenced 9% of respondents), a convenient location — 11.7% (vs. 9% in 2016), short waiting time (6.8%), financial affordability (6.7%).

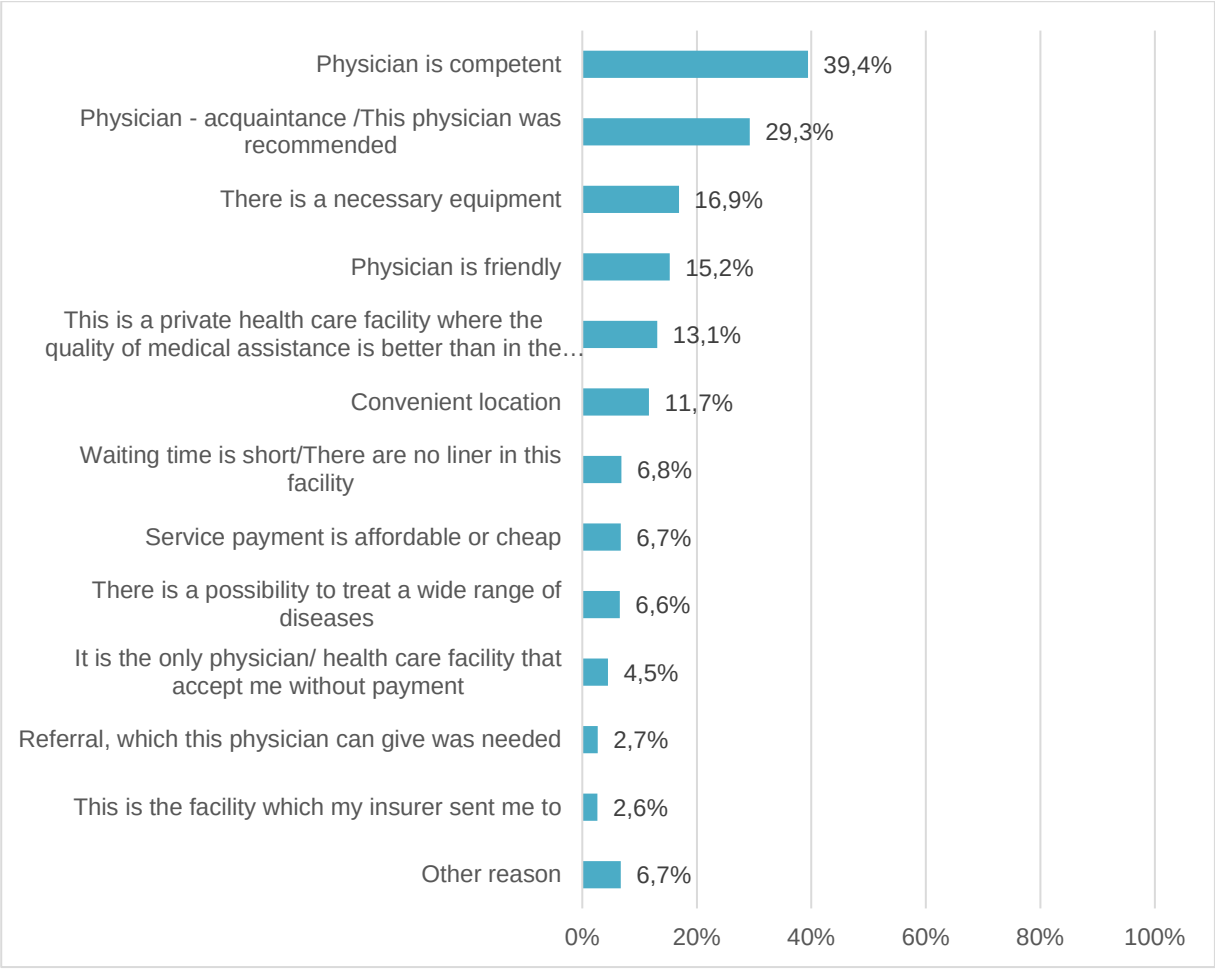

Fig. 4.6. Reasons for choosing the institution or the doctor to whom the respondent is not assigned (*among those who have chosen a facility or an institution to which he/she is not assigned*). *Several options may be chosen.*

Despite some variation of percentages, the reasons for choosing another institution or specialist, not the one to which they were assigned by the place of residence, are similar for all Oblasts and socio-demographic categories. Competence, recommendation (or personal acquaintance) and friendliness of doctors are the main factors that influence the choice of the institution or doctor and only then the other ones (including location, cost, etc.).

4.3. Out-of-pocket Payments for Outpatient Care

According to the survey results, 58.1% of those who have sought outpatient care over the past 12 months, indicated paying for medical services, of them: 16.2% made payment for services to the Charity fund account (among them 64.6% - on request (and this figure has increased by almost 10% in comparison with 2016) up to 15% (in 2016 — 12%) — via cash-desk in accordance with the official prices of the institution, and almost 10% paid privately directly to the physician or other medical personnel same as the last year (including 34.7% on request and 65.3% — voluntarily) (***Table 4.3***).

Table 4.3. "Out-of-pocket" payment for the last outpatient visit

	To the charity fund or organization account	At the cash desk in accordance with the official rules	Informally	For the medical commodities	Total
Patients who paid, %	16.2	14.9	9.9	38.6	58.1
Patients who paid, *N*	556	501	327	1,262	1,739
Among those who paid, did it on request, %	64.6	—	34.7	—	—
Median payment, UAH	50	100	100	50	80
Mean payment, UAH	259	881	336	136	496
Stat. deviation, UAH	831	7,950	1,312	598	4,563

Regional profile: the highest percentage of those who had to pay from their pocket to the charity fund when visiting a doctor was in Odesa (30%, including a quarter of cases where these payments occurred on request) and Kharkiv (30%) Oblasts and 31% — in the city of Kyiv (***Fig.4.7***)

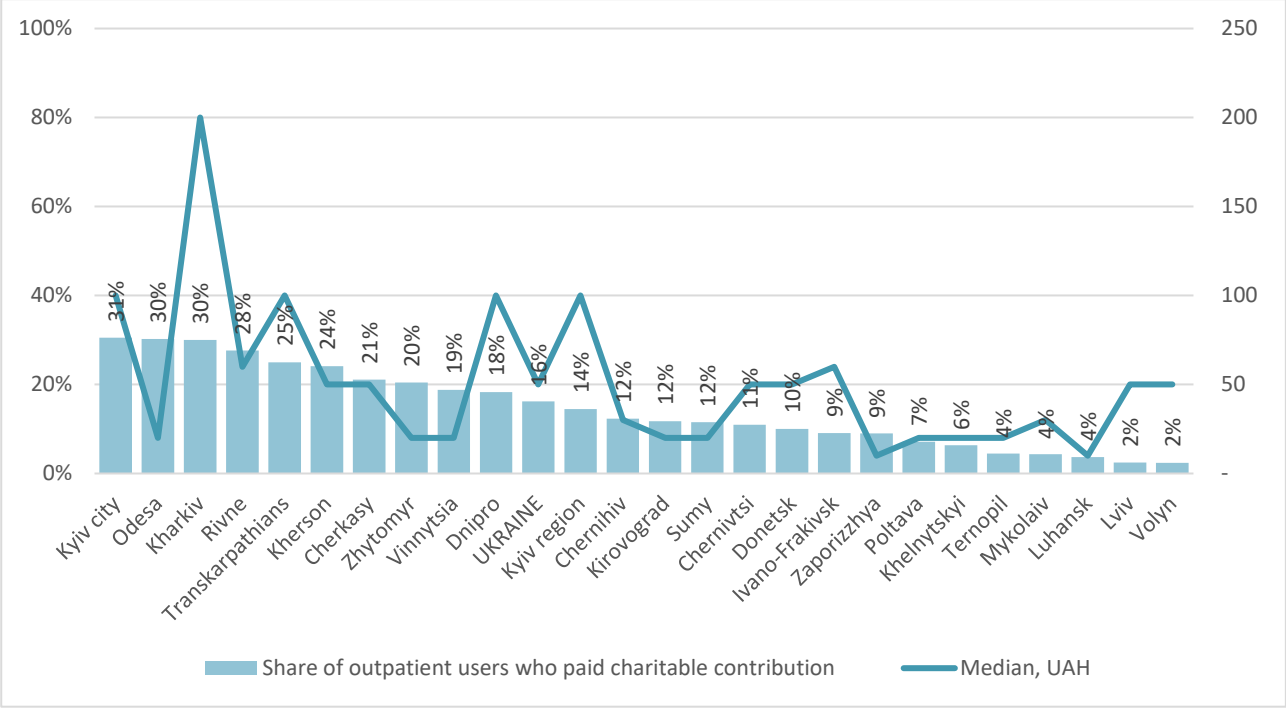

Fig. 4.7. Share of patients who paid for the outpatient care to the charity fund or another organization and median amount: distribution by regions

The highest percentage of those who paid through the cash desk in accordance with the official rules was in Kharkiv Oblast (43%) and the city of Kyiv (38%) and the lowest — in Mykolayiv (1%), Luhansk (2%) and Ternopil (3%) Oblasts (***Fig. 4.8***).

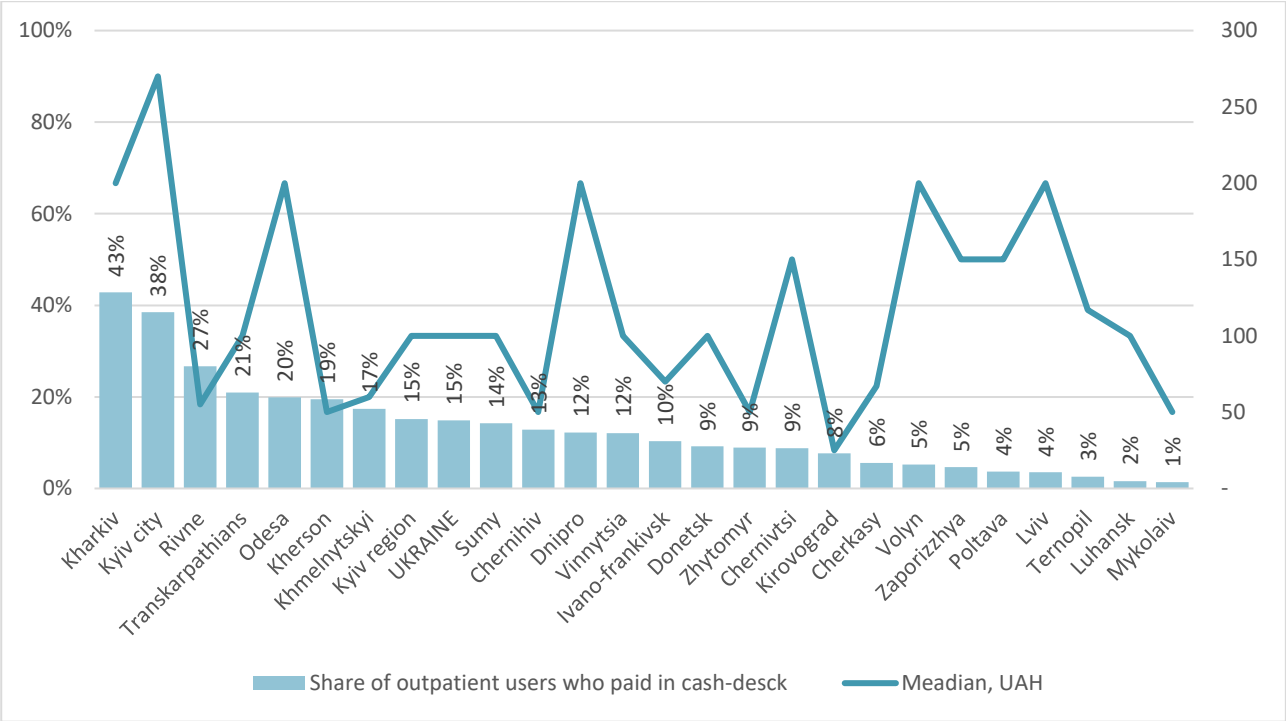

Fig. 4.8. Share of outpatients who paid at the cash-desk in accordance with the official rules: distribution by regions

Informal payments are most common, same as in 2016, in Khmelnitsky Oblast — 32% (which is 6% less than last year) and Transcarpathian Oblast — 30% and the city of Kyiv — 21% (22% in 2016) (***Fig. 4.9***).

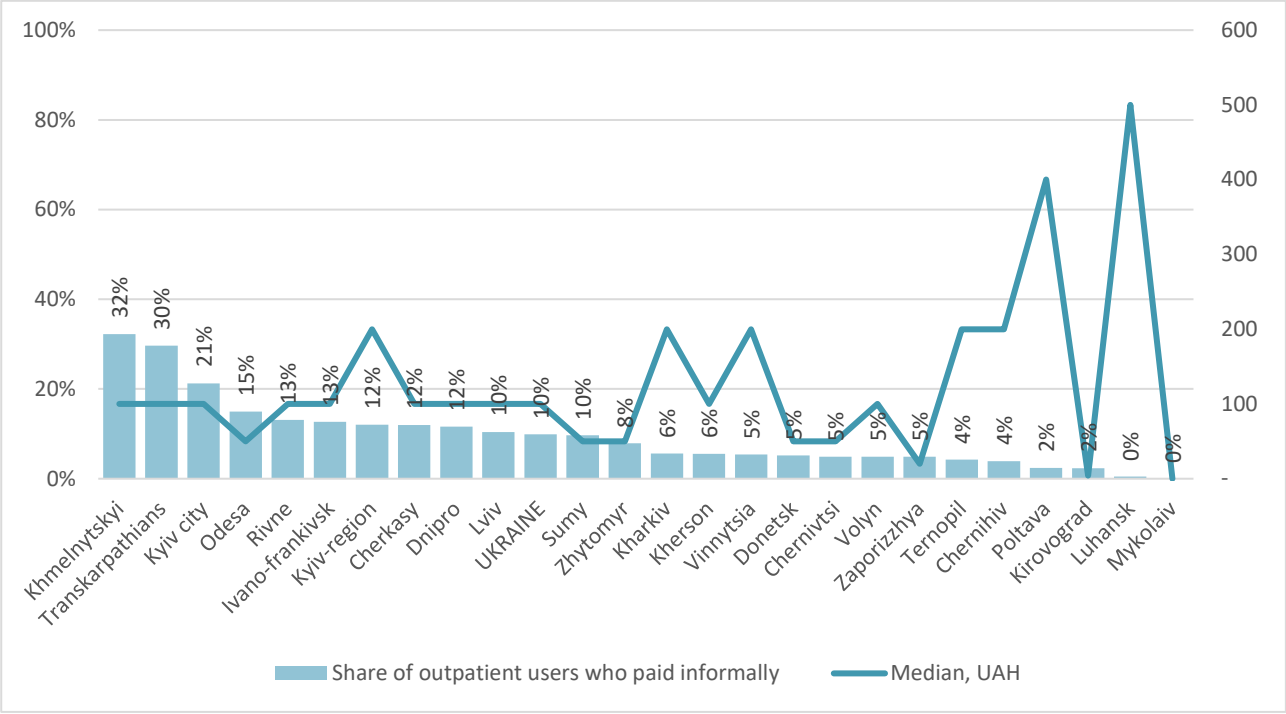

Fig. 4.9. Share of outpatients, who informally and median amount: distribution by regions

The highest percentage of respondents who have used outpatient care paid for the medical commodities in Kirovograd (66%) and Dnipropetrovsk (60%) Oblasts and the smallest — in Luhansk and Ternopil Oblasts (up to 17%) (***Fig. 4.10***).

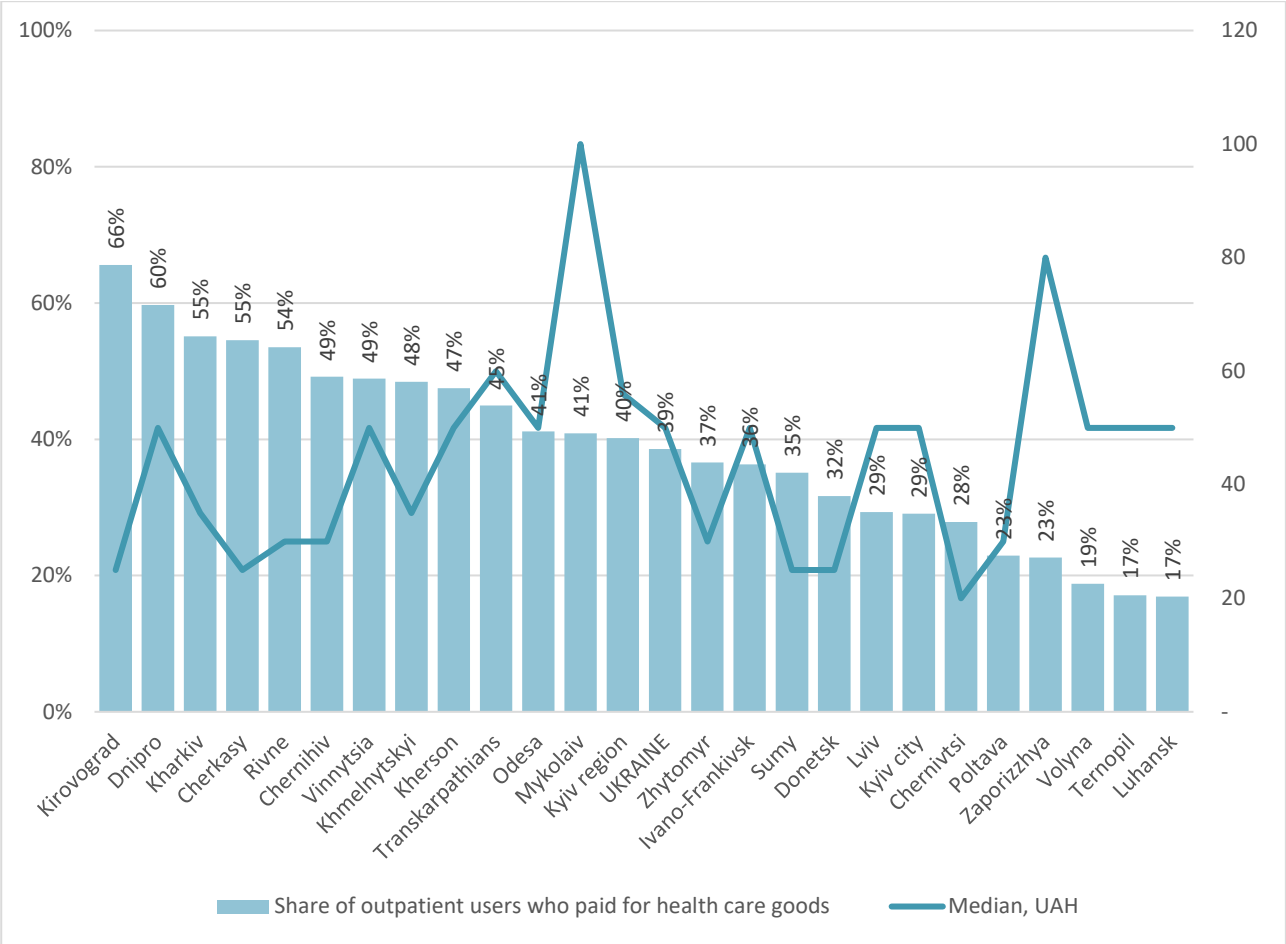

Fig. 4.10. Share of persons who paid for the outpatient care and medical commodities and the median amount: distribution by regions

The average amount of payment to the charity fund account (among those who consumed and paid) increased significantly in 2017 - 50 UAH median and 404 UAH - average (the significant difference between them and the statistical deviation indicate a high variation of data, as in the following cases, payments of patients) (against 20 UAH and 77 UAH respectively, in 2016), the average size of unofficial payments decreased and in 2017 amounted to 326 UAH (630 UAH – the mean in 2016).

4.4. Laboratory Tests and Diagnostic Workup

According to the 2017 survey, most respondents (67.6% — for Ukraine) have had laboratory tests and diagnostic workup over the past year (50.8%) (***Fig. 4.11; 4.12***).

It should be emphasized that half of those tested (47.3%) paid for them 245 UAH on the average (***Table 4.4***).

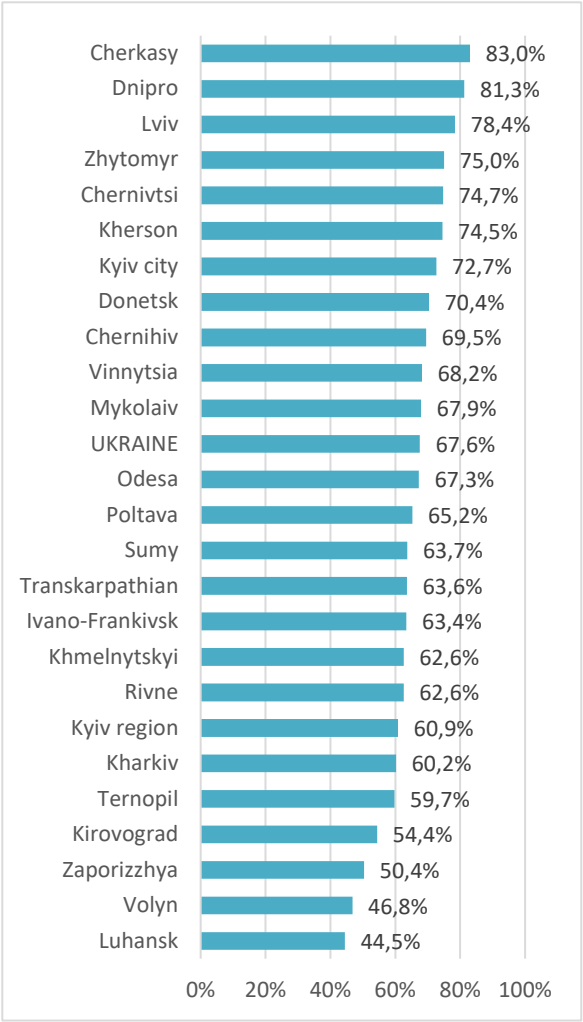

Fig. 4.11. Had laboratory tests within the past 12 months: distribution by regions *(among all respondents)*

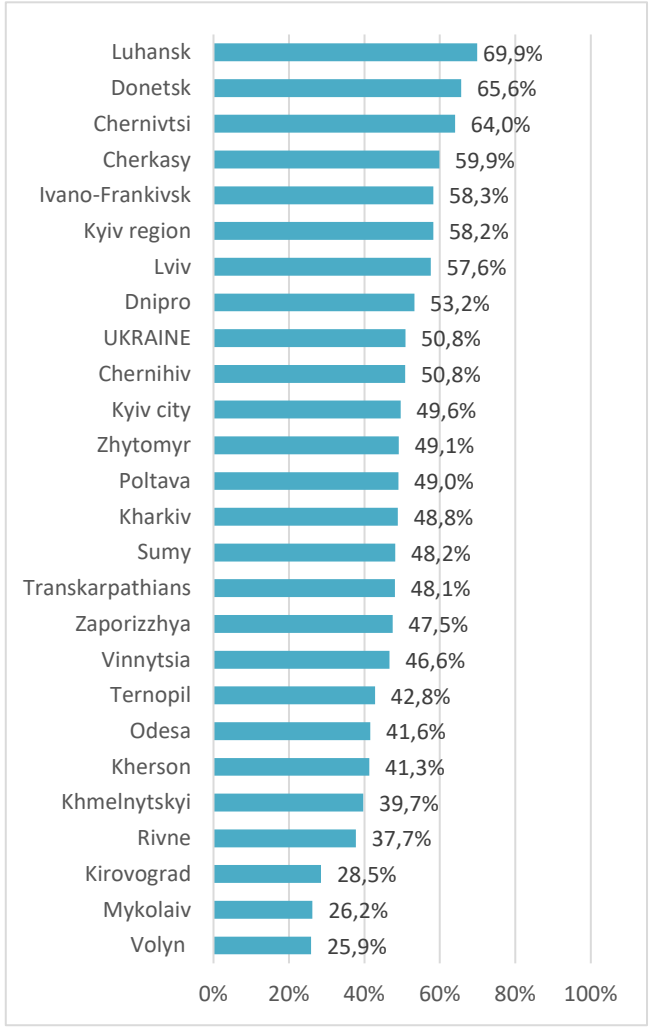

Fig. 4.12. Had diagnostic procedure within the past 12 months: distribution by regions *(among all respondents)*

Table 4.4. Laboratory tests and diagnostic procedure and expenditures for those over the past 12 months

Type of the service	**Share of respondents who used it, %**	**Of those share of payers, %**	**Type of the institution, %**	**Amounts paid, UAH**
Laboratory tests	67,6	47,3	public 85,5 private 14,5	mean 245 median 60
Had diagnostic procedure	50,8	53,6	public 81,8 private 18,2	mean 327 median 18

Among those who had had the diagnostic workup over the last year (50.8%), almost 54% paid for it 327 UAH (mean).

Among outpatient care users more women than men (69% vs. 65%) have had laboratory tests over the last year, and slightly more men than women have had a diagnostic procedure (53% vs. 49%). By age, people aged 59 and over (69-71% vs. 63% among people aged 60 and over) have had

tests more often, and those aged 45-59 (54% vs. 49-51% among other age groups) had diagnostic procedure. The share of those who had the tests and those who underwent diagnosis was higher among the urban residents and gradually increased with an increase in the level of education of respondents. There was no linear relation found with income.

Private institutions for laboratory and diagnostic services were more often used by young people, urban residents, respondents with higher education and higher income, as well as slightly more often by women than men.

4.5. Financial Burden

53% of the respondents who paid for outpatient care and / or laboratory and diagnostic services said that it was difficult for them to find funds to cover all costs, and 46% even borrowed money for this. However, both the share of those who paid for any component of outpatient care (63% in 2016 and 58% in 2017) and the share of those who paid for it (67% in 2016 and 53% in 2017) decreased in 2017 compared to 2016. The share of those who borrowed money for payment increased from 37% in 2016 to 46% in 2017.

One in five respondents told about having refused (19%) or deferred (19%) treatment due to lack of funds at least once in the last year.

According to the perception of respondents, the availability of outpatient care by family doctors / district physicians and subspecialists has changed the least in Donetsk Oblast (87% and 89% of respondents, respectively, responded "did not change", and the affordability of outpatient care has worsened the most in Mykolayiv and Kharkiv Oblasts and the city of Kyiv) (***Fig. 4.13, Fig. 4.14***). According to the respondents' perceptions, the financial affordability of outpatient care has improved the most in Ivano-Frankivsk (10% — provided by family doctors / district physicians and 6% by subspecialists) and Lviv (by 6%) Oblasts.

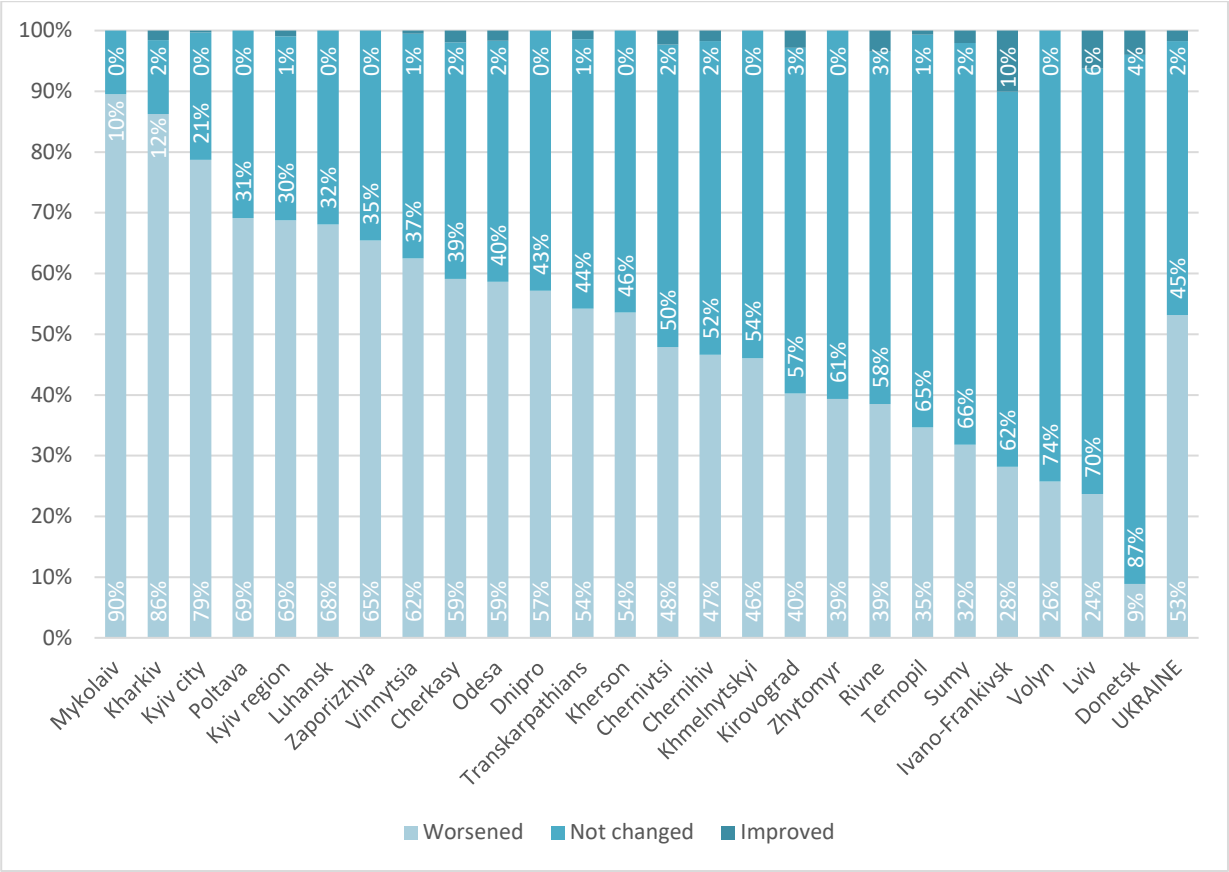

Fig. 4.13. Perception of changes in financial affordability of medical care provided by family doctors and district physicians

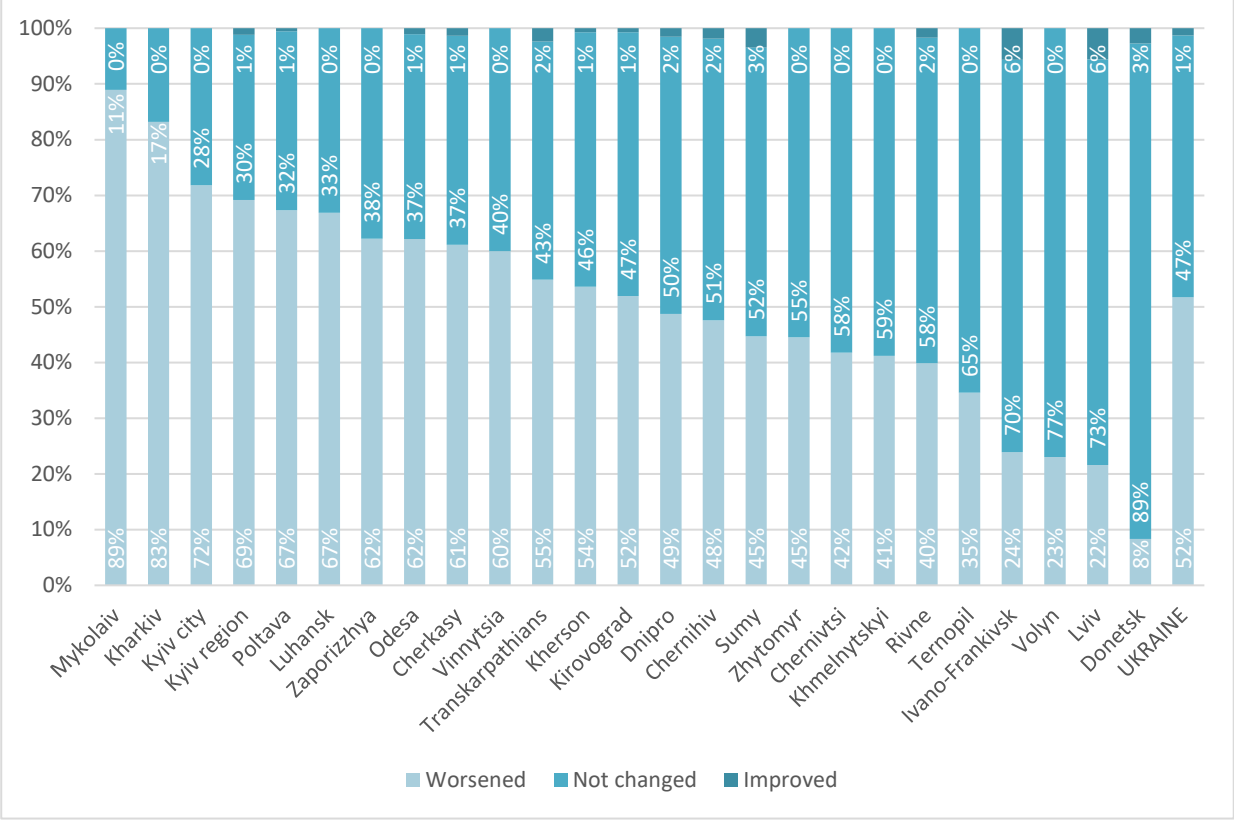

Fig. 4.14. Perception of changes in financial affordability of medical care, provided by subspecialists in polyclinic

Despite the fact that respondents mostly did not notice an increase in the financial affordability of out-patient care, the share of those who have not visited a doctor over the last 12 months when ill due to lack of money decreased one and a half times — from 39% to 28% in 2017, compared with 2016 (***Fig. 4.15***), with the largest decrease - by 2, 1 times (from 44% in 2016 to 21% in 2017) in the Mykolayiv Oblast.

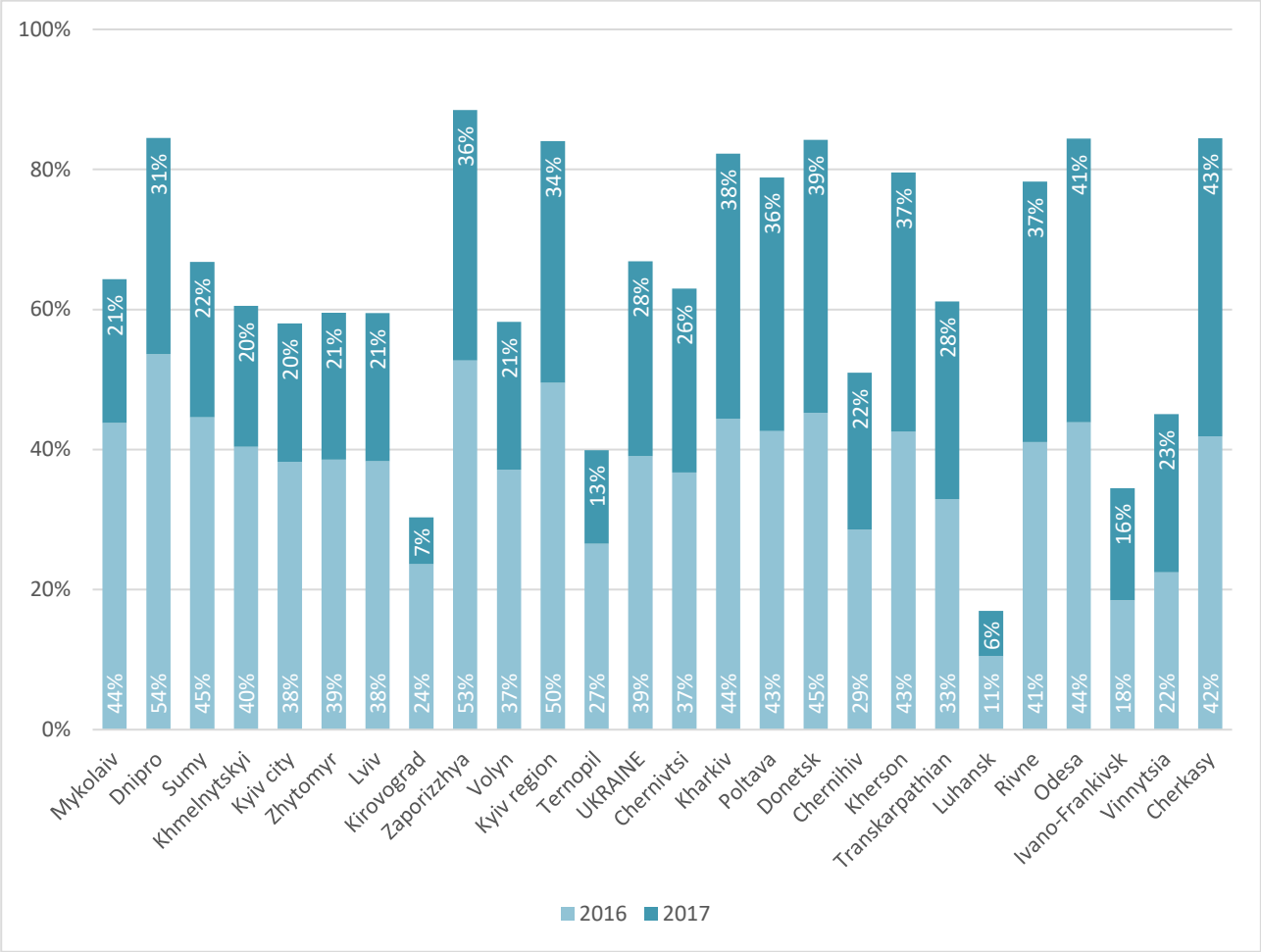

Fig. 4.15. How many times have you been ill over the last 12 months, but did not visit the doctor at all due to the lack of money? *(among all respondents)*: the years 2016 and 2017 *Sorted by the size of changes*

4.6. Assessment the Aspects of Outpatient Care Received

As in 2016, outpatient care consumers were offered to rate some of its aspects (***Fig. 4.16***).

Such aspects as the courtesy of doctors in communicating with patients and their families (almost 64% rated this aspect as "good" / "very good", in 2016 this figure was 54%), as well as the clarity of medical explanations for patients (58.8% versus 50% respectively) got the highest rating. The possibility of obtaining the necessary diagnostic examinations, laboratory tests and treatment procedures free of charge was rated the lowest (almost 21% of respondents rated it positively (19% in 2016). Overall, outpatient care was positively rated by 35% of respondents, which is 2 % less than in 2016.

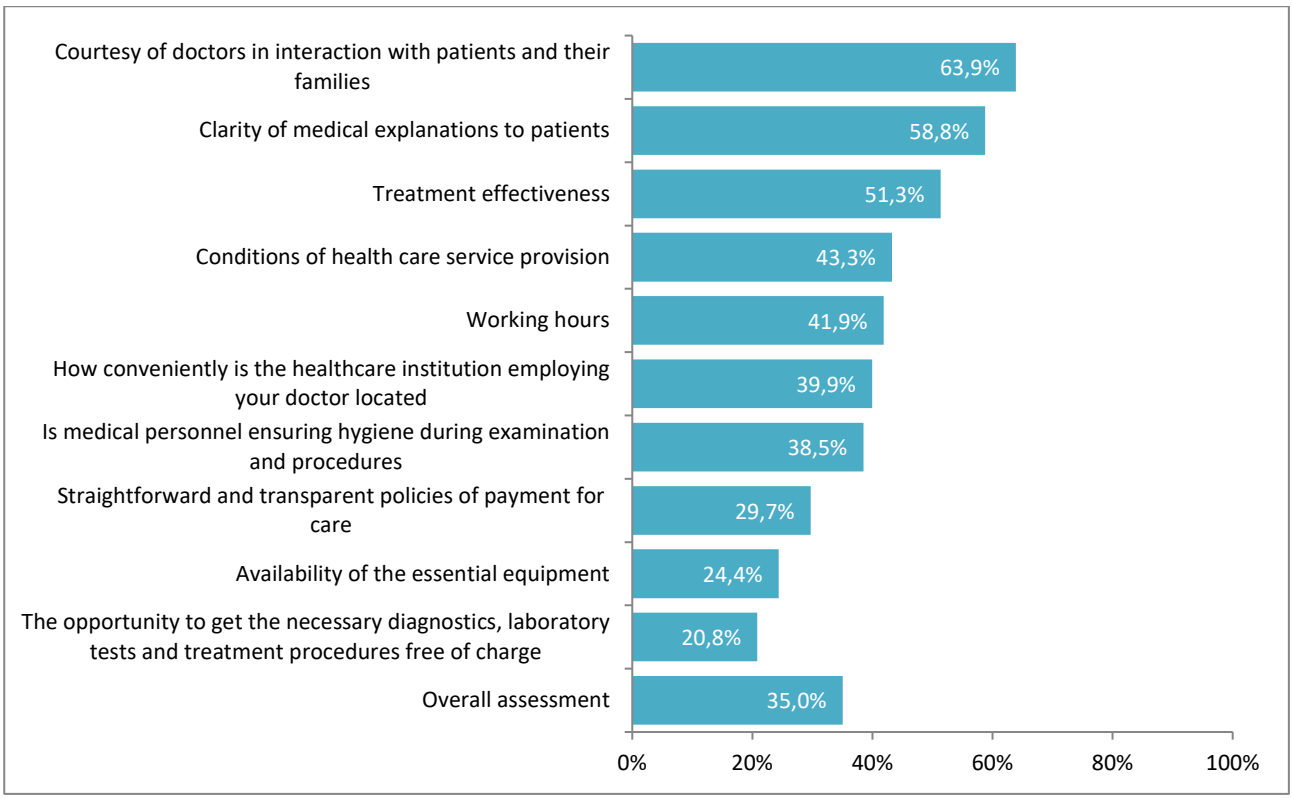

Fig. 4.16. Assessment of different aspects of out-patient care provision as "good" or "very good".

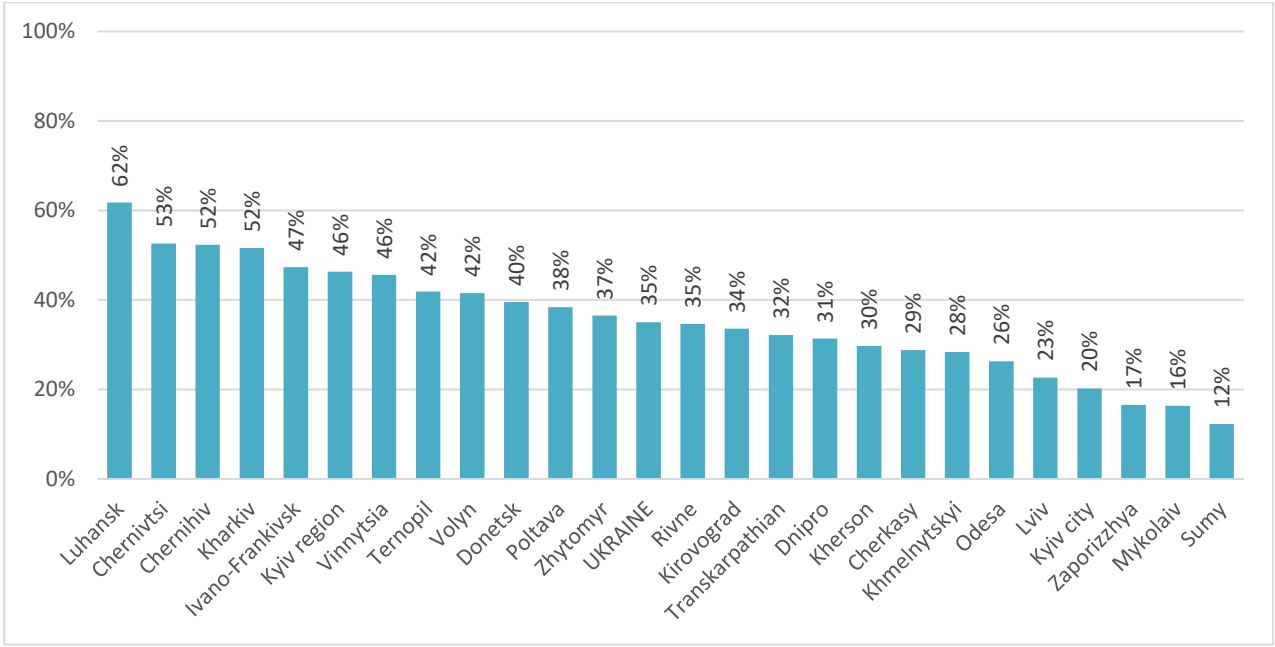

Fig. 4.17. Overall assessment of out-patient care provision as "good" or "very good": distribution by regions

Table 4.5. Assessment of different aspects of out-patient care provision as “good” or “very good”: distribution by regions, %

Region	Effectiveness of treatment	Courtesy of doctors in interaction with patients and their families	Clarity of medical explanations to the patient	Convenient geographical location of the healthcare institution	Setting in which medical care is provided	Working hours	Possibility of getting diagnostic evaluation needed free of charge	Clarity and transparency of payment for the service	Observance of hygiene by the medical personnel during examination and	Availability of the necessary equipment	Overall rating of outpatient care provision
Ukraine	**51**	**64**	**59**	**40**	**43**	**42**	**21**	**30**	**38**	**24**	**35**
Vinnytsia	57	74	72	32	50	44	26	40	51	26	46
Volyn	31	73	60	53	51	39	19	36	45	21	42
Dnipropetrovsk	51	64	63	51	42	38	25	33	48	27	31
Donetsk	63	65	57	47	47	43	23	26	40	27	40
Zhytomyr	48	59	49	51	46	59	20	27	22	26	37
Transcarpathian	59	59	56	35	38	38	14	41	40	21	32
Zaporizzhya	32	33	31	10	13	20	21	13	14	11	17
Ivano-Frankivsk	58	76	69	48	48	52	22	32	57	28	47
Kyiv	62	76	72	39	60	63	10	22	32	22	46
Kirovograd	31	71	62	38	40	43	14	48	42	23	34
Luhansk	67	78	73	35	43	36	32	58	69	31	62
Lviv	60	54	56	49	41	37	26	18	31	19	23
Mykolayiv	21	37	30	12	28	15	9	5	24	11	16
Odesa	39	56	51	27	37	38	15	30	38	23	26
Poltava	48	62	55	40	45	52	33	42	42	14	38
Rivne	50	53	46	39	37	40	28	27	31	23	35
Sumy	21	22	19	19	13	21	6	14	17	12	12
Ternopil	74	78	75	51	53	47	31	48	38	28	42
Kharkiv	73	96	88	53	56	67	23	43	42	55	52
Kherson	49	64	53	36	51	38	10	18	48	18	30
Khmelnitsky	42	42	29	26	32	30	25	19	36	31	28
Cherkassy	40	52	50	43	36	32	11	18	39	23	29
Chernivtsy	63	79	74	67	70	73	46	50	61	32	53
Chernihiv	71	89	83	51	68	59	26	35	59	28	52
Kyiv city	36	62	57	31	36	25	9	23	22	16	20

The residents of Luhansk (62%), Chernivtsy (53%) and Chernihiv (52%) positively assessed the provision of outpatient care while the residents of the Sumy (12%), Mykolayiv (16%) and Zaporizzhya (17%) Oblasts, as well as the city of Kyiv (20%) assessed it the worst (see. ***Fig. 4.17, Table. 4.5***).

According to the respondents' evaluation, the most important aspects of providing outpatient care are the effectiveness of treatment (85.3% of respondents consider it the most important aspect, which is almost 25% more than in 2016) and the possibility to obtain the necessary diagnostic workup, laboratory tests and treatment procedures free of charge (they were named as important in 2017 by 44.1% of respondents, whereas in 2016 - by 50%) (***Fig. 4.18***).

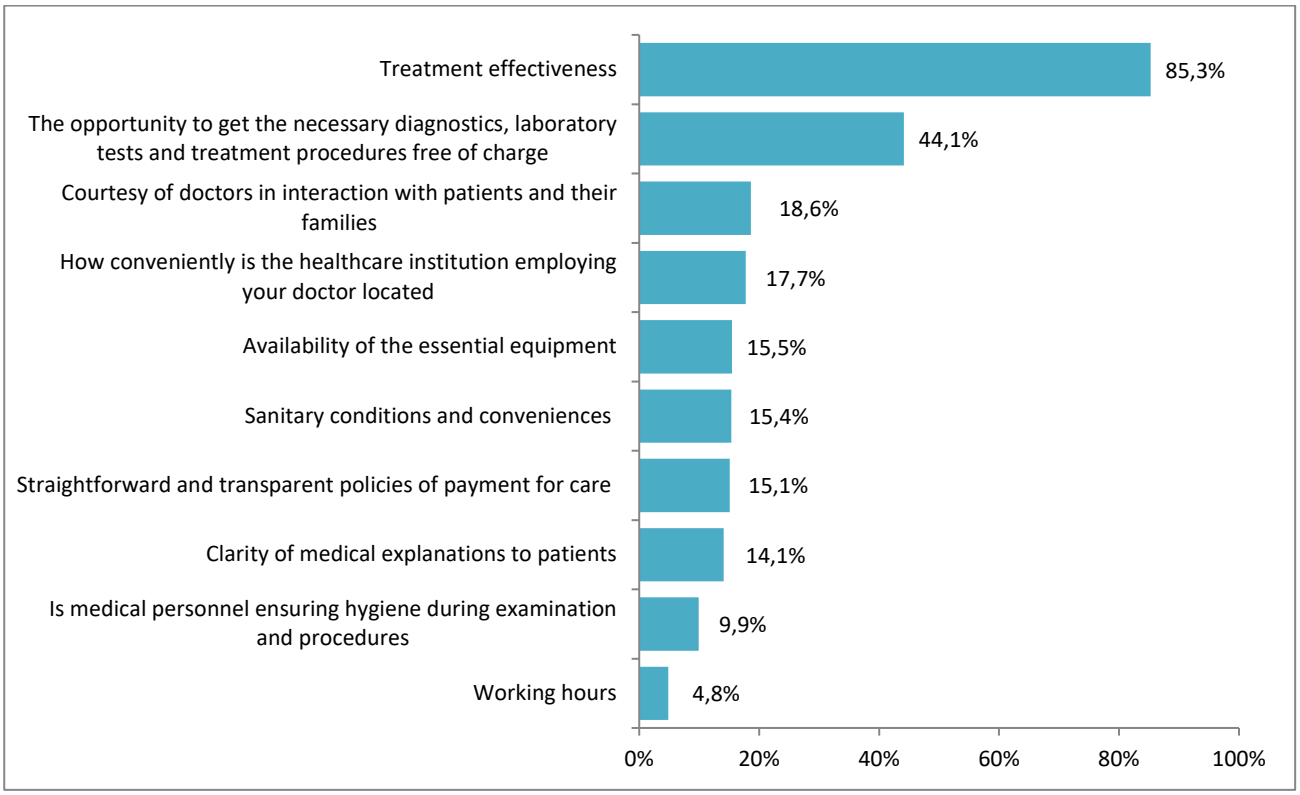

Fig. 4.18. The most important aspects of out-patient care provision

So, the study of satisfaction with outpatient care in 2017, although it is largely in line with the figures for 2016, shows some trends:

- the tendency of inefficient use of the network of institutions remains, with a bias towards subspecialists;
- an extremely small percentage of outpatient care is received through "care path", that is, permanently;
- the number of respondents who choose a medical institution or physician according to the territorial/catchment area principle is growing;
- the need for FMSs persists and in certain regions it even increases.

There remain a high percentage of a fee-for-service (both official and unofficial) services on the outpatient level, especially in the diagnostic sector.

Section 5
INPATIENT CARE

Author:

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Section Summary

- 15.4% of all respondents interviewed (N = 1,558) had cases of hospital admission in the preceding 12 months.
- 44.2% of inpatient care patients noted that they had been referred to the hospital by the doctor.
- 59.6% of consumers of inpatient care stressed that they paid out-of-pocket: every third respondent - to a charity fund or other organization account, among them - 66.9% on request; every fourth - to the cash office of the institution in accordance with the approved tariffs. 24.4% paid informally, 54.6% among them - on request.
- The average total cost of admission to the hospital amounted to a total of 2,468.72 UAH (standard error - 303.15 UAH, median - 250 UAH).
- The total costs of hospital stay for the past 30 days amounted to 52.5% of their household income, which is considered to be financial burden for such patients.
- Every fourth respondent has experience of refusing hospital admission due to lack of funds.
- 57% of respondents indicated that they were either completely satisfied or rather satisfied with the provision of inpatient care.

The organization and financing of in-patient medical care deserves attention due to internal and external changes in the system: the demand for medical services (changed needs of the population in such services); resources (new medical technologies and knowledge); requirements and restrictions caused by the socio-economic situation (population aging and migration processes in particular). These changes become particularly important in the course of the national health system reform. The requirements and expectations of healthcare users are changing as well.

Despite the changes taking place in all health systems, the in-patient sector on the whole remains the most resource-consuming [33, 34, 35, 36]. The hospital sector accounts for a significant share of health care expenditures (for example, in Romania, Bulgaria, Poland, Austria, France and Italy the in-patient sector accounts for one-third of the total health expenditure, and in Greece - 41%, including daytime care in the hospitals). Hospitals employ almost 50% of all doctors and ¾ of nurses. Due to technological innovations and the development of medicine the cost of this type of care increases.

The issues of strategic planning of resources, quality and safety of medical care, the need to curb cost growth, the need to improve the organization of provision of inpatient care depending on the intensity of the treatment and diagnosis process, reducing unreasonable admissions and terms of hospital stay in treatment require particular attention [37].

In 2016, inpatient care was provided to the population in 1,509 institutions with a bed capacity of more than 290 thousand beds [38, 39]. The number of institutions and bed capacity still remains quite significant, although the network has decreased by 40% over the past 5-7 years. This is due to the

[33] Hospitals in a changing Europe/ Edited by Martin Mckee & Judith Healy/Published by Open University Press European Observatory on Health Care Systems series. 2002, 295 p.
[34] Linda H Aiken, Koen Van den Heedeat all Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States BMJ 2012; 344 doi: https://doi.org/10.1136/bmj.e1717 (Published 20 March 2012).
[35] Ministerial Statement The next generation of health reforms OECD Health Ministerial Meeting 17 January 2017. / http://www.oecd.org/health/ministerial/ministerial-statement-2017.
[36] Priti Prasad Shah In patient satisfaction survey- how does it help our health care delivery system (the patient, the health care giver and the organization)? International Surgery Journal Shah PP. Int Surg J. 2017 Oct;4(10):3280-3287 DOI: http://dx.doi.org/10.18203/2349-2902.isj20174140.
[37] OECD (2017), Health at a Glance 2017: OECD Indicators, OECD Publishing, Paris.http://dx.doi.org/10.1787/health_glance-2017-en.
[38] Data of the Medical Statistics Center, MOH, Ukraine
[39] MOH, Ukraine System

reorganization of the network, mainly at the expense of district and low-capacity city hospitals, the further development of primary care, the use of hospital replacement technologies.

The number of hospital beds in Ukraine is 7.4 per 1000 population (for comparison in the OECD member countries [40] — an average of 4.7 per 1000 population, but it remains particularly high in Japan (13.2) and Korea (11.5) [41].

During 2016, 8.5 million people were admitted to hospitals, who stayed in treatment for an average of 10.8 days (including the average hospital stay of a patient in the CRH - 9.4, in the city hospitals - 10.1 days) (OECD -35 countries - 7.8 days). The admission rate was 20.2 persons per 100 inhabitants (OECD-35 countries - 15.6 per 100 inhabitants [42]).

Given the Ukrainian context, the availability and dissemination of information on the organization and financing of medical care, the study of experiences and thoughts of people are extremely important. Moreover, such a survey of households, as well as patients, will help to attract people to improve the organization and management of inpatient care.

This section presents the analysis of individual indicators that address the key characteristics of providing inpatient care to the adult population of Ukraine. These surveys provide an opportunity to assess the needs of people in in-patient care, the level of access to health services, their quality, and satisfaction with their provision.

5.1. Seeking Inpatient Care

According to the results of the survey, 15.4% (N = 1558) of respondents aged 18 years and older reported having admissions to the hospital within the preceding 12 months to the survey, that is, almost every sixth respondent received in-patient care [43].

16.5% of women reported cases of admission to the hospital versus 14.1% of men (***Figure 5.1***). The largest share of respondents who were admitted was recorded among persons aged 60 and older (19.9% respectively), and the lowest among those aged 18-29 (12.6%). According to the survey, there were no significant differences between residents of urban and rural areas (15.3% and 15.7% respectively).

People with a level of income of 1000-2000 UAH (17.9% of people with incomes up to 1000 UAH, 17.6% - 1001-1500 UAH, 17.5% - 1501-2000 UAH) have used the in-patient care the most, although there were no significant differences recorded between groups with different financial means (the maximum gap between indicators is up to 4,0%).

As to the regional specifics, the smallest percentage of those who reported admission to the hospital was recorded among residents of Luhansk (5.8%), Transcarpathian (10.7%), Volyn (11.8%), Sumy (12.1%), Khmelnitsky (12.6%) and Vinnytsia (12.8%) Oblasts; the highest - in Cherkasy (25.9%, or almost every fourth respondent), Kyiv (20.8%), Dnipropetrovsk (19.6%), and Zhytomyr and Kirovograd (19.1% and 19.0% respectively) Oblasts (***Fig. 5.2***).

[40] OECD- Organization of Economic Cooperation and Development
[41] Ibid. OECD (2017), HealthataGlance 2017: OECD Indicators, OECDPublishing, Paris. 2017. P. 30.
[42] Data as of 2015.
[43] Day treatment and hospital stay with the child are not included.

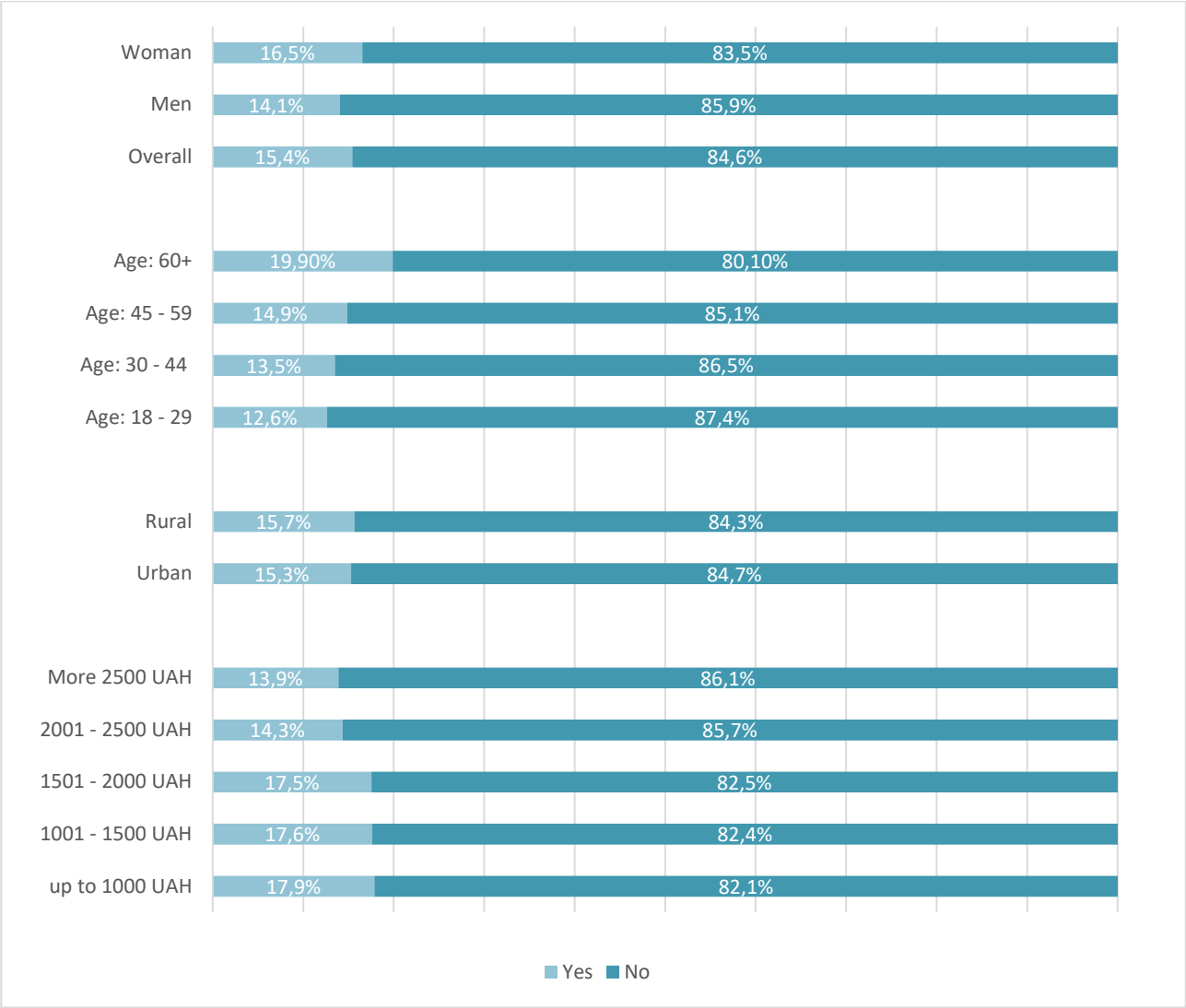


Fig. 5.1. Use of the in-patient medical care: distribution by gender, age, place of residence and per capita level of income

Among those who had experience of hospital admission over the last year, 85.1% of respondents indicated one case of admission during the last 12 months, 10.6% - were admitted two times, almost 5% - had three or more cases. There are no significant differences in the number of admissions by age and type of locality. However, 17.3% of respondents aged 60 and older indicated that they had been admitted two or more times. This can be explained by the accumulation of chronic pathology and the multiple morbidities in older people. Frequent exacerbations and complications that develop in connection with illnesses also form the corresponding needs for medical care, including medical, social and long-term care. A similar situation is typical for people with income levels up to UAH 1,000 (20.7% of respondents had two or more hospitalizations, which may indicate a significant burden of illness, including the chronic ones, among this population, who require in-patient care, as well as the provision of medical and social services.

According to the survey, the average length of stay of the patient in the hospital was 14.8 nights (the median value of this indicator for all groups of respondents - 10 days, which in general corresponds to the data of official statistics of stay in the secondary level hospitals); the range of fluctuations - 34.4% (up to 7 days) ÷ 42.9% (14 days), while almost every fifth respondent stayed in a hospital for more than two weeks.

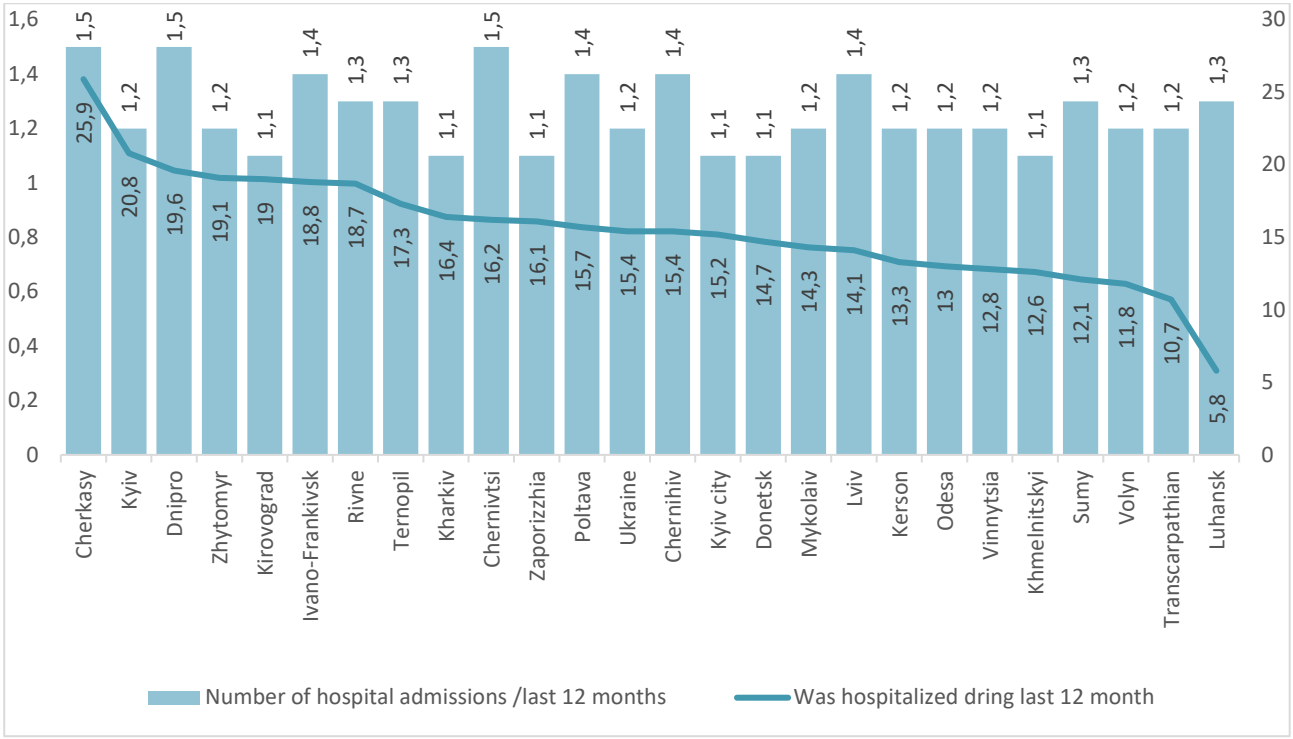


Fig. 5.2. Share of respondents admitted within the past 12 months, and the mean number of admissions: distribution by regions

There are some differences in terms of stay in treatment. For instance, women spent 13.6 nights in the hospital, men - 16.5, while 42.9% of the latter indicated their length of stay in the hospital in the range of 1 to 2 weeks. As for the type of settlements, there were no significant fluctuations in the value of the indicators. It should be noted that this indicator varies considerably among groups with different levels of income. Thus, the highest indicator of the number of nights spent in the hospital was recorded among respondents with income levels up to UAH 1,000 (16.7 nights) and UAH 1,501-2,000 (17.4 nights).

Regarding the length of stay in a hospital, almost every second respondent with income levels of 1001-1500 UAH, 1501-2000, and over 2500 UAH were treated as in-patients from one to two weeks (46.5%, 45.5%, 42.6%, respectively) (***Table 5.1***).

Table 5.1. Length of hospital care for the past 12 months (among the in-patients): distribution by gender, age, place of residence and per capita level of households' income

		Respondents, % / *N*	Length of hospital stay		
			Up to 1 week	From 1 to 2 weeks	More than 2 weeks
Overall		**%**	**34.4**	**42.9**	**22.7**
		N	**529**	**714**	**354**
GENDER	male	%	29.5	47.3	23.2
		N	136	252	116
	female	%	37.8	39.9	22.3
		N	393	462	238
AGE GROUP	18–29 years	**%**	53.3	27.9	18.8
		N	106	48	34
	30–44 years	%	44.6	36.4	19.0
		N	140	120	59
	45–59 years	%	27.7	48.4	23.9
		N	130	210	102
	60 years and older	%	22.9	50.9	26.3
		N	153	336	159
TYPE OF RESIDENCE	urban	%	33.3	43.6	23.1
		N	307	462	220
	rural	%	36.6	41.5	21.8
		N	222	252	134
PER CAPITA INCOME OF A HOUSEHOLD	Up to 1000 UAH	%	38.3	34.3	27.5
		N	81	73	54
	1001–1500 UAH	%	32.3	46.5	21.2
		N	122	196	93
	1501–2000 UAH	%	27.6	45.5	26.9
		N	79	138	70
	2001–2500 UAH	%	44.2	37.7	18.0
		N	47	45	18
		%	34.4	42.6	23.0
		N	55	76	40

31.2% of the respondents indicated that the reason for their last admission to the hospital was respiratory diseases, 23.6% - diseases of the circulatory system. This, in general corresponds to the pattern of the primary morbidity of the population of the country[44]. The last admission was also associated with diseases of the musculoskeletal system and connective tissue (7.2%), injuries, poisonings and some other consequences of external causes (5.5%), diseases of the genito-urinary, endocrine systems and digestive organs (5.0%, 4.7%, 4.7%, respectively) (***Table 5.2***).

Table 5.2. Reasons for the last admission: overall, among all respondents

Region	Ukraine	
	%	*N*
Diagnosis not established	9.1	304
Circulatory system diseases	23.6	963
Diseases of the respiratory organs	31.2	1,006
Pregnancy, childbirth and postpartum period	1.0	22
Diseases of the musculo-skeletal system and connective tissue	7.2	250

[44] Annual report on the population health status, sanitary-epidemiological siatuation and results of the health care syste of Ukraine operations. 2016/MOH, Ukraine, SI "UISS, OH, Ukraine". Kyiv, 2017, P.40

Injuries, poisonings and other consequences of the effect of external causes	5.5	166
Diseases of the genito-urinary system	5.0	186
Neoplasms	0.9	34
Endocrine system diseases	4.7	178
Nervous system diseases	1.6	58
Diseases of eye and its appendages	2.0	65
Certain infectious and parasitic diseases	0.7	26
Diseases of skin and subcutaneous tissue	1.6	48
Ear and mastoid process diseases	0.8	25
Mental and behavioral disorders	0.2	8
Diseases of blood and hemopoietic organs	0.1	5
Diseases of the digestive organs	4.7	155
Overall	100.0	3,499
No answer	*9.1*	*360*

18.7% of men and 26.4% of women indicated the circulatory system diseases as the reason for the last hospitalization. There are in fact no differences in the respiratory diseases among men and women (31.6% of men and 30.9% of women indicated as the reason for hospitalization). Unlike women, men were hospitalized for the treatment of diseases of the musculo-skeletal system and connective tissue (9.0% vs. 6.2%), injuries, poisoning and other external causes (9.1% vs. 3.4%), diseases of the digestive system (6.7% vs. 3.6%). On the contrary, the reasons for the hospitalization of women were, in addition to those already mentioned, diseases of the urogenital system (5.8% of women and 3.8% of men), as well as the endocrine system (5.2% of women and 3.9% of men, respectively). The fact that the diagnosis was not established during the last hospitalization, which according to the survey data was reported by 9.1% of respondents, raises concern. This issue needs further study and clarification. Perhaps this is due to late hospitalization, a severe condition of the patient, incomplete examination, and the presence of severe comorbidity, an atypical course of the disease or gaps in the provision of medical care.

Unlike urban residents, respondents living in rural areas indicated that circulatory system diseases had been the main cause of their recent admission to the hospital (27.9% vs. 21.8%).

In the respondents aged 60 years and older, the diseases of the circulatory system (43.4%) became the prevalent cause of admission. This situation can be associated with the recent trends in the pattern of the prevalence of diseases among older age groups. In particular, the distribution of ranked places remained unchanged: blood circulation system diseases occupy the first place of the (50.3%), - diseases of the digestive system - the second (10.10%), diseases of the respiratory organs - the third (8.25%), diseases of the musculo-skeletal system and connective tissue - the fourth (6,07%), diseases of the eye and its appendages - the fifth (5,02%)[45]. In addition, 15.5% of those surveyed in this age group reported hospital admission for respiratory diseases, 8.5% - for those of the endocrine system, 7.1% - for the musculo-skeletal system and connective tissue diseases. Respondents in the age group of 18-29 years indicated respiratory (48.1%) and genitourinary system diseases (7.8%), pregnancy, childbirth and the postpartum period (3.9%) as the main causes of their admission. The following causes of hospital admission were characteristic for persons aged 30-44: 43.3% - respiratory diseases, 8.6% - injuries, poisoning and other external causes, 7.6% diseases of the digestive system, 5.7% - diseases of the genitourinary systems, 5.2% - diseases of the musculo-

[45] Annual report on the health status of population, sanitary-epidemiological situation and the results of Ukrainian healthcasre syste operations . 2016 / MOH Ukraine, SE «UISS MOH Ukraine». Kyiv, 2017. p. 85.

skeletal system and connective tissue. In the age group of 45-59 years, the main causes of admission were distributed as follows: respiratory diseases (29%), diseases of the circulatory system (23.3%), of the musculo-skeletal system and connective tissue (11.6%), trauma, poisoning and other external causes (6.5%), diseases of the genitourinary and endocrine systems (4.8%), and of the digestive organs (3.1%). There were no significant differences in terms of income.

Due to the small size of respondents'- inpatients per region (up to 100 people), the survey data on the causes of hospital admission for certain categories of diseases are not comparable. Significant changes in the increase of inpatient care services utilization in recent years have not been revealed: the share of respondents reporting hospital admissions was 15.4% versus 14.9% in 2016. However, the average number of admissions in the last 12 months has changed: the share of respondents who indicated that they had one admission increased by 7%.

Changes both in the organization and in the provision of medical care (for example, the use of clinically more effective diagnostic and treatment technologies and medicines, the level of qualifications of the personnel) were noted by every second respondent as a factor of satisfaction.

5.2. Choice of In-patient Care Provider

73% of the respondents were admitted to the city hospital or central hospital of the district (rayon) (CRH). Everyone in five respondents was treated in Oblast hospitals, almost 3% - at the national level institutions, 2.5% and 3.7% of those - at private and departmental institutions, respectively.

Residents of Luhansk (98.3%), Ivano-Frankivsk (88.9%), Volyn (85.1%), and Sumy (82.3%) Oblasts noted that they were mostly admitted to the city hospitals and CRH. Every one of five respondents from Odesa (22.6%), Dnipropetrovsk (20.9%), Kirovograd (20.6%), Kherson (20.4%), Zhytomyr (20.1%), Chernihiv (19%) and every fourth from Chernivtsy (27.5%), Vinnytsia (26.7%), and Transcarpathian (26.6%) regions indicated admission to Oblast hospitals. Almost every third respondent from Mykolayiv and Ternopil Oblasts was also admitted to the regional hospitals [46].

Respondents living in urban areas were mostly admitted to city hospitals (73.2%); 7% also reported treatment in departmental and private institutions (4.3%, 2.9%, respectively). The rural residents were mostly admitted to CRH (72.7%), every fifth respondent indicated admission to the regional hospital. This is explained by the principles of the organization of provision of inpatient medical care in Ukraine, the existing network of institutions providing such care, as well as the preferences and habits of its consumers, the geographical accessibility of such institutions

59.1% of respondents were referred for admission to the hospital by physicians who are engaged in providing primary or specialized out-patient care and are associated with their own preferences and habits. One in five was brought to the hospital by EMC crews.

It was also found that factors such as the convenience of its location (9.5% of respondents), the availability of necessary equipment (8.3%), the competence of medical personnel (6.8%), and recommendations of the doctor one knows or acquaintances were also important (6.6%) (***Table 5.3***).

Table 5.3. Reasons for choosing a healthcare institution for in-patient treatment

	%	*N*
Doctor's referral (do not choose); my family members and myself always get in-patient treatment there	59.1	1,014
Building/institution is in good shape	1.0	16
The needed equipment is available there	8.3	121
Location	9.5	152

[46] The question was put to those admitted to the hospital within the past 12 months.

Doctor is always present	1.8	37
Friendly medical personnel	2.7	46
Medicines are available	0.6	8
Fee-for-service is affordable or low	1.5	22
Waiting time is short (availability of places)	1.9	25
Medical personnel is competent	6.8	100
This is a private healthcare institution where the quality of medical care is better	2.4	34
Was brought here by the ambulance	20.5	301
Was referred by the insurance company	0.6	9
I know the doctor/this doctor was recommended	6.6	111
Other	1.8	32

44.2% of respondents indicated that they had been admitted to the hospital having the doctor's referral; 27.1% - were brought to the hospital by an emergency care (ambulance) crew; 17% - self-referred for the hospital admission; 11.4% - were admitted for the elective treatment (***Fig. 5.3***). No significant differences in gender, age, type of locality and income levels were found.

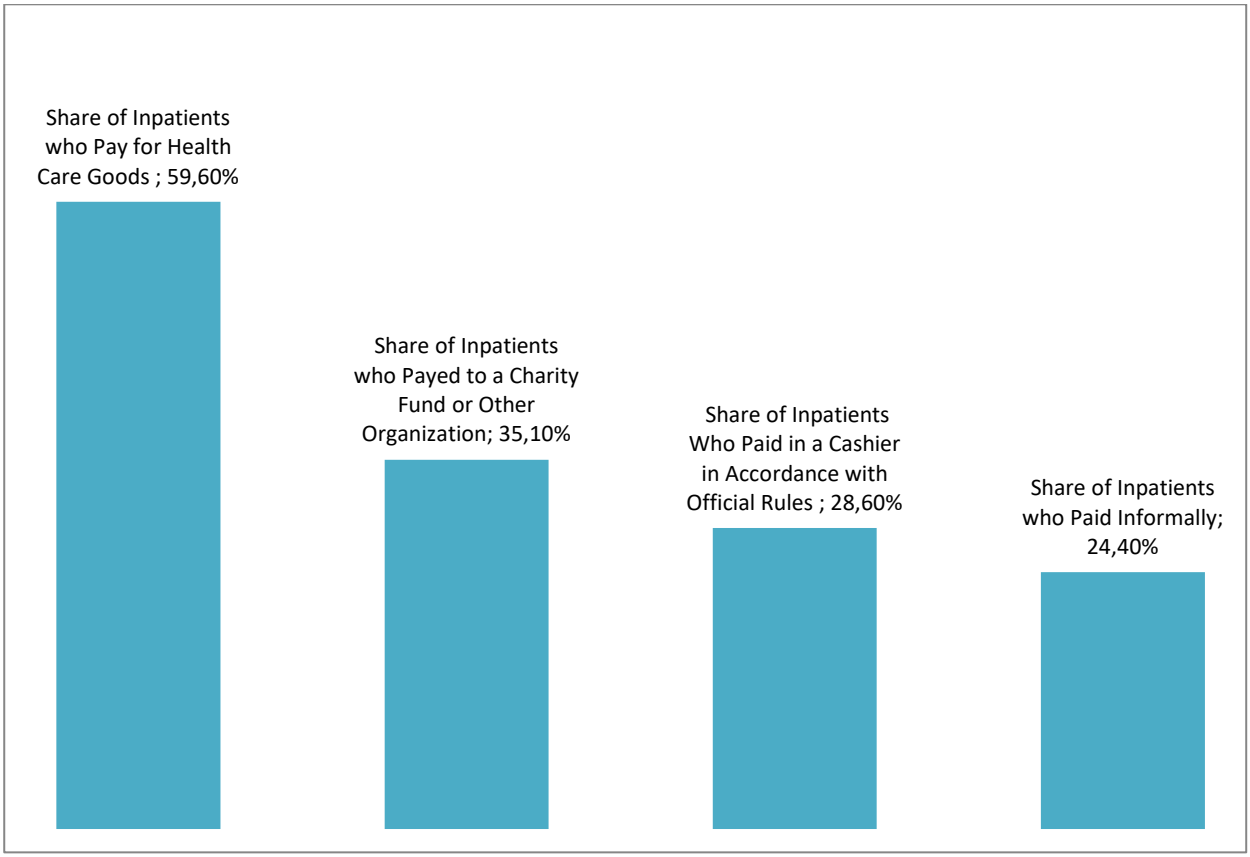


Fig. 5.3. Share of in-patient care users who have the experience of paying for care and medical commodities

The waiting time for a doctor's examination in case of hospital admission is a certain reflection of the actual situation in the organization of in-patient care provision and ensuring the implementation of the order of hospital admission, especially in urgent cases where the patient needs urgent treatment (trauma, poisoning, acute conditions, exacerbation of chronic diseases) or surgical intervention. On

average respondents when admitted to the hospital waited 47.9 ± 4.7 minutes (median - 15 minutes, maximum value - 2400 minutes, or 40 hours) to be examined by the doctor for the first time.

A significant fluctuation in the value of this indicator has been recorded among various population groups that participated in this study. Thus, persons aged 60 years and older, as well as those with income levels of 1501-2000 UAH have waited for the doctor's exam 40.3 ± 7.0 min. and 32.4 ± 5.5 min. respectively, which may have been due to their condition at the time of admission. The longest waiting time was recorded in the age group of 18-29 years (61.9 ± 12.5 min), rural residents (57 ± 9.1 min), with the income level of more than 2500 UAH (73.7 ± 19.3 min).

As for the differences in the regional context: the longest waiting time for a doctor's exam during admission to the hospital was recorded in Volyn (mean - 178 minutes, median - 30 minutes), Kherson (133.1 min and 15 min. respectively), Sumy (106.6 min, 30 min) and Kyiv (89.0 min, 30 min), the shortest - in Kharkiv (9.8 min, 5 min), Donetsk (14.7 min, 15 min), Luhansk (14.8 min, 15 min), with an average value in the whole of Ukraine being at 47.9 min (median - 15 min).

When delivered to the hospital by an emergency care crew the respondents have waited for the first medical exam for 42.7 min (median - 10 min), in admission related to surgical intervention - for 42.5 min (median - 15 min). At childbirth, the waiting time was 41.5 min (median - 10 min), and in the case of admission related to pregnancy (not including deliveries) - 21 min (median - 15 min[47]). The longest waiting time for the first medical exam was in the city hospitals / CRH and RI clinics (51.4 min and 50.4 min respectively). The waiting time in private institutions[48] was 25 min.

Compared with the results of the previous year, the median values of the waiting time for the first medical exam in the hospital remained unchanged - 10-15 minutes, depending on the causes of hospital admission. However, the analysis of averages indicates its growth by almost 10 minutes (2017 - 47.9 minutes, 2016 - 37 minutes), especially for those respondents who needed a surgical intervention (+5 minutes) or were delivered to the hospital by EMS crew (+5.6 min).

The increase in waiting time for the first medical exam by 16-20 minutes on average is recorded in all types of providers (city hospital or CRH - 15.6 minutes; clinics and institutions of the national level - 20 minutes; private institutions - 18 minutes).

In the course of comparing the results of the 2017 and 2016 surveys, there were no special differences regarding the methods of referral for the last hospital admission found: as for the pattern of referrals, as in the previous study, almost every second respondent was referred for the hospital admission by the primary care physician or outpatient clinic/policlinic (44,2% in 2017, 48,5 % in 2016, respectively), with almost 5% increase in the Share of respondents who were admitted on the elective basis (11.4% in 2017 and 6.6 % in 2016).

Regarding the choice of health care providers, it should be noted that the Share of respondents who chose a private institution to provide in-patient care increased by 1% (2.5% vs. 1.1%). Also, 3.6% more respondents informed that they were brought to the hospital by an ambulance.

5.3. **Out-of-pocket Payment For Hospital Treatment**

Every third respondent (N = 485) among those who have been admitted within the past 12 months, indicated having paid to the account of the charity fund or another organization (including 66.9% made on request), 28.6% (N = 372) paid at the cash desk in accordance with the approved tariffs, 24.4% (N = 288) paid informally (including 54.6% - on request).

The percentage of men who were required to pay for services to a charity fund or other organization account somewhat exceeded a similar figure among women (as indicated by 70.0% of men and 64.7% of women). Similarly, this was the case with the request to pay informally (57.6% of men and 52.6% of women, respectively), although the percentage of respondents who paid "out-of-pocket" was higher in female respondents. In particular, 36.1% of women and 33.7% of men

[47] Questionnaire questions B3.1–B3.24.
[48] Questionnaire questions B3.7, B3.5.

have paid to charity fund when admitted as an in-patient during the past 12 months; 25.9% of women and 22.5 men paid informally.

The problem of patients' paying medical supplies remains quite serious, which was emphasized by 59.6% of inpatients (N = 731) (***Figure 5.3***). Survey data indicate significant drug costs. Compared with the results of the study on the availability of public health services, medicines and medical products (State Statistics Service, October 2016) 93% of those on in-patient treatment took medications to the hospital[49]. Perhaps the difference in percentage can be explained by the wording of the question ("took with them" – "paid for").

The survey data indicate that the system of providing in-patient care functions quite dependent on private spending, which, in turn, takes the form of direct payments, "out-of- pocket" scheme. This creates financial barriers to access to health services for the population, including the in-patient care ones[50].

At the same time, there are some differences in the "out-of- pocket" payments among different age groups. Thus, almost every second respondent aged 18-29 paid to the charity fund or another organization account during their last hospital stay (41.3%, including 65.5% on request); 37.8% in this age category paid informally (including 57.1% - on request). 66.4% paid for medicines and medical supplies. The largest Share of respondents who officially paid to the cash desk was recorded in the age group of 45-59 years (31.4%, respectively).

Urban residents more often paid officially to the cash desk and informally, as indicated by 31.3% and 26.7% of respondents respectively. Conversely, 37.1% of those respondents who lived in rural areas reported having paid to charity funds or other organizations during their last admission.

Some differences in "out-of-pocket" payments were recorded among the groups of respondents subdivided by income levels: patients with incomes of 1501-2500 UAH more often paid both to the account of the charity fund during their stay in the hospital and informally (34.2% and 43.3% respectively). Also, the Share of those who paid for medicines and medical supplies was the highest among this category of respondents (70.5%).

The total expenditures during the hospital stay as indicated by those respondents who had to pay them, amounted to 2,468.72 UAH (the standard error was 303.15 UAH, the median - 250 UAH). The size of this payment had certain variations, especially for respondents with different levels of income, which may be related to the actual levels of their income: persons with incomes up to 1,000 UAH (993 UAH) paid the least, those with incomes above 2500 UAH (6423 UAH) paid the most. Moreover, respondents who lived in urban areas indicated that the mean payment was 2969.76 UAH (median - 300 UAH); the rural residents paid for admission an average of 1383 UAH (median - 150 UAH).

As for the age groups, the highest levels of payment were recorded in the age groups of 18-29 years and 45-59 years (2,032.4 and 2,115 UAH, respectively) (***Table 5.4***)

Table 5.4. The total amount of payment for in-patient care during the last hospital stay: distribution by gender, age, place of residence and per capita level of household income, UAH

		Among those who paid for the in-patient care in any form		
		median	**mean**	**Standard error**
Overall		**250.00**	**2,468.72**	**303.15**
GENDER	male	200.00	2,827.63	528.85
	female	265.00	2,231.12	362.37
AGE GROUP	18–29 years	420.00	2,032.40	237.89

[49] Self-assessment by the population of their health status, accessibility of certain types of medical care in 2016. Statistical newsletter/State Statistics Service of Ukraine, 2017, P.5

[50] National Accounts of the Healthcare of Ukraine in 2015: Statistical newsletter/State Statistics Service of Ukraine, 2017, P.14

	30–44 years	335.00	1,922.91	285.21
	45–59 years	200.00	3,816.09	1,036.09
	60 years and older	150.00	2,114.98	423.86
TYPE OF RESIDENCE	urban	300.00	2,969.76	430.59
	rural	150.00	1,383.03	217.03
PER CAPITA INCOME OF A HOUSEHOLD	Up to 1000 UAH	200.00	992.94	185.96
	1001–1500 UAH	115.00	1,069.70	139.92
	1501–2000 UAH	240.00	2,149.15	539.87
	2001–2500 UAH	500.00	2,030.70	460.56
	Over 2500 UAH	500.00	6,422.74	1,833.45

As shown in ***Table 5.5***, the mean amount of charitable contributions (among those who paid during the last hospital admission) was 1,048.5 UAH (median - 100 UAH); official payment to the cash desk – 3,356.7 UAH (median - 500); informal payment – 2,520.95 UAH (400); for medical supplies an average of 646.13 UAH was spent (median - 110).

Men paid a charity fee almost twice as much as women (on average, 1,414.49 versus 804.4 UAH); similar situation is typical for unofficial payments (3,893.40, 1,623.58 UAH, respectively). At the same time, women spent for medical supplies 782.82 UAH on average (median - 150), men - 450.26 UAH (median 100). No differences in payment by official tariffs were found (men – 3,376.28 UAH, women – 3,344.14 UAH).

There are some differences in the size of average payments among respondents from different age groups: representatives of the age group of 45-59 years stated the highest amounts of official and unofficial payments, as well as expenses for medical supplies (5,795.72, 4,895.67, 1,021.94 UAH, respectively). Respondents aged 60 and older reported similar characteristics: the official payment to the cash desk was 2,860.33 UAH, the unofficial one – 1,996.63 UAH, for medicines – 1,005.43 UAH.

The size of charity fees of urban residents was 4.5 times higher than that of the rural ones (1,407.96; 316.58 UAH, respectively). Also, informally the urban residents paid an average of 2,911.84 UAH and the rural ones – 1,294.24 UAH for medicines (727.35 UAH versus 453.66 UAH, respectively, in 2016).

Respondents with the level of income over 2,500 UAH paid the most (official payments - 7,630.87 UAH, median - 600 UAH, charity fees – 3,644.36 UAH, median - 200 UAH; for medical supplies – 1,700.34 UAH; median - 100 UAH respectively). Young people (18-29 years), as well as respondents aged 45-59, paid informally 2,024.5 UAH (median - 500) and 4,895.7 (median - 400) respectively, which is the highest expenditure among all age groups.

Although 84.2% of respondents paid for in-patient care during their last admission, this did not imply improved conditions of hospital stay, which was noted by 94.7% of the respondents.

Also, 2.2% of **all** respondents indicated that they had admission-related costs during the last 30 days; 8% of respondents who received in-patient treatment in the last 12 months gave a positive answer to this question.

Table 5.5. Share of payers and size of payment for the in-patient care during the last hospital stay, UAH

Indicator	**%/*N***	**2017**	
Share of those who paid for the in-patient treatment during the last hospital stay			
Share of those, who paid to the account of charity fund or other organization	%	35.1	
	N	485	
Share of those who paid at the cash-desk in accordance with the official rules	%	28.6	
	N	372	
Share of those who paid informally	%	24.4	
	N	288	
Size of payment for the in-patient care during the last hospital stay, UAH			
Among those who paid to the charity fund or another organization account			
Median		100.00	
Mean		1,048.51	
Standard error		217.67	
among those who paid at the cash-desk in accordance with the official rules			
Median		500.00	
Mean		3,356.67	
Standard error		627.29	
among those who paid to informally			
Median		400.00	
Mean		2,520.95	
Standard error		574.19	
Share of those from whom payment for the in-patient care was requested			
among those who paid to the charity fund or another organization account	%	66.9	
	N	317	
among those who did not pay to the charity fund or another organization account	%	5.3	
	N	36	
among those who paid to the doctor informally	%	54.6	
	N	137	
among those who did not pay informally	%	3.2	
	N	34	
In general, paid for the in-patient care during their last hospital stay *			
Paid for the in-patient care	%	67.8	
	N	1,107	
Did not pay for the in-patient care	%	32.2	
	N	543	
Overall size of payment for the in-patient care during the last hospital stay *			
Median		200	
Mean		2,715.81	
Standard error		368.96	
Improved conditions of hospital stay			
Paid for the in-patient care *	%	6.,8	
	N	1,107	
The payment envisaged the improved conditions *	%	5.3	
	N	59	

Note:* payment for the medical commodities is not included

Compared to 2016 survey data, the share of respondents who paid to the charity fund account has decreased by 2.5%. with a simultaneous increase of those who indicated making official payment

to the cash desk of the institution by 1.1%. The share of those who paid informally remained unchanged (in 2017 it was 24.4%, in 2016 - 24.8%).

The increase in the share of people who were required to pay for inpatient care, as indicated by every other respondent (2016 - one in three) raises concern.

It should be noted that compared to 2016, the average of both official and unofficial expenditures of respondents for the medical care provided almost doubled. Thus, in 2017 respondents paid officially 3,356.67 ± 627.29 UAH (in 2016 – 1,950.58 ± 287.60) UAH; the size of unofficial payments was 2,520.95 ± 574.19, respectively, versus 1,859.71 ± 275.83. The size of the payment to the charity fund account increased almost 10 times.

5.4. Financial Burden

The total cost of hospital admission over the past 30 days was a significant financial burden for patients, as it amounted to 52.5% of their household monthly income. The largest financial burden on households was recorded among respondents with a level of income of up to 1,000 UAH (95.75% of income), of rural residents (79.09%) and in the age group of 30-44 years of age (80.61%). Total expenses for inpatient treatment during the last admission amounted to 2,403.80 UAH (median - 700, standard error - 610.71).

53.2% (N = 728) of respondents who were admitted during the last 12 months reported cases of unaffordability of hospital treatment due to its overall excessive cost and expenditures related to paying for the doctor's services, surgical intervention (54.6% and N = 694), diagnostic evaluation and laboratory tests (65% and N = 342), medicines (79.5% and N = 624).

According to the survey, the most vulnerable groups among respondents, who found it difficult to cover all the costs of in-patient treatment, were persons aged 45-59 years of age, 60 and older (55.1% and 57.8% respectively in these age groups); urban population, 55.6% of whom indicated the complexity of covering costs; persons with an income level of 2001-2500 UAH (65.9%). It was particularly difficult to find the funds for drugs for the most vulnerable categories of respondents: in the age group of 60 and older (88.0% indicated this problem) and with income levels up to UAH 1500 (83.5% and 83.7%).

61.5% (N = 553) of respondents who paid for admission and 61.4% (N = 566) of in-patients indicated that they had to borrow money to cover the cost of inpatient treatment. The average amount of borrowed funds among taxpayers was 6,759.8 UAH (median - 3000); those who used this type of assistance – 6,730.6 UAH (median – 3,000). The largest amounts were borrowed by men to cover the cost of in-patient treatment (7,132 UAH among the payers, 7,134.6 UAH among the users); respondents in the age group of 45-59 years (9,741.2 and 9,679.7 UAH, respectively); residents of urban areas (7,399.1 and 7,385.8 UAH respectively); with the level of income of over 2,500 UAH (10,970 and 10,919 UAH, respectively) (median for all categories of respondents – 3,000 UAH).

58.2% (N = 899) mentioned worsening of affordability of in-patient care, and only 2.9% indicated its improvement. No significant differences among different groups of respondents were found on this issue. It is not possible to evaluate the regional peculiarities of financial affordability due to the small number of respondents who answered this question.

Every fourth respondent (N = 386), who needed admission to the hospital during the last 12 months had to refrain from it due to lack of funds. Among all respondents, the percentage of those who had to refrain from admission was 11.8% (N = 1,314). Women (26%), elderly people (28.4%) and those with income less than UAH 1,500 (29%) refused to be admitted to the hospital due to lack of money more often.

Almost half of the respondents who were admitted in the last 12 months and who had such expenditures pointed to difficulties in finding funds for in-patient care. It was especially difficult to find funds for drugs, as indicated by 74.5% of respondents (N = 582) (***Table 5.6***).

Table 5.6. Difficulties in finding money for in-patient treatment

Title	Impossible		Difficult		Not difficult		Had no expenditures	
	%	*N*	%	*N*	%	*N*	%	*N*
Share of those admitted to the hospital within the last 12 months								
medical services, surgical	3.7	49	49.4	693	25.5	352	21.4	340
medicines	5.0	80	71.3	1,066	21.6	315	2.1	31
diagnostic workup and laboratory	2.6	38	47.6	666	36.7	544	13.1	201
Share of those admitted to the hospital within the last 12 months and had the following expenditures								
medical services, surgery	4.1	49	50.5	645	25.5	309	19.9	293
medicines	4.9	42	74.5	582	20.0	175	0.6	3
diagnostic workup and laboratory	2.8	17	62.2	325	31.1	197	3.9	26

Compared to the results of 2016, the share of respondents who could not afford to cover the costs of hospital admission for in-patient treatment (among those who were admitted) decreased from in 2017 from 83.7% in 2016 to 79.5% in 2017.

There has been positive progress in reducing the percentage of people who had to refuse to be admitted to the hospital due to lack of funds in the assessment of both the general population and consumers of in-patient care. According to the 2017 survey, this was reported by every tenth respondent (in 2016 - one in three); among the consumers of in-patient care, 24.2% of those surveyed indicated cases of impossibility to meet their needs, in comparison with 2016 this figure decreased by 1.3 times. Similar trends were also observed in the data of households survey (State Statistics Service, October 2016)[51].

In addition to some positive changes, the results of the survey also recorded worsening of the situation with availability of medical services and laboratory and diagnostic workup. This was confirmed by an increase in the share of respondents who found it difficult to cover these costs. In particular, in 2017, the share of taxpayers, who experienced difficulties in covering the cost of diagnostic workup and laboratory tests among the in-patients increased by 10%. The percentage of respondents who had to borrow funds to cover their expenses during the hospital stay was almost 1.5 times higher. Noteworthy is the tendency towards increasing the amount of borrowed money to cover the cost of in-patient treatment by 40 and more percent. These data indicate an increase in the financial burden of spending on the population.

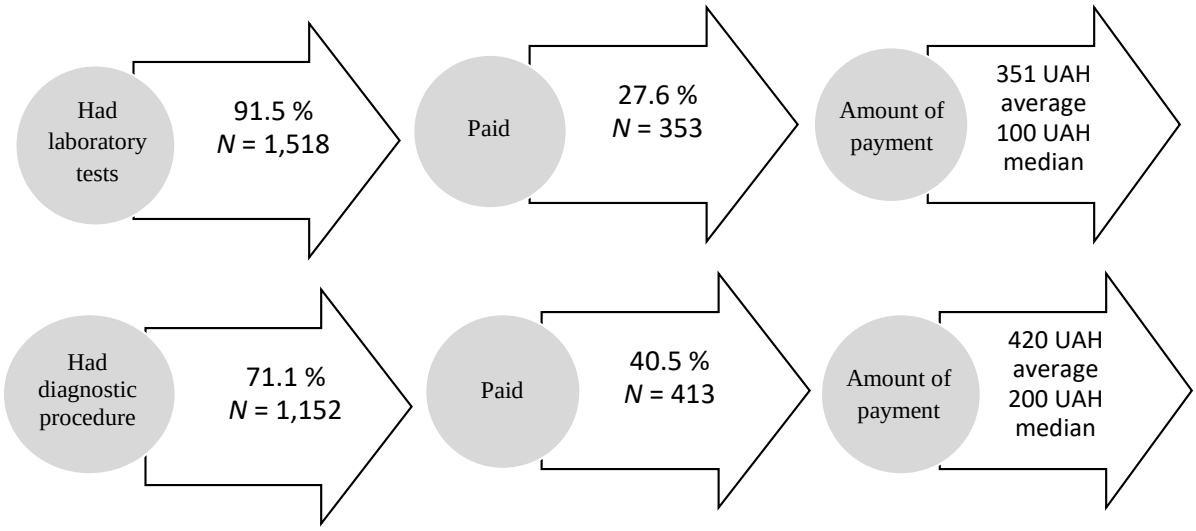
5.5. Laboratory Tests and Diagnostic Workup At Hospital Admission

91.5% (N = 1,518) of respondents who were admitted to the hospital within the last 12 months reported having had laboratory tests, 71.1% (N = 1,152) - instrumental diagnostic evaluation. In general, almost everyone admitted to a hospital (N = 1,564; 94.4%) had laboratory tests and instrumental diagnostic evaluation.

In fact, almost every third respondent (N = 353) paid an average of 350.2 UAH (median - 100) for laboratory tests, every second - 420 UAH (median - 200) for diagnostic workup (N = 413, 40.5%) and 523.4 UAH (median - 200 UAH) for laboratory and diagnostic services together (N = 577; 41.9%) (***Figure 5.4***).

[51] Socio-economic status of households in Ukraine in 2016 (according to the data of selective survey of the living conditions of households)./Statistical newsletter/State Statistics service of Ukraine, 2017, P.11-12

Fig. 5.4. Use of laboratory and diagnostic services and payment in case of admission to the hospital (among those admitted within the last 12 months)



No significant differences in the use of laboratory and diagnostic services among different groups of respondents were found. However, it should be noted that the size of the payment for these services had certain differences among different groups of respondents: male respondents paid more than women; in 18-29 and 45-59 years old age groups, city residents, those with income levels over 2,500 UAH were paying more (***Table 5.7***).

5.6. Rating of Inpatient Care Aspects

It is extremely important to study the issue of satisfaction with the provision of in-patient care, as well as to identify factors that have influenced the quality and availability of health care. In total, 44.8% (N = 749) of respondents rated the provision of inpatient care as good; 43.3% (N = 666) – satisfactory, however, 12% (N = 175) gave a negative assessment. The most significant differences were observed in groups with different levels of income. Almost 90% of the respondents with income levels over 2000 UAH were satisfied and 83.2%. of those with incomes up to 1000 UAH were not. A possible explanation for such a situation may be the ability of a more well-to-do people to pay extra for more comfortable living conditions.

Particular attention should be paid to some aspects of in-patient care provision. Satisfaction with the qualifications and attitude of the medical personnel is quite high (90-95%). The vast majority of respondents are quite satisfied with such aspects of medical care as the goodwill of medical and midlevel personnel, the level of qualifications of doctors, the work of the reception office, sanitary conditions and conveniences, and the effectiveness of treatment.

Table 5.7. Amount of payment for the laboratory and diagnostic workup during the last hospital stay: distribution by gender, age, place of residence and level of per capita income of households, UAH

		Amount of payment for		
		Laboratory services	**Diagnostic services**	**Laboratory and diagnostic services together**
Total	**median**	**100.00**	**200.00**	**200.00**
	mean	**350.24**	**419.92**	**523.39**
	standard error	**49.15**	**31.25**	**45.37**
GENDER				
Male	median	150.00	200.00	230.00
	mean	443.48	449.50	603.77
	standard error	82.39	51.10	74.74
Female	median	100.00	200.00	200.00
	mean	292.75	399.74	471.04
	standard error	60.90	39.38	56.86
AGE				
18–29 years	median	150.00	200.00	200.00
	mean	352.19	476.34	550.08
	standard error	69.83	108.52	111.20
30–44 years	median	200.00	150.00	200.00
	mean	376.07	375.93	517.12
	standard error	84.03	62.70	73.21
45–59 years	median	100.00	200.00	200.00
	mean	478.89	484.19	665.08
	standard error	148.69	66.37	130.49
60 years and older	median	86.00	200.00	180.00
	mean	228.98	387.42	415.54
	standard error	49.14	42.97	53.85
TYPE OF RESIDENCE				
urban	median	150.00	200.00	200.00
	mean	392.97	427.41	576.01
	standard error	65.15	36.78	61.18
rural	median	80.00	200.00	140.00
	mean	256.92	402.55	417.08
	standard error	64.63	59.23	58.59
PER CAPITA INCOME OF A HOUSEHOLD				
Up to 1000 UAH	median	100.00	150.00	125.00
	mean	158.96	320.82	309.33
	standard error	33.76	66.12	52.09
1001–1500 UAH	median	60.00	150.00	140.00
	mean	211.22	298.39	338.23
	standard error	55.98	37.82	47.29
1501–2000 UAH	median	100.00	250.00	250.00
	mean	246.61	452.96	491.34
	standard error	47.18	67.29	73.60
2001–2500 UAH	median	100.00	120.00	200.00
	mean	282.88	357.95	482.23
	standard error	117.23	101.79	158.74
Over 2500 UAH	median	270.00	200.00	300.00
	mean	700.63	375.24	695.90
	standard error	189.75	81.28	148.99

In general, the majority of respondents positively evaluated the in-patient care provided to them (90.1%[52] of respondents answered "good" and "satisfactory"). More often than not, this was indicated by respondents aged 18-29 and 30-44 (60.9% and 55.1%, respectively); more rarely - persons with low income (45.9% of respondents with incomes up to 1,000 UAH).

However, respondents are most dissatisfied with the availability of medicines (61.1%), food quality (42.9%), availability of laboratory tests and diagnostic evaluation (16.7%). For each fifth, the policy of paying for medical care was incomprehensible and not transparent.

There are certain differences in assessments between demographic and social groups. For example, urban residents (52.9%) and men are less satisfied with food quality (***Figure 5.5***).

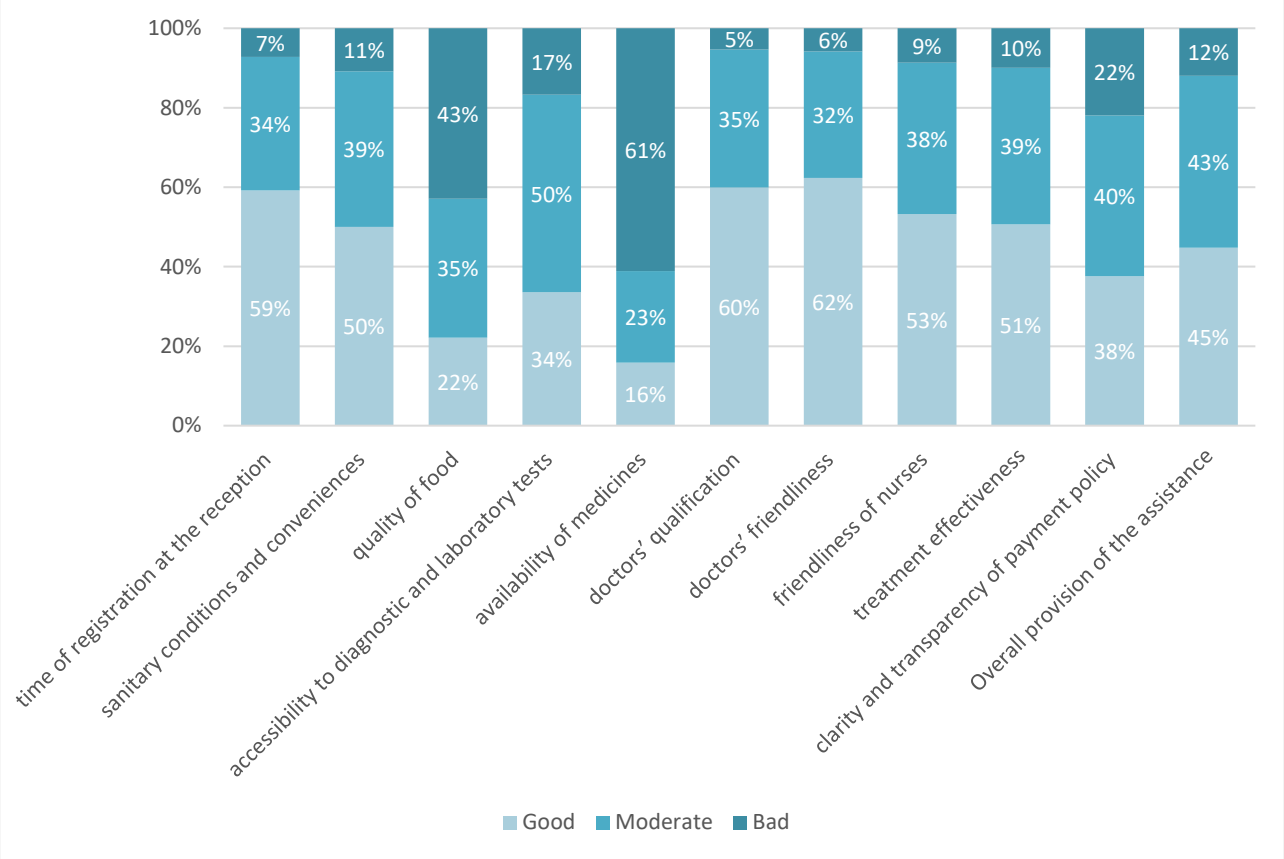


Figure 5.5. Assessment of inpatient service used

Among the most important for the inpatient aspects, the following was underlined: the qualifications of doctors (56.4%), the effectiveness of treatment (42.7%), availability of medicines (38.4%), availability of diagnostic and laboratory tests (36.8%). However, as with the results of the previous survey, the respondents positively rated the effectiveness of treatment and qualification of doctors. Availability of drugs was negatively rated. Every fifth respondent emphasized the importance of sanitary conditions and conveniences. The importance of high-quality food was noted by 8.9% of respondents, while 42.9% were dissatisfied with it (***Table 5.8***).

[52] Rating «good" and "normal" together .

Table 5.8. Comparison of the respondents' answers concerning the most important aspects of in-patient care provision and the rating

	The most important aspects of in-patient care provision which the respondents considered the most important aspect, %		**Rating of the aspect, %**		
		rank	**«good»**	**«satisfactory»**	**«unsatisfactory»**
doctors' qualification	56.4	1	60.0	34.7	5.4
treatment effectiveness	42.7	2	50.7	39.4	9.9
availability of medicines	38.4	3	15.9	23.0	61.1
affordability of diagnostic and laboratory workup	36.8	4	33.6	49.7	16.7
sanitary conditions and conveniences	18.0	5	50.0	39.1	10.9
time of registration at the reception	16.0	6	59.2	33.6	7.2
doctors' friendliness	13.7	7	62.3	31.9	5.8
clarity and transparency of payment policy	11.7	8	37.6	40.4	22.0
quality of food	8.9	9	22.2	35.0	42.9
friendliness of nurses	5.1	10	53.2	38.1	8.7

Compared with the data of the previous year, it is possible to note a certain change in the rank evaluation of the importance of certain aspects of the in-patient care provision: the qualification of doctors (by 11.5% more respondents identified this aspect as one of the most important); clarity and transparency of payment policy (an increase by 4.4%); the availability of diagnostic and laboratory workup (an increase by 5.3%).

The growth of positive assessments among respondents regarding the time of registration in the reception department (59.2% in 2017 compared with 55.2% in 2016), sanitary conditions and conveniences (50.0% vs. 43.7%, respectively), qualification of doctors (60% vs. 57.2%), their friendly attitude (62.3% vs. 57.2%), and the effectiveness of treatment (50.7% vs. 48.3%) was recorded. On the contrary, the share of respondents who were dissatisfied with the quality of food (42.9% in 2017 versus 41.8% in 2016), as well as the attitude of the midlevel medical personnel (8.7% vs. 6.5%) somewhat increased.

It should be noted that the share of respondents who negatively assessed the availability of drugs during hospital treatment within the past 12 months has decreased by 4.6%, compared with 2016. 61.1% of respondents were dissatisfied with the availability of drugs (in 2016 - 65.7%). These data correspond with data from the State Statistics Service (Household Surveys, October 2016).)[53].

According to the survey, every sixth respondent has used the in-patient care, with higher levels of this indicator recorded among low-income respondents. The causes of hospital admission, in general, correspond to the pattern of the primary morbidity of the country population and are primarily related to diseases of the respiratory and blood circulation organs.

It has been shown that the frequency of admissions to the hospital is higher in persons aged 60 and older, which corresponds to the trends in the need of this category of the population in this type of medical care, as well as considering these needs in the process of restructuring of the institutions providing it.

[53] Socio-economic status of households in Ukraine in 2016 (according to the data of selective survey of the living conditions of households)./Statistical newsletter/State Statistics service of Ukraine, 2017, P.11-12

The median value of such an indicator as the average length of stay of a patient in a hospital for all groups of respondents is 10 days, which in general corresponds to the official statistics of hospital stay in secondary level hospitals.

The choice of the provider type is mainly related to the place of residence (rural -urban), the organization of inpatient care provision, preferences and habits of its consumers, but an increase in the share of respondents who turned to private institutions for inpatient treatment was recorded.

As in the 2016 survey data, every second respondent was referred to the hospital by a primary care physician or a sub-specialist.

The population continues to bear significant financial costs, especially for medicines, which was noted by 59.6% of respondents. And this is confirmed by data on the total costs borne by households whose members needed in-patient treatment. This is a particular burden for the most vulnerable groups of the population, which needs appropriate state policies to ensure universal access and financial coverage for inpatient care and should be taken into account in the development of a strategy for changing both the national health system and its components.

Most respondents indicated their satisfaction both with the provision of in-patient care as a whole and with its individual aspects, which characterize its organization from various sides.

Section 6
AVAILABILITY AND AFFORDABILITY OF MEDICINES

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Section Summary

- 21.6% of respondents mention that expenditures on medicines are too high as the main cause of its unaffordability.
- Almost every third respondent aged 60 and older (33.4%) felt the burden of drug expenditures.
- The expenditures on medication among respondents in the process of self-treatment or after turning for alternative treatment amounted to an average of 342.5 UAH, which is 38.4% higher vs the previous year.
- During the last event of seeking outpatient care an average of 4.2 medicines was prescribed by the doctor, and 6 - in the hospital.
- The percentage of respondents who indicated the purchase of medicines prescribed by their physicians increased (80% against 77.6% in 2016).
- The main reason for refraining from buying medications prescribed by the doctor was the lack of money, as reported by almost every other respondent.
- 7.6% of the respondents received the drug through the Affordable Drugs program.
- To 95.4% of respondents, medications were prescribed during their last hospital stay.
- For medications, other than those dispensed at the hospital, respondents paid an average of 2,525.13 UAH.
- Drug-related expenditures from the personal or family budget within the last 30 days amounted to 610.9 UAH.

In accordance with WHO recommendations, the availability of effective and high-quality medicines with proven efficacy is one of the main factors determining the availability of a health care system for a patient[54]. Medicines play an important role in the healthcare system for both consumers and policy-makers and its implementers in this area.

International statistics indicate that medicines represent the third largest source of health care expenditures after in-patient and out-patient treatment. This represents an average of 16% of health expenditure in the countries of Economic Cooperation and Development (OECD) (not including hospital drug costs)[55].

In Ukraine, based on NHA data, the final consumption of financial resources of the health care system was provided at the level of three main suppliers of medical services and commodities (providers): hospitals (35.3% of current health expenditures), facilities, which provided out-patient services (12.4%), and institutions for the retail sale of medical commodities and other organizations providing medical commodities (38.2%)[56].

In most countries these costs are covered by public funds or compulsory health insurance schemes. In OECD countries, these schemes cover an average of 57% of all retail pharmaceutical costs, moreover, 39% are covered by the population at their own expense, and another 4% - at the expense of voluntary health insurance.

The level of coverage has significant variations in different countries. In Germany and Luxembourg insurance schemes cover about 80% of drug costs, while 34% - in Poland, 35% - in Latvia, 36% in Canada and the United States (in these countries, voluntary insurance and out-of-

[54] Development of Pharmaceutical Practice: focus on the patient. B.CityHope International, Inc:2008, 112 p. CityHope International, Inc
[55] The year 2015
[56] National Accounts of the Healthcare of Ukraine in 2015: Statistical newsletter/State Statistics Service of Ukraine, 2017, P.10-11.

pocket payments play a significant role in drug funding)[57]. Significant variations in per capita medical expenses are also recorded: Denmark ($ 282), Israel ($ 313), Estonia ($ 326), Switzerland ($ 982), and Japan ($ 798). This indicator for Ukraine is at $ 53.[58]

In general, the problem of availability of medicines remains relevant for many countries around the world. For the majority of the population the financial affordability of medicines is an insurmountable obstacle. Patients in the developing economies and transition economies experience this most of all; where from 50 to 90% of purchased pharmaceuticals are purchased at their own expense[59]. Ukraine is no exception: the cost of retail sale of medical commodities is financed at the expense of households (99.8%)[60]. It is a heavy burden on the poor, who do not have adequate social protection. Therefore, the priority for the national health system should be the patient's interests, which are the ensuring of the physical availability and financial affordability of drugs with proven therapeutic efficacy and safety.

6.1. Consumption of Medicines which are not Prescribed By Doctor

According to the “Index Ukraine” survey, 33.2% of respondents (N = 3,227) reported a case of any illness or injury that occurred over the last 12 months. In the case of the last illness or injury, 72.9% of respondents sought medical care. 2.2% of all respondents indicated the high cost of drugs, services and transport as the reason for their refusal to seek care.

21.6% of the respondents among those who had a disease or injury and did not seek medical care refused it because of its high cost. The obtained data are consistent with the results of the households’ self-assessment of availability of goods and services, according to which in 18% of the total number of households there were individuals who reported cases of inability to purchase the necessary but too expensive drugs[61].

23.8% of women and 18.6% of men indicated the too high cost of drugs as the main reason for their unaffordability. Almost every fourth respondent who lived in rural areas, among those who had a medical condition and did not seek medical care, also noted the high cost of drugs as a reason for their inaccessibility; among urban residents, this figure was 20.2%. The respondents from older age groups felt the burden of drug costs the most. In particular, almost every third respondent aged 60 and older (33.4%) and one in four in the age group of 45-59 (26.5%) did not go to a doctor because of the high cost of drugs, services and transport. Only 5.5% of respondents aged 18-29 reported a high cost of drugs and services as the reason for the refusal, while in the age group of 30-44 - 13.2% of those surveyed.

The cost of medications among respondents in the process of self-treatment or after turning to the alternative treatment (N = 662) amounted to an average of 342.5 UAH (median 200 UAH, standard deviation - 478.3). Compared to the previous year[62] the increase of the average expenditure by 38.4% or almost 95 UAH was recorded[63]; the median value — from 150 up to 200 UAH.

Among men, these costs were higher than for women. In particular, men spent on medication on average 371.6 UAH (median 250 UAH; standard deviation - 549.24); women - 324.5 UAH respectively (median 200 UAH; standard deviation - 428.7).

Rural residents spent 17.7% more on medicines than those who lived in cities: an average of 398.1 UAH (standard deviation 659.7) versus 327.6 UAH (standard deviation - 408.6), the median value is the same for both categories of respondents - 200 UAH.

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[57] Ibid, p. 186.

[58] Materials of the XII Annual Analytical Forum "Pharmacopoeia 2017. Again on the eve of changes ...". URL: http://aipm.org.ua/publikatsiyi/i-znovu-naperedodni-zmin-shho-chekaye-na-farmrinok-ukrayini-u-2017-r/ (date of apply 14.12.2017).

[59] Van Mil JW, Schulz M, Tromp TF. Pharmaceutical care, European developments in concepts, implementation, teaching, and research: a review. Pharm World Sci. 2004 Dec; 26(6): 303–11.

[60] National Accounts of the Healthcare of Ukraine in 2015: Statistical newsletter/State Statistics Service of Ukraine, 2017, P.11

[61] Self-assessment by the households of the affordability of certain commodities and services. State Statistics Service, K.:2016, P.1-2.

[62] Health Index. Ukraine – 2016. K.: 2016, P. 125.

[63] Expenditure for medicines or other commodities in the self-treatment process or after turning to alternative treatment (among those who used) (*N* = 584) was on average 247,54 UAH, median – 150,0, SD – 486,7 UAH.

Among respondents of different age groups, the highest expenditures were recorded in persons aged 60 and older (422.1 UAH, median - 247.7, SD - 648.7), the lowest - in the age group of 18-29 years (320.7 UAH, median - 200, standard deviation - 519.5).

6.2. Consumption of Medicines in Outpatient Care

Let's recall that 37% of adults sought outpatient care; on average one respondent turned for this kind of care 2.4 times a year. The problem of financial affordability of medicines when they are needed remains quite relevant. This is especially true for vulnerable populations (people over 60), one in three of which indicated that they have either refused treatment because of lack of money or had to reduce the number of the prescribed drugs, and one in seven had to interrupt (discontinue) treatment due to lack of funds within the last 12 months. Similar reasons were named by every fourth female respondent and rural residents (in particular, 19.9% of respondents noted the fact of deferring treatment due to lack of money, 20.1% - had to refuse treatment due to lack of money) (***Table 6.1***).

92.3% (N = 2864) of respondents indicated that during their last outpatient visit the doctor prescribed from 1 to 5 different medicines (same figure in 2016 - 89%)[64]. As in the previous study, the percentage of female respondents who provided information about the prescription of drugs was higher compared to men (93.9% vs. 91.3% respectively). However, a slight increase in the percentage of respondents who indicated the prescription of drugs compared with 2016 is noteworthy[65].

Table 6.1. Reasons for refusing treatment or deferring it

Within the last 12 months due to the lack of money you had to …	% / *N*	Total	Gender		Place of residence		Age			
			males	female	city	village	18–29 years	30–44 years	45–59 years	60 years and older
… refuse treatment?	%	**19,1**	13,2	24,0	18,7	20,1	9,0	13,7	20,8	30,6
	N	**1911**	594	1317	1289	623	175	385	535	816
…defer treatment?	%	**18,9**	12,6	24,1	18,4	19,9	8,6	15,5	19,9	29,1
	N	**1893**	568	1325	1273	620	170	435	512	776
… reduce the number of medicines?	%	**18,9**	12,4	22,8	18,5	17,3	9,7	13,8	19	27,9
	N	**1814**	559	1255	1277	537	190	388	490	746
… interrupt (discontinue) course of treatment?	%	**9,6**	6,6	12,2	9,4	10,1	4	7,2	10,4	15,6
	N	**965**	298	668	650	315	77	203	267	418

No significant differences were found between different categories of respondents in distribution by gender, age, place of residence.

44.9% (N = 1457) of the respondents noted that they had got doctor's prescription to purchase medicines or receive a reimbursement (2016 - 66.5%, N = 1944). As in the previous year, respondents aged 60 and older (51.6%) receive prescriptions for drugs more often than those aged 18-29 and 30-44 (40.5% and 39.6% respectively). According to other criteria (sex, place of residence) there is no statistically significant difference.

[64] Health Index. Ukraine – 2016. K.: 2016, P. 123.
[65] The year 2016.: women - 90% provided information about the prescribed medicines, men – 87%. (Ibid, p. 123).

80% of respondents mention the purchase of drugs prescribed by a doctor, which is almost 2% more than according to the previous study data (77.6% in 2016)[66]. This may indicate some positive changes in the population's assessment of the level of commodities in the pharmaceutical market, which is confirmed by data from other studies[67]. A certain improvement in the situation as compared to the previous year may be related to the growth of nominal and real incomes and an increase in the level of average wages both in nominal and in real values (State Statistics Service of Ukraine, 2016).

The share of those who purchased all the medicines according to the doctor's prescription was higher among rural residents than among urban ones (84.1% and 78.2% respectively).

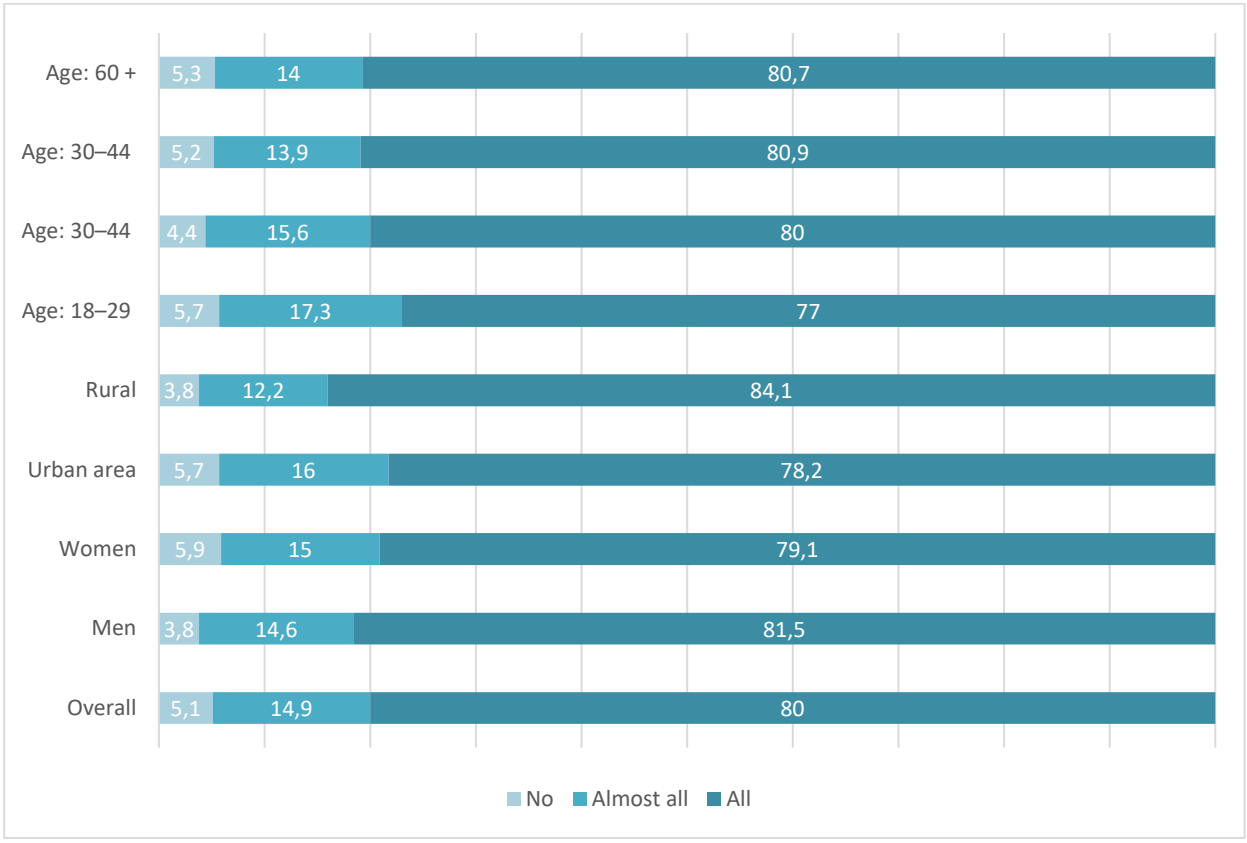

Fig. 6.1. Purchasing of all the medicines prescribed by the doctor: distribution by gender, age, place of residence

Almost every second respondent indicated that the main reason for the refusal to buy a drug prescribed by the doctor was the lack of money (47.2% of respondents among those who answered "No" or "Almost all" to the question "Did you purchase all the medicines that were prescribed? " versus 50.5% in 2016)[68], and among the older age groups every second respondent indicated this (49.2% and 59.3% respectively). The same reason was reported by female respondents (each second, or 49.9%)[69], as well as rural residents (49.3%)[70]. These data actually similar to the results obtained in 2016.

However, the refusal to purchase prescription drugs is of concern: 41.9%[71] of the respondents did not buy drugs because they considered it unnecessary. The respondents who most often adhered to the doctor's

[66] Health Index. Ukraine - 2016. K.: 2016, P. 125.
[67] Socio-economic status of households in Ukraine in 2016 (according to the data of selective survey of the living conditions of households)./Statistical newsletter/State Statistics service of Ukraine, 2017, P.11
[68] Similar indicator in 2016 – 50,5% respondents. (ibid, p. 125).
[69] 2016 – 56%.
[70] 2016 – 63%.
[71] 2016 – 35,5%.

prescription and bought medicines were those aged 60 and older, among which only one in four respondents gave the answer “did not consider it necessary” as the reason for the refusal to buy medicines. 59.1% of respondents in the age group of 30-44 did not consider it necessary to buy all prescribed medicines and 43.2% of men. 12.5% of respondents could not buy drugs because of their absence in the pharmacies network, the highest percentage of those being among the rural dwellers, as indicated by one in five.

To almost every third respondent (37.6%, or N = 1098) a doctor prescribing the drug has offered a cheaper or a more expensive analog. Persons aged 60 and older (41.2% in this group) mentioned it more often.

30.5% of respondents also noted that they were prescribed medicines, selected according to the active substance (international non-proprietary names). Among women, urban residents and persons aged 60 and older, this percentage is slightly higher (31.3%, 33.0%, and 33.2% respectively), which may be due to the implementation of the Affordable Drugs program, which covers medicines for cardiovascular diseases, type II diabetes and bronchial asthma.

It should be emphasized that 7.6% of respondents indicated their experience in obtaining medicines in the Affordable Drugs program, which started in April 2017. The program was mainly used by women (9.3%), urban residents (7.8%), and respondents aged 60 and older (15.9%). On the whole, the respondents are very positive about the governmental program: every third evaluates it very positively, and in total 74.2% as "very positive" and "rather positive". 9.7% of respondents mentioned their "very negative" attitude.

The respondents' evaluation of the Accessible Drugs program in the context of certain categories of those interviewed is presented in ***Fig. 6.2***. The highest estimates were given by respondents of the age group of 30-44 years (50.2% of whom rated the program "very positively"); somewhat less positive assessments were given by respondents aged 45-59 and 60 years and older, as well as by rural residents. This may be due to a variety of factors, such as problems with the implementation of the program, first of all, the gaps in the normative, methodological, logistical, organizational and technical bases for the implementation of an adequate system, the lack and imperfection of electronic patient registers, low level of informatization of the network of health facilities , the limited number of international non-proprietary names (INNs), the deficit of certain medications included in the program, the involvement of the pharmacy network in the program (especially in rural areas), etc.[72].

[72] “Available medicines” programme: from the first results to future development URL.: http://www.apteka.ua/article/414463/ (date of visit 14.12.2017).

Fig. 6.2. Assessment of the Affordable Drugs program by respondents: "very positively" – "very negatively"

96.2% of respondents (97% - in 2016), who were prescribed medicines, bought them at their own expense and spent an average of 660.2 UAH [73] (median - 300 UAH, standard deviation - 1841.2) (***Figure 6.3***). Men spent more when buying medicines than women. A similar situation is typical for urban residents and senior citizens.

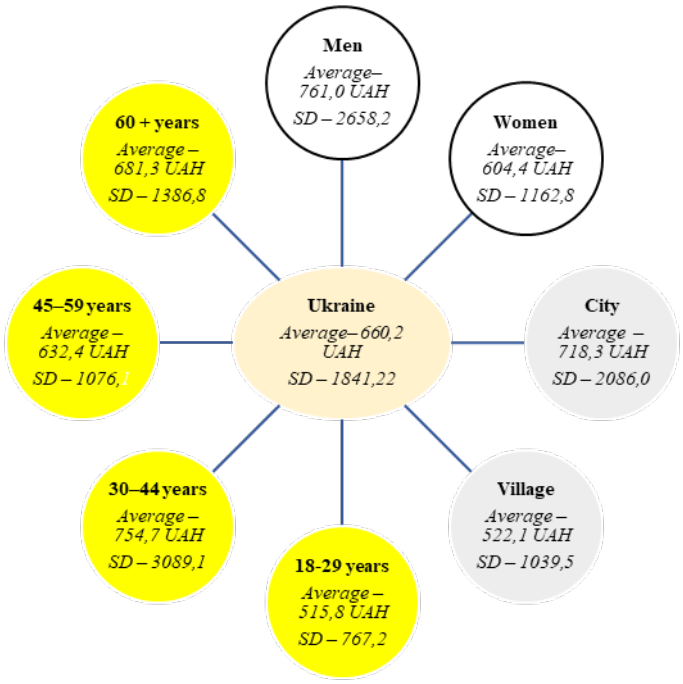

Fig. 6.3. Expenditures for medications among different categories of out-patient users - respondents

[73] 2016. — 776 UAH, median — 400 UAH.

The percentage of respondents who paid for medicines at their own expense was somewhat higher among women (97.1%) than men (94.6%) and almost identical among rural and urban residents (96.6% and 96 % respectively). In the age group of 60 and older, 98% of the respondents reported paying for medication "out of pocket". 2.5% of respondents (2.0% in 2016) indicated receiving reimbursement for medicines prescribed by a physician during an outpatient visit.

6.3. Consumption of Medicines in Inpatient Care

95.4% of respondents indicated the prescription of drugs during their last hospital stay. As in 2016, drugs were prescribed more to men (97.5%) than to women (94%), to urban residents (96.1%) and persons in the age groups of 45-59 and 60 and older (99 % each). On average, one respondent was prescribed six drugs (similar to the 2016 survey results). 18% of respondents did not pay for prescribed medicines (17% in 2016); 82% mentioned that they paid for the prescribed medications (83% - 2016).

Overall, the respondents spent 2310.97 UAH (median - 1230.83 UAH, standard deviation - 3726.6) [74] on the drug prescribed for the entire treatment during inpatient treatment in the hospital and for which they had to pay. For medicines, except those dispensed at the hospital, the respondents paid on average 2525.13 UAH (median - 1450; standard deviation - 4265.5) [75].

85% of respondents bought all the prescribed medicines (85.2% in 2016), 13.7% - almost all (11.5% in 2016) and 1.4% - not all (3.3% - 2016). As for the reasons for the refusal to buy the prescribed drugs, 35.1% of respondents indicated a lack of money. Due to lack of funds, mostly men (41.5%) and respondents aged 45-59 (44.2%) did not buy prescription drugs, as well as urban residents (35.6% vs. 33.9% among those living in rural areas).

15.3% chose the answer "Do not consider it necessary to buy", and 7.9% - did not find the prescribed medicines. It should be noted that every third respondent chose the option of "lack of funds" as the reason for not buying prescription drugs during in-patient treatment (in 2016 – this was reported by every other respondent (55.2%).

3% of respondents among those who were admitted to the hospital and prescribed medicines were reimbursed for their purchase during their last hospital stay.

The financial burden associated with the need to purchase medicines in the case of inpatient treatment remains significant, as told by 73% of respondents ($N = 1057$) [76], who personally or their families were unable to find money for this or found it difficult. One in five (N = 299) indicated that this did not affect the personal or family budget.

[74] B3.17. If you were dispenced medicines in the hospital and you had to pay for them, how much did you pay?
[75] B3.20. How much did you pay for the medicines besides those dispenced at the hospital?
[76]Including Difficult to answer and Refusals, $N = 1558$.

Table 6.3. Individual characteristics of consumption of medicines during hospital stay: comparison of the results of the 2016 and 2017 surveys

	Indicator	**2016**	**2017**
Prescription of medicines during last admission to the hospital	Yes	1136 (95.9%)	1008 (95.4%)
	mean	6,23	5,74
	median	6,00	5,00
	SD	3,93	3,6
Number of medicines dispensed at the hospital for free, items	0	1129 (83,0%)	1078 (79,6%)
	1–2	138 (10,1%)	127 (9,4%)
	3 and more	93 (6.9%)	55 (4.1%)
Expenditures for medicines during the last hospital stay, UAH	mean	2311,36	2525,13
	median	1500	1450
	SD	3711,82	4266,5
Reasons for not purchasing all the medicines	did not consider it necessary	42 (27.6%)	26 (15.3%)
	did not find or unavailability of the needed medicines in the pharmacies	16 (10.4%)	13 (7.9%)
	Other	5 (3.3%)	2 (1%)

6.4. Total Medicines-Related Costs

According to the survey results, every second respondent had expenditures on medicines from the personal or family budget during the last 30 days (in 2016 - 54.2%, in 2017 - 52.5%). For the purchase of drugs they spent 610.9 UAH (median - 300 UAH, standard deviation — 3728.7)[77]. By calculations, almost 11% of the average monthly total household expenses [78, 79] was spent on the purchase of drugs

Total expenditures for medicines among different categories of respondents are given in ***Figure 6.4***.

According to the survey, women (60.6%) and respondents aged 60 and older (71.3%) spend on medicines more frequently, however, within the last 30 days men have spent the most on them (764.9 UAH).

Affordability of medicines remains a significant problem for the population of Ukraine, incurring significant costs for their purchase, and as a result, every fifth respondent had to forego health care because of the high cost of drugs, services, and transport. In this case, representatives of older age groups remain the most vulnerable, as reported by almost one in three respondents aged 60 and older and one in four in the age group of 45-59 years.

[77] 2016 data.: average — 550 UAH, median — 300 UAH, st. deviation 1665,7. (ibid, p. 127).
[78] Monthly average total expenditures of one household were 5720 UAH in 2016.
[79] Socio-economic status of households in Ukraine in 2016 (according to the data of selective survey of the living conditions of households)./Statistical newsletter/State Statistics service of Ukraine, 2017, P.5.

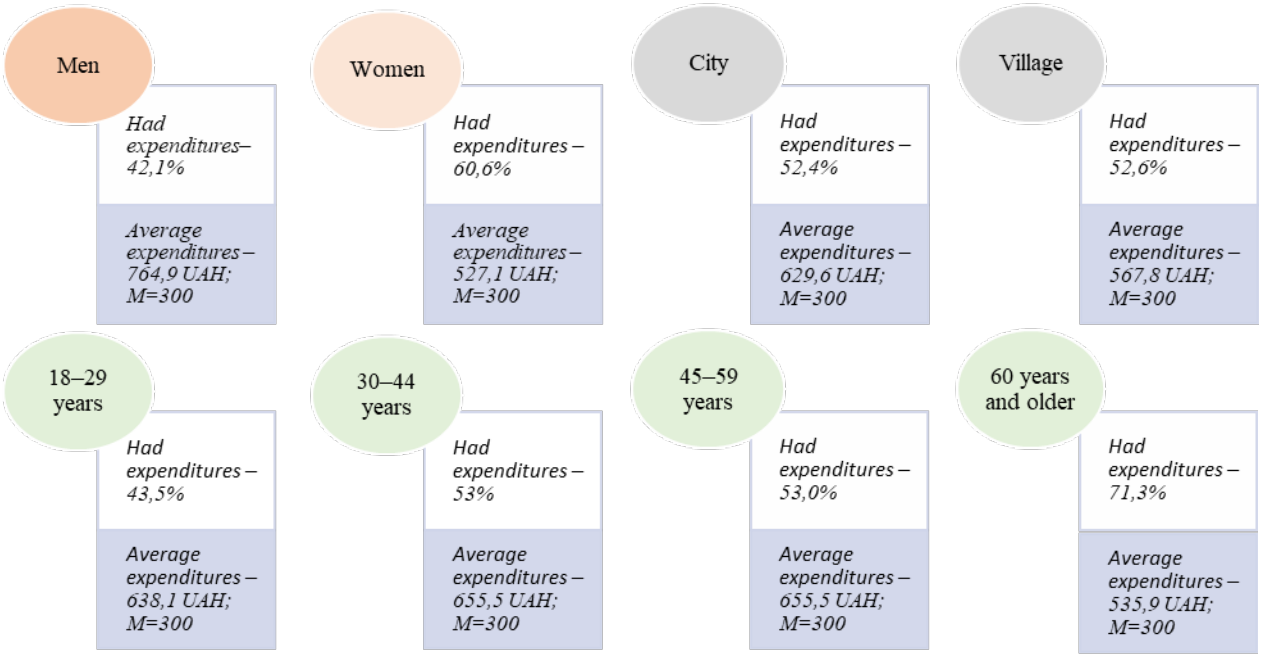

Fig. 6.4. Total expenditures for medicines among different categories of respondents

In order to improve the provision of quality and affordable medicines, it is necessary to continue work on:

– increasing the efficiency of management in the field of providing medicines for population with the involvement of public health representatives;

– introducing the norms of good practice in regulating the circulation of medicines and the legal framework of this practice of EU countries into national legislation;

– introducing the latest manufacturing technologies, attracting investments, improving research and experimental work for the manufacturing of medications, improving the pricing system;

– implementing the continuous operation of the quality management system;

– further development of the standardization system.

Another important condition is further stabilization of the socio-economic situation in the country and the increase of incomes of the population for ensuring physical availability and economic affordability of medicines.

Section 7
SATISFACTION WITH HEALTHCAE AND PERCEPTION OF HEALTHCARE REFORMS

Authors of the section:

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One of the key goals of the health system is the responsiveness of the system and related services. Such an ability to provide adequate in time response to the needs is most often measured by an indicator of satisfaction. Satisfaction can be measured both at the system level as a whole and for each service[80], however, in post-Soviet countries, satisfaction data is often not used in the process of policy development, decision-making and monitoring of changes in the health care system as it is considered a subjective assessment that is not worthy of attention. However, identifying the share of patients who are satisfied with different types of care and monitoring the dynamics of this indicator in time is one of the guiding principles that stimulates the responsiveness of the health system to the needs of patients.

Satisfaction with healthcare is an integral part of the evaluation of health systems activities in countries such as the European Union, as well as in Canada, the United States, Australia, and others. In the USA, Canada, Australia, Norway and others the measurement of satisfaction with health care services has become important in the 50-60s of the twentieth century, when healthcare acquired market features, "money began to follow the patient", and, moreover, the patient began to be considered primarily as a consumer: a more active subject, involved in making decisions about diagnosis and treatment, responsible for their own health[81].

Thus, the feedback in the form of consumer opinion, his expectations, preferences and choices, as well as satisfaction with the service, has gained considerable significance. Some authors even argue that client expectations and values should be taken into account when evaluating the work of a health care provider[82].

Despite the subjectiveness of perception, we understand the importance of people's satisfaction with health care services, as well as the attitude to and awareness about reforms, thus these measurements are included in the study "Health Index". Such subjective indicators facilitate better understanding of the more objective indicators, such as the presence of a diagnosis (which can be confirmed on the basis of medical documentation) or payment for a medical service (you can refer to receipts in which the figure is indicated). Although the Ukrainian health care reform is currently aimed more at achieving other, no less important goal - the financial security of people while using health care services, - in future system development and the reduction of the financial burden on patients and their families the "responsiveness" of health care service providers as the closest to people representatives of the health care system will come to the first place.

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[80] Bleich, S. N., Özaltin, E., & Murray, C. J. (2009). How does satisfaction with the health-care system relate to patient experience? Bulletin of the World Health Organization, 87(4), 271–278.

[81] Hekkert, K. D., Cihangir, S., Kleefstra, S. M., van den Berg, B., & Kool, R. B. (2009). Patient satisfaction revisited: a multilevel approach. Social science & medicine, 69(1), 68–75.

Crow, H., Gage, H., Hampson, S., Hart, J., Kimber, A., Storey, L., & Thomas, H. (2002). Measurement of satisfaction with health care: Implications for practice from a systematic review of the literature. Health technology assessment

http://uhra.herts.ac.uk/bitstream/handle/2299/1073/102382.pdf;sequence=1.

Williams, B. (1994). Patient satisfaction: a valid concept?. Social science & medicine, 38(4), 509–516.

Winkler, F. (1987). Consumerism in health care: beyond the supermarket model. Policy & Politics, 15(1), 1–8.

Kutuzova, D., Stepurko, T., Kovtonyuk, P. (2015). Patient, consumer or customer? How to call those on this side of the hospital? Scientific notes, Sociological sciences.

[82] Donabedian A. Explorations in Quality Assessment and Monitoring: Vol. I. The Definition of Quality and Approaches to its Assessment. Health Administration Press, Ann Arbor, MI, 1980. 178 p.

The structure of questions on satisfaction is taken from the British study of values, and the rest of the questions on the reform were developed by the researchers of the "Health Index".

7.1. Satisfaction with Medical Care

Satisfaction with health care was measured by the list of questions: “How satisfied are you with: district GPs / family physicians? pediatricians? dentists? sub specialists in the polyclinic? Ambulance/emergency care? hospital stay? stay in maternity hospital?” The answers were placed on a scale from “1 - completely dissatisfied” to “4 - completely satisfied”. Also, the direction of emotions that people have about the service may be due to the presence of (a recent) experience of visiting a doctor or an indirect contact with a doctor, which for example relatives or caregivers of a patient may have, this was, accordingly, reflected in a separate question (A1-A2, see Appendix A). Moreover, in 2017 at the end of the questionnaire, clarification questions were asked separately about satisfaction with (1) the district physician, (2) the family doctor and (3) the district pediatrician, since “new” family doctors can be perceived by people differently from district physicians.

According to the results of the survey “Health Index. Ukraine-2017”, the overwhelming majority of the population is generally satisfied with the way different components of the healthcare system in Ukraine work. For example, the most satisfied with pediatricians (absolutely or rather satisfied) are 74.8% of the respondents, with dentists - 74%, with district physicians or family doctors - 72.7%. Somewhat less satisfied with the care provided in hospitals are 57.2%, in maternity hospitals - 60.5%, by subspecialists in the polyclinic - 69.9% ***(Figure 7.1***).

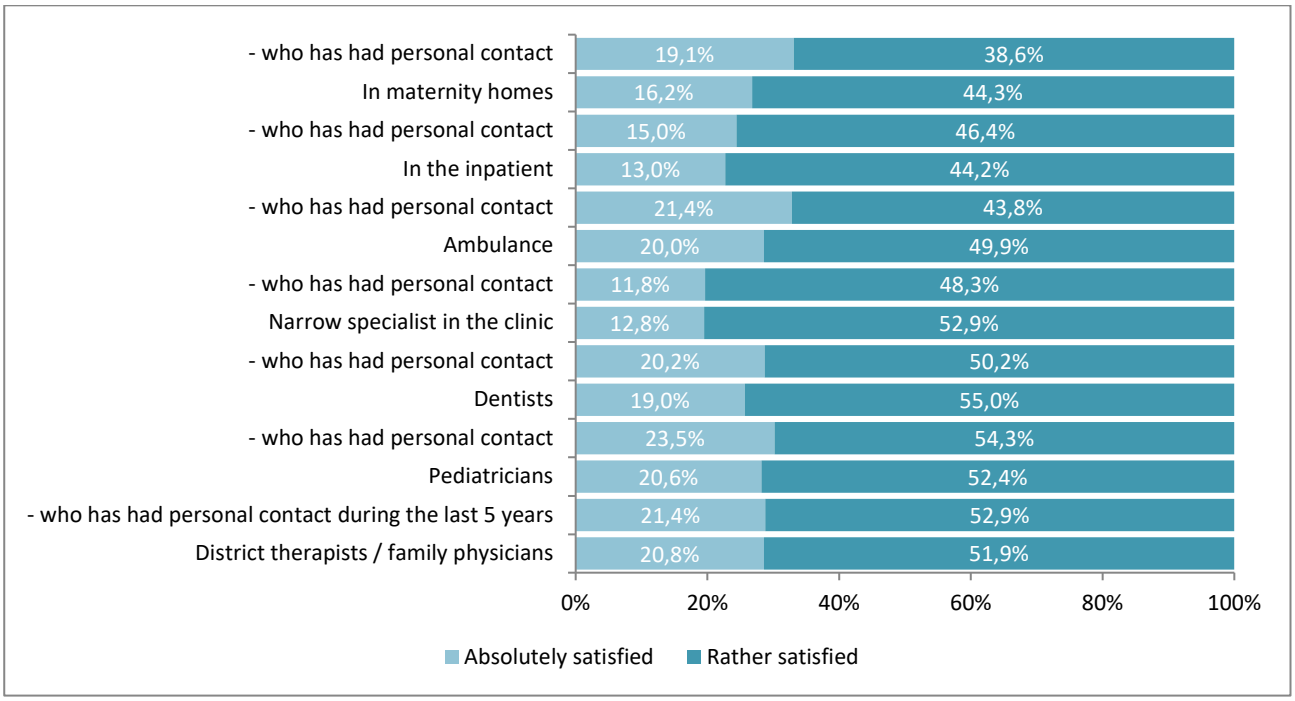

Fig. 7.1. Satisfaction with medical care among population in general and among those, who were in contact with medical services providers

In some cases, the difference between recent consumers and those with care seeking experience in the distant past did not exceed 2%. Due to the large sample size, this difference is statistically significant [83] (see ***Figure 7.1***). Those who had personal contact with health care institutions are also mostly satisfied with health care, as the results of this study show. However, a marked difference in satisfaction among all respondents and those who "came in contact" with emergency medical care – there are somewhat more satisfied share among all respondents, as well as

[83] The maximum error (for the value close to 50%) for the group in N = 3000 —1.8%, 5000 — 1.4%, 7000 — 1.18%.

among those who turned to specialists in polyclinics. Another difference vector (more satisfaction among those who “had contacted”) is observed in the case of pediatric care and in-patient care.

Answering the question of how satisfied respondents were with the work of various components of the health system, both consumers and the rest of the respondents preferred to choose "rather satisfied" than "fully satisfied": 21.4% in 2017 of those who had personal care seeking experience within the last 5 years and 16.9% in 2016 (20.8% among those surveyed in general in 2017 and 15.6% in 2016) were quite satisfied with the work of district physicians or family physicians, 23.5% in 2017 and 17.9% in 2016 (20.6% among those surveyed in general in 2017 and 14.6% in 2016) - of pediatricians, 20.2% in 2017 and 21.0% in 2016 (19% among those surveyed in general in 2017 and 18.9% in 2016) of dentists, 15% in 2017 and 13.1% in 2016 (13% of those surveyed in general in 2017 and 10.6% in 2016) with in-patient care, - 21.4% and 21.7% in 2017 and 2016 respectively (20% among those surveyed in general in 2017 and 18.3% in 2016) with emergency care, 19.1% and 17% in 2017 and 2016 respectively (16.2% among those surveyed in general in 2017 and 11.1% in 2016) with the work of maternity hospitals or departments. The lowest number of the “fully satisfied” was noted for the option of a specialist in a polyclinic - 11.8% (12.8% among all respondents in general).

Most satisfied with the work of various components of the health care system were the residents of (***Table 7.1.***):

- Donetsk (85.3% fully and rather satisfied with family doctors or district physicians, 68.9% — with in-patient care, 87% — with pediatricians);
- Mykolayiv (83.8% fully and rather satisfied with family doctors or district physicians, 85.8% — with in-patient care, 91.9% — with pediatricians);
- Kharkiv (88.7% — fully and rather satisfied with family doctors or district physicians, 73.1% — with in-patient care, 91.7% — with pediatricians);
- Chernivtsy (80.8% fully and rather satisfied with family doctors or district physicians, 78.8% — with in-patient care, 88% — with pediatricians) Oblasts.

Table 7.1. Satisfaction with medical care: distribution by regions (for all population), %

Questionnaire question A1-2	District physicians/family doctors		Family doctors		District physicians		Pediatricians		District pediatricians		Dentists		Subspecialist medical care at the polyclinic		Operations of the ambulance		In-patient medical care		Maternity hospitals	
	Quite satisfied.	Rather satis-fied	Quite satis-fied	Rather satis-fied	Quite satis-fied	Rather satis-fied	Quite satis-fied	Rather satis-fied	Quite satis-fied	Rather satis-fied	Quite satis-fied	Rather satisfied	Quite satisfied	Rather satis-fied	Quite satis-fied	Rather satis-fied	Quite satis-fied	Rather satis-fied	Quite satis-fied.	Rather satisfied
Ukraine	20.8	51.9	17.8	61.4	18.1	61.7	20.6	54.2	19.7	60.4	19.0	55.0	12.8	52.9	20.0	49.9	13.0	44.2	16.2	44.3
Vinnytsia	32.5	44.7	33.0	48.9	31.3	50.5	34.2	39.4	37.6	38.4	24.3	45.6	25.8	42.3	40.4	29.6	24.2	33.0	29.1	33.7
Volyn	30.7	57.4	31.1	59.5	30.7	58.1	35.4	52.1	37.5	51.3	20.7	70.6	16.7	67.7	27.8	56.3	22.1	53.7	29.8	52.4
Dnipropetrovsk	22.8	43.0	26.7	53.1	27.8	50.5	29.7	42.6	39.7	37.6	33.5	39.6	20.0	45.7	34.2	41.0	21.1	41.4	27.8	38.0
Donetsk	30.7	54.6	20.1	68.8	23.2	66.3	36.1	50.9	27.1	62.4	35.6	51.8	24.6	50.4	34.7	46.5	24.6	44.3	44.4	41.3
Zhytomyr	9.4	65.6	3.8	74.7	7.1	74.3	8.0	79.3	8.3	82.3	2.9	61.0	1.7	64.0	9.7	60.8	6.7	54.6	4.9	64.3
Transcarpathian	12.4	61.2	6.9	69.5	10.4	69.0	9.0	61.2	6.1	76.4	10.0	51.4	4.8	52.9	11.0	64.0	6.0	44.1	7.7	46.5
Zaporizzhya	6.6	40.4	7.7	45.6	6.1	47.9	7.1	38.9	5.9	44.8	2.1	45.4	2.6	26.6	4.8	36.9	0.9	25.1	1.2	34.9
Ivano-Frankivsk	14.9	53.9	6.8	68.7	9.9	68.0	14.6	58.1	11.9	63.4	16.0	68.2	4.2	53.8	13.9	60.5	8.3	56.2	13.5	43.1
Kyiv	16.2	55.6	17.6	57.6	10.9	62.9	16.6	55.4	20.0	55.5	25.4	55.6	11.6	50.9	22.9	50.5	17.8	51.0	21.6	46.6
Kirovograd	12.4	68.0	5.1	71.6	11.1	70.8	15.8	69.0	6.9	80.9	6.7	56.6	5.0	57.4	6.1	53.0	7.5	36.9	3.8	33.7
Luhansk	37.5	39.4	30.5	48.1	31.8	48.7	34.1	46.1	30.4	48.5	26.5	59.5	19.4	46.7	45.0	39.0	26.1	35.2	33.2	48.0
Lviv	13.5	60.4	9.8	77.5	11.7	70.9	16.3	66.7	11.1	72.7	20.1	64.6	8.1	64.1	12.3	52.0	10.9	46.9	19.9	48.2
Mykolayiv	3.8	80.0	4.2	84.3	3.6	84.3	8.1	83.8	5.3	88.0	1.8	85.9	2.1	82.3	8.1	83.0	5.1	80.7	6.0	90.8
Odesa	11.6	53.5	6.9	63.8	6.3	67.7	10.4	51.5	9.2	68.4	20.0	53.9	4.8	47.1	3.9	45.3	31.2	8.8	8.1	31.5
Poltava	10.2	68.4	7.4	71.4	9.4	70.8	12.4	69.5	8.5	75.8	17.0	63.6	7.3	64.1	11.1	64.6	9.1	62.3	6.6	61.7
Rivne	13.8	54.8	11.8	69.3	10.4	74.3	15.4	56.1	14.5	69.1	13.7	61.7	9.8	53.0	9.3	57.6	11.8	47.7	11.1	50.8
Sumy	5.3	44.2	2.9	58.1	2.3	55.5	5.1	49.7	5.6	59.0	3.2	55.1	2.0	43.1	3.9	35.4	4.6	24.4	2.8	24.3
Ternopil	41.5	36.7	36.6	50.1	39.2	48.8	32.1	47.2	31.9	55.1	34.0	46.0	17.0	47.3	26.9	42.3	14.8	43.8	19.4	50.6
Kharkiv	49.3	39.4	47.8	47.5	42.0	54.0	50.6	41.1	47.1	48.8	27.3	60.9	37.3	48.6	35.3	53.6	31.0	42.1	37.8	45.0
Kherson	13.1	48.3	8.2	66.3	10.9	61.9	15.6	56.9	13.6	63.5	12.2	54.0	6.2	55.0	24.9	50.8	10.1	50.5	12.2	51.6
Khmelnitsky	21.1	58.6	5.5	66.9	3.7	67.0	15.8	51.2	11.0	56.5	10.1	57.7	11.1	50.7	9.4	54.0	11.3	46.1	13.8	43.2
Cherkasy	23.4	34.6	24.7	46.1	30.1	43.4	26.1	40.9	28.3	51.0	21.2	44.4	15.8	41.8	30.5	43.8	16.3	48.3	17.4	31.7
Chernivtsy	23.1	57.7	22.6	64.8	23.7	66.8	24.5	63.5	21.9	67.4	36.2	50.0	16.8	62.8	28.4	55.0	17.3	61.5	15.9	53.5
Chernihiv	21.7	58.0	17.5	69.9	19.4	67.7	17.2	65.0	29.1	59.6	6.2	69.3	2.6	68.4	8.9	68.3	3.2	59.7	10.7	68.7
Kyiv city	16.1	51.5	12.0	61.3	13.1	60.8	11.8	60.3	10.6	64.3	9.9	48.5	4.8	63.2	7.0	49.6	2.1	32.4	4.1	38.2

Table 7.2.Satisfaction with medical care: distribution by gender, age, type of locality and health status (for all population), %

Questionnaire question A1-2	District physicians/family doctors		Pediatricians		Dentists		Subspecialist medical care at the polyclinic		Operations of the ambulance		In-patient medical care		Operations of maternity hospitals	
	Quite satisfied	Rather satisfied	Quite satisfied	Rather satisfied	Quite satisfied	Rather satisfied	Quite satisfied	Rather satisfied	Quite satisfied	Rather satisfied	Quite satisfied	Rather satisfied	Quite satisfied	Rather satisfied
Total	20.8	51.9	20.6	54.2	19.0	55.0	12.8	52.9	20.0	49.9	13.0	44.2	16.2	44.3
GENDER														
Men	18.8	53.0	16.6	56.6	17.9	56.0	11.4	53.5	18.0	49.5	12.2	43.4	14.1	41.6
Women	22.3	51.0	23.3	52.7	19.9	54.3	13.9	52.5	21.5	50.3	13.5	44.8	17.4	45.8
AGE GROUP														
18–29 years	21.8	55.2	25.8	54.0	23.8	58.4	14.2	56.0	17.8	50.3	10.6	48.1	21.0	46.1
30–44 years	18.6	52.3	20.6	55.4	19.8	57.0	10.9	51.8	19.4	47.9	12.0	41.6	16.4	44.3
45–59 years	19.7	51.7	18.0	52.9	16.3	53.7	12.9	52.8	20.8	48.8	12.9	43.1	11.9	43.6
60 years and older	23.4	49.1	16.3	53.7	16.2	50.5	14.6	52.1	21.4	52.8	15.5	45.1	12.5	41.4
TYPE OF LOCALITY														
Urban	19.9	50.7	20.7	53.0	19.8	54.0	13.5	52.5	20.7	50.2	13.6	41.8	17.1	42.6
Rural	22.7	54.2	20.3	56.9	17.3	57.3	11.4	57.3	18.6	49.2	11.7	49.0	14.1	48.1
SELF-ASSESSMENT OF THE HEALTH STATUS														
Very poor	31.9	34.8	20.2	39.1	13.9	39.3	24.7	38.6	31.8	40.7	17.5	42.0	13.8	29.7
Poor	20.7	48.1	13.3	51.5	12.8	47.2	11.2	50.9	18.0	50.7	11.6	43.7	9.8	33.4
So- so – not good, but not poor	19.2	52.3	17.2	55.2	16.0	54.6	11.9	53.0	20.1	50.5	13.0	44.8	12.1	45.4
Good	17.1	56.5	19.5	58.0	19.8	59.2	10.7	57.1	16.3	52.1	10.7	44.0	15.6	46.6
Very good	47.3	37.4	49.8	32.6	41.0	46.4	31.0	38.6	39.6	37.2	26.3	41.4	41.1	37.0

- The least satisfied respondents are in Zaporizzhya Oblast (47% - with family doctors or district physicians, 26% - with in-patient care), in Sumy region (49.5% - with family doctors or district physicians, 29% - with in-patient care) and in the city of Kyiv (67.6% - with family doctors or district physicians, 34.5% - with in-patient care). In 2016 Sumy Oblast also demonstrated the lowest levels of satisfaction.

Moreover, of special attention are the following results:

- the lowest number of those "fully satisfied" with family doctors or district physicians is in Mykolayiv Oblast (3.8% in addition to 80% of those "rather satisfied"), in Sumy Oblast (5.3% and 44.2% of those "rather satisfied"), and in Zhytomyr Oblast (9.4% and 65.6% of those "rather satisfied"), as for the question about satisfaction with dentists, the highest number of those "fully satisfied" was observed in Chernivtsy Oblast -36.2%, as well as in Donetsk – 35.6%, Ternopil – 34% and Dnipropetrovsk – 33.5% Oblasts;
- The highest number of those "fully satisfied" with care in maternity hospitals was in Donetsk Oblast – 44.4%, Kharkiv – 37.8%, Luhansk – 33.2% and the lowest number of the "fully satisfied" in Zaporizzhya – 1.2%, Sumy – 2.8%, Kirovograd – 3.8% Oblasts and the city of Kyiv – 4.1%.

We did not notice a large difference in the level of satisfaction between family physicians and district physicians (gray bars) among Oblasts and at the national level, however, in Lviv Oblast, about 5% more people are satisfied with family doctors than with district physicians. This is the biggest difference in this kind of satisfaction.

According to socio-demographic characteristics (***Table 7.2***), a slightly higher share (difference of 4-7%) of the satisfied with certain aspects of medical care provision was observed among women. Thus, 76% of women and 73% of men who had experience of seeking health care were satisfied with the work of pediatricians; of ambulance - 72% of women and 68% of men respectively, of maternity hospitals - 63% of women and 56% of men. Other aspects both men and women rated approximately the same.

Young people (aged 18-29) are slightly more satisfied with the work of specialists in polyclinics (70% of respondents who sought medical care) and dentists (58%), as well as with inpatient care (59%, as well as respondents aged 60 years) and maternity hospitals/ wards (67%).

Residents of rural areas are slightly more satisfied with the work of GPs/family doctors (rural areas - 77%, cities - 71% among all respondents), pediatricians (77% and 74% respectively), with the service of specialists in a polyclinic (57% and 53% respectively), in-patient care (49% and 42% in urban areas, respectively) than urban residents.

It has been established that respondents who assess their health as good are more satisfied with health care than those who assess their health as poor. This fact highlights the different expectations and needs of consumers, as well as different evaluation of health care services received.

In general, we see a slightly higher level of satisfaction in 2017 compared to 2016. However, we still see similar differences among the various socio-demographic segments of the population. The most important finding is that there is a huge difference in levels of satisfaction both between regions and between types of health care and care providers.

The above satisfaction results should be considered, taking into account the specifics of the concept of satisfaction [84]: for example, by comparing the expectations of a person with the result (if the expectations are low, even a mediocre result may be satisfying, since it is higher than expectation). Other theories consider the concept of satisfaction as a comparison of one's own or familiar experiences. Thus, the relatively high percentage of satisfied people can be interpreted not necessarily as "a good state of affairs as assessed by people", but rather satisfaction as meeting expectations and comparability of previous experiences.

[84]Pascoe, G. C. (1983). Patient satisfaction in primary health care: a literature review and analysis. Evaluation and program planning, 6(3–4), 185–210. Sitzia, J., & Wood, N. (1997). Patient satisfaction: a review of issues and concepts. Social science & medicine, 45(12), 1829–1843.

7.2. Attitude Towards Healthcare Reform

In 2017, as in 2016, the survey tool contained the question about the attitude to health care reform, namely: “Do you think there is a need for health care reform at all?” and “Do you think the healthcare reform is underway?”.

According to the results of the 2017 survey, 84.4% of respondents indicated that health care reform is needed. At the same time, there are significant differences between the regions: while almost all respondents from the Transcarpathian, Sumy, Lviv and Mykolayiv Oblasts considered reform necessary, the share of affirmative responses in the Donetsk, Luhansk and Zaporizzhya regions did not exceed 60%, while in Kharkiv it was 65% (***Table 7.3***). There is no particular difference in opinion regarding the need of reform between age groups and by gender. Somewhat greater share of the rural population than the urban one supports the beginning of the reform: 88.9% and 82.4%, respectively, which may be explained by somewhat worse access to health care in rural areas.

Table 7.3. The perceived need for the reform and its implementation (percentage)

	A9. Do you think that healthcare reform is needed at all?	**A10. Do you think that healthcare reform is underway?**
	Answer YES	**Answer YES**
UKRAINE	*84.4*	*22.6*
Vinnytsia	84.02	23.69
Volyn	81.14	35.94
Dnipropetrovsk	80.24	24.69
Donetsk	58.12	18.08
Zhytomyr	90.49	29.70
Transcarpathian	99.28	17.65
Zaporizzhya	59.47	31.53
Ivano-Frankivsk	96.01	36.19
Kyiv	90.54	44.31
Kirovograd	97.37	9.15
Luhansk	54.60	43.42
Lviv	97.43	15.94
Mykolayiv	97.56	4.35
Odesa	87.53	17.36
Poltava	96.38	46.71
Rivne	89.53	19.33
Sumy	98.34	6.03
Ternopil	91.65	36.03
Kharkiv	65.20	29.26
Kherson	95.24	4.86
Khmelnitsky	85.85	18.03
Cherkasy	94.33	19.52
Chernivtsy	86.54	28.92
Chernihiv	87.28	8.90
Kyiv city	94.07	10.77
TYPE OF SETTELMENT		
Urban	82.41	22.80
Rural	88.86	21.96
GENDER		
Male	84.13	21.37
Female	84.65	23.52
AGE GROUP		
18–29 years	88.60	27.49
30–44 years	86.54	23.26
45–59 years	84.32	21.28
60 years and older	78.75	19.50

Even greater regional differences were registered in terms of citizens' opinion on whether reform is already taking place. On average, 22.6% of the surveyed citizens said that the reform is already underway. In Kyiv, Luhansk, and Poltava Oblasts, more than 40% of the surveyed positively responded to this question, while less than 10% of respondents in the Mykolayiv, Kirovograd, Sumy, Kherson and Chernihiv Oblasts believed that the reform had begun.

Among the respondents, those who have a basic or tertiary education (72.8% and 78.4%, respectively) support the need for the reform. Interestingly, respondents with lower income support reform less than richer respondents. Perhaps this is explained by both probable bigger cautions/warnings as a result of fears of having to pay more for medical care and a likely lower knowledge about the substance of reform and change. On average, respondents with higher incomes often also thought that reform was already taking place.

One of the components of the health care reform in 2017 was the Affordable Drugs program. In our study, we asked the respondents to rate the program that was introduced in April 2017. 8% of respondents had experience of participating in this program and most (74%) rated the program positively. Relatively low percentage of participation can be explained by the fact that this study was conducted in May-June 2017 when the program only started, therefore, the level of engagement, most likely, has increased during the 2017. In the Kharkiv, Dnipropetrovsk and Vinnytsia Oblasts, the largest share of respondents (11-13%) participated in the Affordable Drugs program. The difference in the level of participation in the program may be related to the activity of regional authorities.

The main result of health care reform is that respondents in the first place want to see the correct diagnosis and prescription of treatment: 47.2% of respondents mentioned this very result as the first choice and 18.1% - as the second one (***Fig***. 7.2). Also, respondents would like the reform implementation to result in a reduction of expenditures of the patient for medical care and medicines (41.6% and 37.8% of the surveyed, respectively).

In the context of household incomes, the correct diagnosis and prescription of treatment was a priority for all respondents. The poorer respondents more often than others would like to see the reduction of the cost of medical care and medicines as result of the reform. Households with medium income more often than others have been keen on increasing salaries of medical personnel.

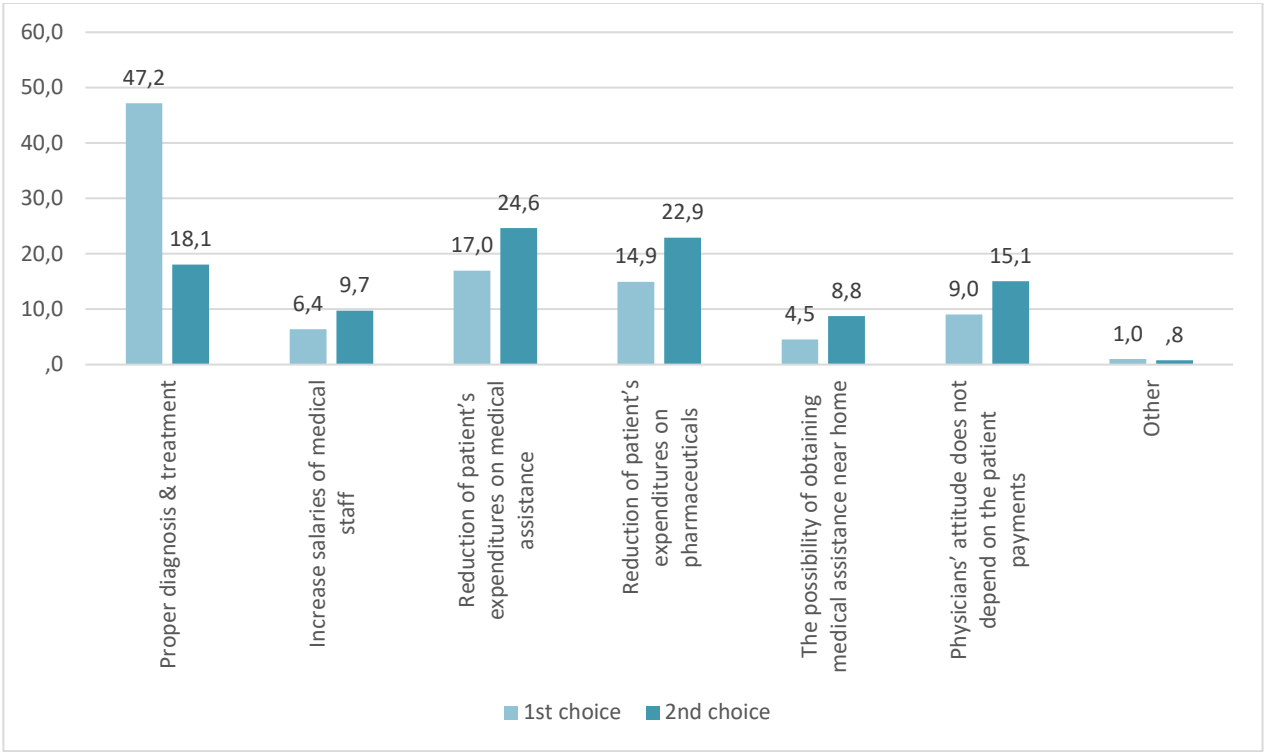

Fig. 7.2. What would you like to see as the result of healthcare system reform?

Table 7.4. What would you like to see as the result of healthcare system reform? (first choice)

	Correct diagnosis and prescription of treatment	**Increased salary of medical personnel**	**Lower costs of medical care for the patient**	**Lower patient expenditures for medicines**	**Possibility to get care close to home**	**Attitude of doctors does not depend on the size of gratification from a patient**
UKRAINE	*47.2*	*6.4*	*17.0*	*14.9*	*4.5*	*9.0*
Vinnytsia	50.31	3.66	17.68	15.20	5.25	6.26
Volyn	29.99	11.46	11.44	13.71	13.78	6.62
Dnipropetrovsk	51.60	10.64	11.85	11.20	4.34	7.68
Donetsk	43.02	5.96	22.22	13.19	2.97	10.11
Zhytomyr	42.18	2.83	25.40	18.34	3.20	7.77
Transcarpathian	47.22	11.43	13.18	9.91	3.00	13.82
Zaporizzhya	42.78	7.38	21.11	12.52	4.67	8.90
Ivano-Frankivsk	46.60	8.15	17.98	14.59	1.76	8.66
Kyiv	63.07	2.58	9.39	15.72	3.34	3.42
Kirovograd	64.80	0.52	12.10	6.01	2.96	12.47
Luhansk	55.43	1.22	15.95	12.25	8.96	2.81
Lviv	56.63	6.72	11.69	12.54	4.07	7.55
Mykolayiv	62.40	1.37	9.68	12.26	2.11	9.87
Odesa	48.98	3.40	15.68	14.28	3.97	11.93
Poltava	26.80	6.18	29.14	33.15	1.24	2.36
Rivne	46.34	6.61	15.26	18.43	4.44	6.50
Sumy	31.10	2.78	18.81	33.51	3.24	8.54
Ternopil	46.33	7.73	12.96	19.19	2.85	8.96
Kharkiv	34.56	11.02	21.62	18.93	7.50	3.26
Kherson	46.65	3.95	13.90	14.42	2.09	14.48
Khmelnitsky	39.65	3.17	15.95	19.02	3.97	16.18
Cherkasy	42.61	6.27	22.58	9.87	5.33	12.41
Chernivtsy	35.69	15.68	21.73	12.35	4.78	6.49
Chernihiv	51.38	10.04	11.90	10.85	4.76	7.90
The city of Kyiv	46.27	5.68	13.64	8.83	5.39	18.06
TYPE OF RESIDENCE						
urban	48.30	6.62	16.17	13.60	3.39	9.16
rural	42.42	5.61	17.85	17.11	6.89	8.30
GENDER						
Male	46.39	6.51	15.99	14.54	4.47	9.09
Female	46.53	6.14	17.28	14.81	4.49	8.72
AGE GROUP						
18–29 years	49.60	8.57	14.98	11.79	3.46	9.32
30–44 years	49.47	6.93	14.12	12.51	4.43	10.14
45–59 years	47.07	5.89	17.41	13.92	4.80	8.73
60 years and older	40.49	4.41	19.94	19.81	4.97	7.43

Proper diagnosis and prescription of treatment were the main wishes of citizens for the results of the reform in most Oblasts of Ukraine (***Table 7.4***). At the same time, in Sumy and Poltava Oblasts, the most desirable result was the "reduction of patient expenditures for medicines". Reducing patient costs for health care was important for almost 30% of respondents in the Poltava Oblast.

No significant differences were observed in responses by type of residence, gender, and age group. However, residents of villages and elderly people more often than others would like to see as the result of the reform cheaper medical care and medicines.

At the same time, the respondents' expectations for reform, which is currently being implemented by the government, are somewhat different from the wishes that patients had in 2017. Thus, 12% of respondents believe that as a result of the current reform nothing will change. If we analyze the first choice of respondents regarding the possible impact of the reform, then almost 50% of the population believes that the consequences will be positive: better equipment, availability of medicines in medical institutions, and no need to pay for medical care “out-of-pocket” (***Table 7.4***). At the same time, a rather high percentage of respondents (38% among the first choice) believe that the consequences of the reform will be negative: first of all, respondents fear the worse accessibility (both territorial and financial) of health care. The risks to the implementation of reform are also seen by those surveyed, whose main expectations are positive: yes, the second choice of the answers as to the expected results was associated with the deterioration of the situation.

Expectations of respondents differ significantly between Oblasts. Patients in most Oblasts think positively about the results of the reform. At the same time, negative expectations predominate in Kyiv, Vinnytsia, Donetsk, Zaporizzhya, Kirovograd, Luhansk, Mykolayiv, Odesa and Poltava Oblasts. A significant share of respondents from the Sumy region (almost 30%) believe that reform will result in no changes. Differences in responses may be due to initial differences in the health financing in the regions and previous experience of reform. Regional media also provide information on reforms in different ways. In addition, already in 2017, many health problems in the system have been unambiguously linked to the reform, although in reality, the reform has not yet begun. Against the backdrop of weak trust in the authorities, citizens tend to trust other groups of stakeholders rather than the leaders, in particular, the Ministry of Health, namely, the media and the opposition representatives.

As in 2016, the 2017 questionnaire contained the question about who the improvement of health facilities operation would depend on. Respondents most often believe that the Minister of Health is responsible for improvement: 69.8% of respondents (***Table 7.5***). Also, according to the respondents, the improvement essentially depends on the work of the Chief doctor of a health care facility (40.5%), as well as on the President and the Prime Minister. According to the respondents, the role of local authorities is considerably smaller, which is likely to change in the following years: the reform involves a more active role of local authorities after the introduction of changes.

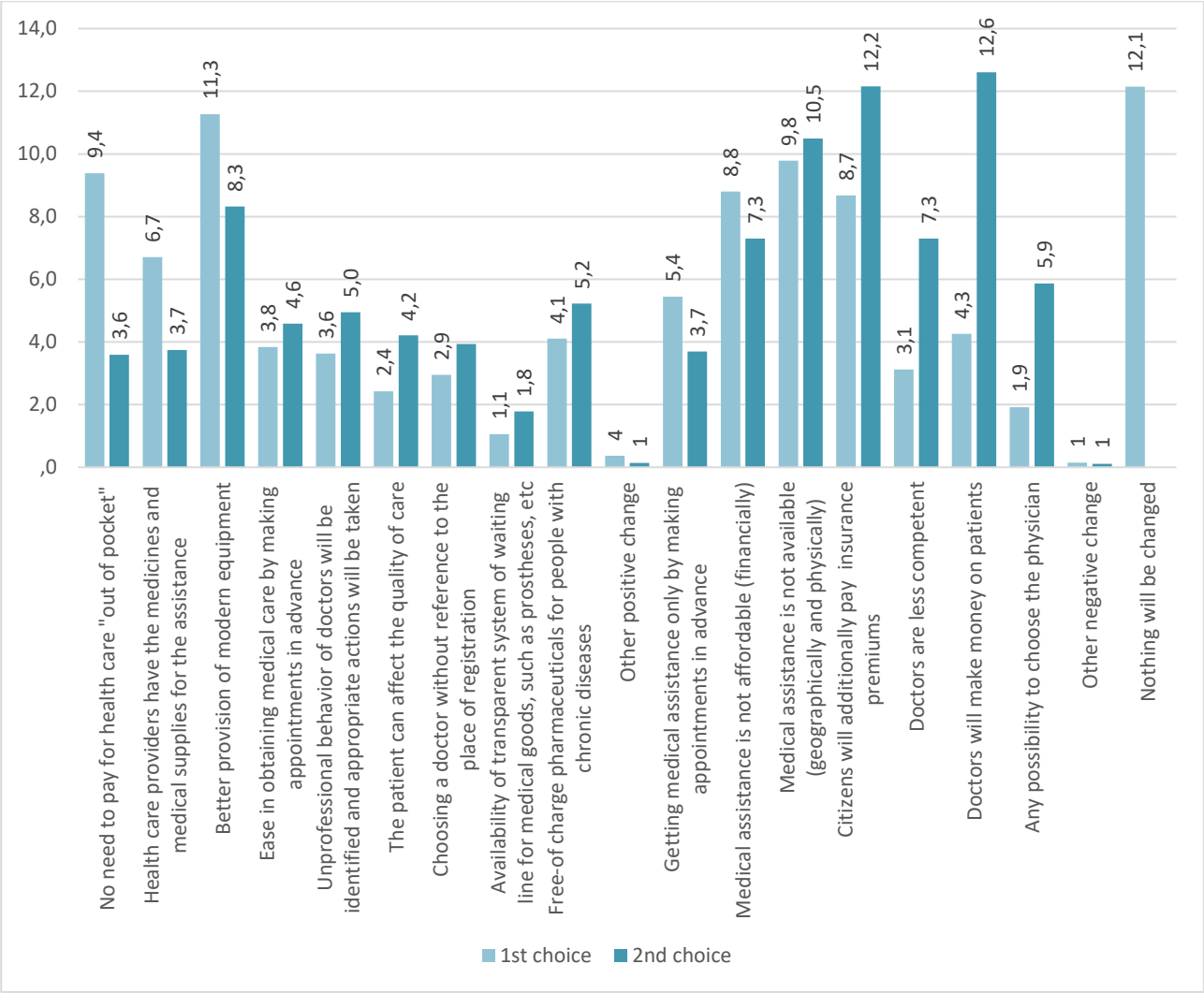

Fig. 7.3. What do you think will change as the result of the reform which is being currently implemented by the government and local authorities?

We do not see significant differences in the share of responses to the role of minister, President, etc., by age group and gender, as well as the type of locality they live in. At the same time, there are significant regional differences. Thus, more than 80% of respondents from Lviv, Mykolayiv and Sumy Oblasts believe that the Minister of Health has a great influence on the development of medicine, while such opinion is shared by less than a half of those surveyed in the Vinnytsia, Volyn and Ternopil Oblasts. In the Mykolayiv region, respondents generally think that the role of central governmental bodies is greater than that of the local ones, but at the same time they consider the role of doctors themselves as essential. About a third of respondents in Kyiv, Zaporizzhya, Odesa, Poltava and Rivne regions see an important role of doctors, while less than 10% of respondents in Kyiv, Sumy and Kherson share this view.

Table. 7.5. On whom do the improvements in healthcare institution operations depend?

	President	Prime Minister	Health Minister	Head of the Oblast state administration (governor)	City mayor or the village head	Head of the rayon administra-tion	Chief doctor (top manager) of a health care institution	Doctors
Ukraine	*37.4*	*35.0*	*69.8*	*10.5*	*16.5*	*7.5*	*40.5*	*20.0*
OBLAST								
Vinnytsia	27.3	27.0	48.6	11.7	21.0	9.1	36.6	26.0
Volyn	11.1	29.4	48.8	4.5	7.2	1.4	28.0	22.9
Dnipropetrovsk	28.5	21.5	64.3	8.0	19.5	6.1	36.3	15.9
Donetsk	22.4	20.4	85.3	15.5	19.7	2.2	41.3	16.5
Zhytomyr	30.4	32.4	61.3	7.9	6.0	5.1	37.0	21.5
Transcarpathian	42.8	41.5	71.5	11.8	22.1	12.1	38.9	12.1
Zaporizzhya	42.5	43.1	75.1	17.8	13.6	5.9	23.7	29.1
Ivano-Frankivsk	23.7	24.8	67.6	8.3	20.7	8.7	60.1	18.9
Kyiv	49.5	45.7	63.6	20.5	32.6	21.9	70.5	32.0
Kirovograd	59.6	68.5	79.7	9.9	8.1	9.7	28.5	19.6
Luhansk	19.8	37.8	68.7	15.5	21.6	5.1	43.9	16.9
Lviv	45.4	30.3	85.9	11.0	7.9	4.3	40.1	19.3
Mykolayiv	64.9	63.8	91.4	9.3	11.4	17.2	46.7	44.7
Odesa	30.3	31.4	71.1	7.6	18.1	14.6	71.2	36.3
Poltava	55.5	39.8	68.5	11.5	18.7	15.9	42.8	36.4
Rivne	40.0	43.0	72.7	13.5	12.2	12.6	46.5	28.9
Sumy	19.9	25.5	86.1	4.0	4.0	1.7	7.7	4.1
Ternopil	18.4	14.7	47.0	7.0	11.1	14.0	37.4	24.8
Kharkiv	76.9	42.4	55.9	2.0	19.1	3.1	31.3	10.9
Kherson	46.7	57.5	78.4	2.9	5.5	2.7	21.7	7.6
Khmelnitsky	30.1	15.2	54.8	6.9	7.6	3.4	23.2	19.0
Cherkasy	41.8	29.3	59.7	6.9	13.4	6.3	33.0	11.7
Chernivtsy	48.5	20.1	73.9	7.7	13.6	5.2	27.4	15.9
Chernihiv	26.9	35.4	59.1	7.1	19.5	6.4	39.0	15.4
Kyiv city	39.9	59.1	75.3	15.6	22.1	6.0	50.6	8.5
TYPE OF LOCALITY								
urban	36.1	34.9	70.5	10.3	18.1	6.6	41.8	19.8
rural	40.3	35.4	68.1	10.9	12.9	9.4	37.6	20.4
GENDER								
Male	39.0	36.7	69.4	10.3	17.5	7.5	38.8	19.7
Female	36.1	33.7	70.1	10.6	15.6	7.5	41.8	20.3
AGE GROUP								
18–29 years	34.4	30.3	69.8	9.3	15.7	7.6	40.6	20.5
30–44 years	37.9	35.5	68.7	11.0	17.1	8.2	41.9	22.1
45–59 years	37.4	36.7	71.0	11.6	17.1	7.5	40.6	18.7
60 years and older	39.1	36.4	69.8	9.8	15.7	6.7	61.3	18.7

The percentage of respondents who believed that healthcare reform is already underway in 2017 has risen to 23%, compared with 15% in 2016. This may indicate both the steps towards reform, and the fact that it was the beginning of reform with which the respondents associated different changes in healthcare institutions.

At the same time, the share of those who think that reform is necessary has decreased: from 93% in 2016 to 84% in 2017. The need for reform is estimated at the same level in Vinnitsya Oblast (84%), Lviv (98% in 2016 and 99% in 2017), Mykolayiv (97% in 2017), Poltava, Sumy and Cherkasy

Oblasts. In Ternopil Oblast, the value from 60% in 2016 increased up to 92% in 2017. Reducing the perception of the need for reform can be explained by the fact that we are already seeing the first steps in implementing changes in the healthcare system. However, on the other hand, there has been a significant critique of the reform throughout the year, and there is a lot of criticism in the media, many myths have been invented[85]. Given the lack of clear information about reform, its components and consequences the population is fearful of any changes.

A direct comparison of the expectations from the reforms between 2016 and 2017 is complicated, as the questions have been somewhat changed (regarding the understanding of the content of the reform). At the same time, it can be argued that during the two years of the survey the respondents see improvement in the quality of medical care and a reduction in the cost of receiving it as the most important expected outcome of the reform.

In 2017, as in 2016, respondents see the role of Health Minister as the most important factor in improving the operations of medical institutions. At the same time the respondents believe that the role of the President and local authorities have somewhat increased (from 33.2% to 37.4%) and (from 32.3% to 34.5%), respectively.

Besides this, other studies are being conducted [86] the Sociological Group Rating for instance interviews the public about their perception of the medical sector in Ukraine, a part of the questions concerns the very attitude to the health care reform. In December 2017, a survey showed that 86% of respondents were well aware of the implementation of medical reform[87]. Surveys conducted by the Rating during the year 2017 showed that the population supports the governmental steps within the framework of the Affordable Drugs program, which is similar to the results of the Health Index. Also, the respondents supported a number of other steps of the reform, including "money has to follow the patient". However, the Rating surveys show that there is no complete understanding of all changes that may explain the difference in supporting the need for reform, which was identified in the Health Index Survey.

The survey of the Center for Economic Strategy (CES[88] showed that 31% of the respondents know about and support the reform, and 30% of respondents know and do not support it, which is somewhat less than the Rating survey. At the same time, the respondents' awareness and support for reform essentially depend on its various elements. In general, those factors that support the availability of quality medical care and reduce health care costs will be supported more. This is also revealed within the framework of the Health Index.

[85] VoxCheck Ukraine has more than once checked the citations of the politicians regarding the healthcare reform. The very often statement of these citations is "lies"or"manipulation": https://voxukraine.org/uk/voxcheck/.
[86] http://ratinggroup.ua/
[87] http://ratinggroup.ua/research/ukraine/ocenka_medicinskoy_sfery_v_ukraine_dekabr_2017.html
[88] http://ces.org.ua/wp-content/uploads/2017/11/report_critical_thinking_ukr-FINAL-for-web.pdf

Appendix A. Research instrument 2017. Second wave

SECTION A. HEALTH CARE SYSTEM AND SERVICE SATISFACTION, PERCEPTION

A1. From your own experience of private or state health care consumption, or from experience of other people, please indicate how satisfied or dissatisfied you are with each of these parts of health care system components – how it runs all in all nowadays (CARD A1)

PARTS – CARD A1:

– District doctors/ family doctors
– Pediatricians
– Dentists
– Specialist at policlinics or ambulatory
– Emergency care / ambulance
– Hospitalization
– In Maternity hospitals

Answer options:

– Completely satisfies
– Rather satisfies
– Rather dissatisfied
– Completely dissatisfied
– Difficult to answer (DA)
– Refuse to respond (RR)

A2. Have you experienced any personal contact with the representatives of health system during the last 5 years? It could be you personally or other person, whom you helped to seek the medical assistance? (CARD A1)

Answer options:

– Yes
– No
– DA/RR

A3. What do you think are the main problems in health care? Mention not more than three problems starting with the most important. CARD A3. ONE ANSWER IN EACH COLUMN

Columns: 1-st choice; 2-nd choice; 3-rd choice

CARD A3:

– Corruption at Ministry of Health
– Informal payments to physicians – so-called honorariums and gratitude
– Negligence of the medical staff
– Lack of modern equipment
– Lack of professionalism, unqualified medical staff
– High price of drugs
– High price of treatment
– Poor hygienic conditions in facilities
– Low salaries of medical staff
– Lack of medical staff

– Inconvenient working hours, long lines
– No problems
– Other (describe)
– DA / RR

A4. How would you assess in general changes in the following aspects of health care services over the past 12 months -on your opinion, has improved, worsened or remained the same?

1 Quality of health care services in ambulatory - general practice and family medicine or in center for primary care – i.e. the family doctor or a district physician and pediatrician

2 Financial affordability of health care in ambulatory - general practice and family medicine or in center for primary care – i.e. the family doctor or a district physician and pediatrician

3 Geographical accessibility of health care services in ambulatory - general practice and family medicine or in center for primary care – i.e. the family doctor or a district physician and pediatrician

4 Quality of outpatient services in diagnostic centers – narrow specialists and diagnostic services in polyclinics

5 Financial affordability of outpatient services in diagnostic centers – narrow specialists and diagnostic services in polyclinics

6 Geographical accessibility of outpatient services in diagnostic centers – narrow specialists and diagnostic services in polyclinics

7 Quality of health care services in hospitals

8 Financial affordability of health care services in the hospitals

9 Geographic availability of health care services at the hospitals

A5. Talking about ambulatory or polyclinics, please, select three characteristics of their performance in which you recognized any improvements during the last 12 months. In which have you recognized worsening?

A6. Now, think about the inpatient medical assistance. Name characteristics where you have recognized improvement during the last 12 months. In which have you recognized worsening?

A7. If you have a power to change one thing in policlinic or ambulatory, what would it be? (one answer)

Answer options:

– Waiting time
– Professionalism of physicians
– Conditions of the facility
– Physicians' attitude towards patients
– Confidentiality of personal data
– Availability of necessary drugs
– Treatment cost, including consultation, laboratory tests and drugs
– Possibility to choose the doctor
– System of consultation appointment
– Working hours of physician
– Effectiveness of the treatment
– Other (describe)
– NO SUCH
– DA / RR

A8 On your opinion, the functioning of health care facilities mostly depends on whom? (CARD A8. Multiple responses are allowed)

CARD A8:

– President
– Prime-minister
– Minister of Health
– Head of regional (oblast)state administration(governor)
– Mayor of your city or head of village or head of united community
– Head of the district administration
– Chief doctor/ head of health care facility
– Physicians
– Other (describe)
– DA / RR

A9. Do you think the health care reform is needed?

Answer options:

– Yes
– No
– DA/R

A10. Do you think the reform is taking place?

Answer options:

– Yes
– No
– DA/R

A11. What would you like to see as a result of health care system reform? You can choose two answers, starting with the most important.

CARD A11. ONE ANSWER each column

– Proper diagnosis & treatment
– Increase salaries of medical staff
– Reduction of patient's expenditures on medical assistance
– Reduction of patient's expenditures on pharmaceuticals
– The possibility of obtaining medical assistance near home
– Physicians' attitude does not depend on the patient payments
– Other (specify)
– DA / RR

A12. On your opinion, what will change as a result of the reform, which is currently under the implementation by the national government and local bodies? You can choose two answers, starting with the most important.

CARD A12. ONE ANSWER each column

– **The situation improves**:
– No need to pay for health care "out of pocket"
– Health care providers have the medicines and medical supplies for the assistance
– Better provision of modern equipment

– Ease in obtaining medical care by making appointments in advance
– Unprofessional behavior of doctors will be identified and appropriate actions will be taken
– The patient can affect the quality of care
– Choosing a doctor without reference to the place of registration
– Availability of transparent system of waiting line for medical goods, such as prostheses, etc.
– Free-of charge pharmaceuticals for people with chronic diseases
– **The situation is worse, namely:**
– Getting medical assistance only by making appointments in advance
– Medical assistance is not affordable (financially)
– Medical assistance is not available (geographically and physically)
– Citizens will additionally pay insurance premiums
– Doctors are less competent
– Doctors will make money on patients
– Any possibility to choose the physician
– Other (specify)
– **Nothing will change**
– DA / RR

A13. What does quality of care means for you as for patient or for relative of patient? You can choose two answers, starting with the most important.

CARD A13.One answer option in each column

– The effectiveness of the treatment (the correct diagnosis, adequate treatment)
– Courteous medical doctors communicate with patients and their families
– Free-of-charge drugs
– Clarity of medical doctor's explanations to patients
– A satisfactory hygienic state medical facility
– Assuring hygienic procedures such as washing hands before the consultation by medical personnel
– The availability of modern equipment
– Qualified medical personnel using modern and safe treatment methods
– Respect, trust and empathy to the patient
– The possibility to stay close to family members of patients
– The possibility to influence the quality of care by patients
– Other (specify)
– DA / RR

A14.Let's change topic a bit. What do you think, what are the symptoms of tuberculosis? (multiple responses are allowed, do not read out options, spontaneous response, Interviewer, do not consider incomplete answers (for instance, just "cough") as correct.

Answer options:

– Cough that lasts for more than three weeks
– Pain in the chest
– Coughing up blood or sputum
– Weakness or fatigue
– Paleness
– Breathlessness

– Weight loss, exhaustion
– No appetite
– Chills
– Sleepiness
– Fever
– Night sweat
– INCORRECT ANSWER
– DA/RR

A15. What are the stroke symptoms? (multiple responses are allowed, do not read out options, spontaneous response).

Answer options:

– Sudden numbness or loss of mobility of face, arm or leg, especially on one side of the body
– The difficulty of articulation or speech perception, the text of which appeared suddenly
– The deterioration of one or both eyes
– The sudden loss of coordination of movements, unsteadiness of gait, dizziness
– Sudden and unexplained strong headache
– INCORRECT ANSWER
– DA / R

A16. Could you please indicate the symptoms of a heart attack? *Multiple responses. DO NOT read the options- spontaneous response.*

– Severe chest pain and burning compressive nature, which is held in the left arm, jaw and shoulder
– Pressure, discomfort in the center of the chest, feeling of fullness in i
– Squeezing or pain in the left center of the chest that lasts more than 20 minutes
– Feeling short of breath, cold sweats, general feeling of discomfort and malaise, dizziness, or fainting condition of almost being unconscious
– Aching hands
– Strong feelings of anxiety, nervousness, fear death
– Increased heart rate or irregular pulse
– Nausea
– Wrong answer

A17. And the symptoms of diabetes? *Multiple responses. DO NOT read out options -spontaneous response.*

– Increased appetite and cravings for sweets
– Chronic fatigue, somnolence
– Excess weight
– Increased thirst, dry mouth, frequent urination (often 5 times a day)
– Rapid weight loss in a short period of time
– Itchy skin, hyperpigmentation, skin coarsening
– Slow healing wounds
– Fungal infections
– Blurred vision
– Numbness, burning sensation in the hands and feet, swelling of the lower extremities
– Wrong answer

SECTION B1.EXPERIENCE IN CASE OF SICKNESS

Now I am going to ask several questions about your behavior in case of illness. We are interested in your personal experience. It means, when medical assistance was provided exactly for you, not those cases when you could ask for assistance for somebody else. Also these questions are not about the cases when you could have been seeking medical assistance for your children and grandchildren.

B1.1. Over the past 12 months, have you gone for medical checkups:

- Dentist? Yes - No
- ASK MEN ONLY: Urologist? Yes - No
- ASK WOMEN ONLY: Gynecologist? Yes – No
- ASK WOMEN ONLY: Cervix cytology? Yes – No
- ASK WOMEN ONLY: Mammography? Yes - No
- Fluorography? Yes - No
- Preventive cardiogram? Yes - No

B1.2. Have you had the experience of receiving the drugs within the program "Available Drugs"?

Answer options:

– Yes
– No
– DA/R

B1.3. How do you assess this program?

CARD B1.3

- Very positive
- Rather positive
- Rather negative
- Very negative

B1.4.When did you measure your pressure last time?

- In the last 6 months
- 6-12 months ago
- More than 1 year ago
- Never => B1.6

B1.5. What pressure do you usually have? _____ / _____ mm Hg Art.

B1.6. How do you think your pressure is usually:

- Normal
- High
- Is low

B1.7. Have you ever been told by tell a doctor that you have high blood pressure ?? Yes - No

B1.8. Have you been advised by a doctor about high blood pressure treatment, including both drug treatment and healthy lifestyle recommendations? Yes - No

B1.9. Have you been able to achieve a stabilization of pressure within 140/90 as a result of the recommended treatment?

- Yes
- No
- In part, I accept medication only in case of a significant increase in pressure

B1.10. Even if you did not seek a doctor for this matter in the last 3 years, did you ever recommend any of the following? CARD B1.10. POSSIBLE DETAILS OF ANSWER

B1.11. Which of the following did you observe during the last 14 days? CARD B1.10. POSSIBLE DETAIL OF ANSWER

- Receiving high-pressure medicines such as Enalapril, Amlodipine, Indapamide, Bisoprolol, Prestarium, etc.
- Intake of cholesterol drugs, such as Simvastatin, Atoris, Roxera, etc.
- Intake of drugs for thinning of blood, such as Aspirin, Magnicon, Cardiomagnol, Clopidogrel (Trombonet), Warfarin, etc.
- Reducing the level of salt intake
- Weight control or weight loss
- Stopping smoking or reducing the number of cigarettes smoked
- Refusal of alcohol or reduction of its use
- Increase in physical activity
- Other (please specify)
- NONE

B1.12. What do you usually do first of all when you feel sick?

CARD B1.12. One answer.

- Self treatment with folk alternative remedies, non-drugs products?
- Self treatment using drugs?
- Ask for advice from the pharmacist?
- Call an ambulance?
- Go to family doctor/district doctor?
- Go directly the services of a narrow specialist of ambulatory or polyclinic?
- Go directly to medical specialist of inpatient care?
- Go to the services of alternative medicine (homeopaths, healers)?
- Ask the advice of medical doctors who are your relatives, friends, acquaintances?
- Search for way of treatment of similar symptoms in Internet?
- Do something else? What exactly (describe)?)
- Do nothing
- DEPENDS ON SYMPTOMS
- DA / R

B.1.13 During the last 3 years, how often did you take medication on the basis of recommendations from relatives or friends who are not medical professionals, or tips on the Internet or on television, if you found similar symptoms in yourself?

B.1.14 How often did you take yourself or give antibiotics to children without a doctor's appointment during the last 3 years?

Answer options:

- Often
- Rare
- Never

B1.15. Recall your last case of illness or trauma that prevented you from working or doing routine business in the normal mode for at least 7 days and what happened in the last 12 months. Name the month and year when it happened.

MONTH: ____ YEAR: 201__ NO SUCH CASES…..0 =>GO TO SECTION B2

B1.16. Have you asked for medical assistance physician or feldsher in a case of your last illness or trauma?

Answer options:

– Yes => Section B2
– No
– DA/R

B1.17. Why did not you have go to physician? Name tree reasons.

CARDB1.5:

– Too expensive (service, drugs, transport)
– Do not trust medical staff, their qualification
– Bad attitude of staff, brutality
– Long lines in hospitals
– No transport connection
– Know, how to treat, due to previous experience
– Do not know whom to visit
– Expect that illness disappear, did not disturb much
– Other (describe)
– DA / R

B1.9. How much did you pay for medications, you consumed during this last episode of illness?

_____ UAH

SECTION B2. EXPERIENCE OF CONSUMPTION OF OUT-PATIENT (AMBULATORY) MEDICAL ASSISTANCE

B2.1. Now we talk about ambulatory care.

Please do not include here ambulance call, dental services, medical or professional checkups, refer for health certificate or sick leave, refer to homeopaths, healers, who are not physicians, passing only through diagnostic procedures or analyses, as well as assistance provided to your child or another family member. Asking about ambulatory care, we do not mean a going through series of the procedures, day patient facility and so on.

So, how many times did you use ambulatory medical assistance during the past 12 months ?

_____ times IF 0 => GO TO QUESTION B2.18

B2.2. The next several questions are referring to your last visit to physician. What was your diagnosis? CADRB2.2.

WRITE DOWN _____ CODE DA…998 R…999

Diagnose was not made….0

B2.3. Was it a general practitioner(therapist, family doctor) or specialist in separate area? CARDB2.3. One answer

- Family doctor, general practitioner => B2.5
- District therapist =>B2.5
- Narrow specialist (define)
- Your own family doctor (on personal agreement) =>B2.5
- DA / R

B2.4. Did you have a referral to this specialist/ district doctor?

Answer options:

- Yes
- No
- DA/R

B2.5. Where did you visit the physician?

CARDB2.5. One answer

- Feldsher point
- Ambulatory of family medicine
- Center of primary health care
- City/ District/ departmental policlinic
- State / departmental hospital
- Private clinic / practice
- Calling a doctor home
- Other (describe)
- DA /R

B2.6. Was this facility and doctor which you are assigned to?

Answer options:

- Assigned to this facility and doctor => B2.8
- Assigned to this facility, but choose another doctor
- Was not assigned to this facility

B2.7. Why did you choose this facility or physician? Select not more than 3 reasons.

CARDB2.7.

- Physician is friendly
- Physician is competent
- Service payment is affordable or cheap
- Waiting time is short/There are no liner in this facility
- There is a necessary equipment
- Convenient location
- Referral, which this physician can give was needed

- Physician - acquaintance /This physician was recommended
- There is a possibility to treat a wide range of diseases
- It is the only physician/ health care facility that accept me without payment
- This is the facility which my insurer sent me to
- This is a private health care facility where the quality of medical assistance is better than in the nearest state health care facilities.
- Other(describe)
- DA / R

B2.8. Not counting drugs, diagnostic procedures, and laboratory tests during this visit how much did you pay?

B2.9. (for each item, regardless of respondent paid or did not pay, ask) Did somebody require any payment, even if only hinted?

- Pay to the account of a charitable fund or other (nonmedical) organization? _____ UAH
- Pay at the cash desk according to official rules and official prices of medical facility? UAH
- Pay in envelop, from hands to hands or give a gift to the doctor or other medical staff? (if it was a gift - ask to estimate the price)

- Pay separately for health care goods – gloves, syringe, X-ray film and other materials

B2.10. How many drugs' names physician prescribed you last time?

_____ names If none (0) => go to B2.18

B2.11. Did you get prescription whothout which it was impossible to buy drugs or get the reimbursement?

Answer options:

– Yes
– No
– DA/R

B2.16. Did you buy all the drugs that were prescribed?

Answer options:

- No
- Almost all
- All => B2.14
- DA / R => B2.14

B2.13. Why did you buy not all of the drugs? (several options are available)

- Did not have money
- Did consider that buying all is necessary
- The drugs were absent in pharmacy, did not find
- Other (specify)
- DA / R

B2.14. Prescribing the drugs, did the physician offered a cheaper and more expensive option? Yes - No

B2.15. Did physician prescribe active substance, but not the brand of the drugs? Yes – No

B2.16. How much did you pay for these drugs? _____ UAH

B2.17. Which part of the drugs' expenditures were reimbursed by state ? _____ %

B2.18. Have you had any diagnostics or laboratory tests?

B2.19 Did you take it in the state or private facility?

B2.20. How much did you pay for it?

A. Laboratory tests? Yes/No; State?Private; Paid _____ UAH

Б. Diagnostics? Yes/No; State?Private; Paid _____ UAH

B2.21. Was it difficult for you and your family to find money to cover all the expenses (formal and informal) which were related to the ambulatory care consumption ?

CARD B2.21

- Not difficult at all => B2.24
- Rather easy => B2.24
- Rather difficult
- Extremely difficult

B2.22. How much your household needed to ask or borrow money from relatives, friends, bank, with credit card or sell jewelry, property to cover these expenses?

_____ UAH DA…98 R…99

B2.23. How do you asses following aspects of out-patient medical assistance?

CARDB2.24. read and choose an answer in each row in table below.

B2.24. Now look at card B2.24. Here are listed all aspects that I have just read to you. Please, say, which of these are more important for you. You can choose up to three.

CARDB2.24. not more than 3 answers in column.

Answer options:

- Very good
- Good
- Normal
- Bad
- Very bad

CARDB2.24:

- Treatment effectiveness
- Courtesy of doctors in interaction with patients and their families
- Clarity of medical explanations to patients
- How conveniently is the healthcare institution employing your doctor located
- The setting of healthcare provision (e.g, renovation, clean rooms, including toilets)
- Work hours
- The opportunity to get the necessary diagnostic workup, laboratory tests and treatment procedures free of charge
- Straightforward and transparent policies of payment for care (including the absence of informal payments)
- Is medical personnel ensuring hygiene during examination and procedures, such as putting on disposable gloves in your presence, washing hands before exam, cleaning tubes and sticks?
- Availability of the essential equipment

- In general, how do you assess the outpatient medical care?
- NONE OF ABOVE OPTIONS
- DA / R

B2.25. During the last 12 months did you have to refuse because of the lack of money?

- From the treatment because of the inability to cover the expenditures
- Postpone the treatment
- Decrease the number of drugs
- Stop (not finish) the treatment

B2.26. During the last 12 months how many times you were ill but did not visit the doctor at all because of the lack of money? ____ times

SECTION B3.EXPERIENCE OF INPATIENT SERVICE CONSUMPTION

B3.1. How many times you were hospitalized during the last 12 months with exception of one day in-patient care, hospitalization with a child, but including hospitalization related to pregnancy or delivery? ____ times If 1 or more => Go to additional questionnaire «in-patient care»

B3.26. During the last 12 months how many times you were ill but did not being hospitalized at all because of the lack of money? ____ times

SECTION B5. CHILD'S IMMUNIZATION

B5.1. How many children under 18 are there in your household? ____ children
if 0 => go to Section C

B5.2. Do you have information about the status of their health and medical assistance they get?

Answer options:

- Yes
- No => Part C
- DA/R

B5.3.In general, what is your attitude towards vaccination?

CARDB5.3.

- Very positive
- Rather positive
- Neutral
- Rather negative
- Very negative

B5.4. Have you ever refused to do obligatory immunization for your child? (we refer to all children from your household)

Answer options:

- Yes
- No => B5.6

B5.5. Why have you refused to immunize your children. Select up to 3 answers

– Child was sick
– I was afraid of complications/side effects after the vaccination
– I think vaccination is not needed
– I do not trust to producers of vaccines
– I distrust vaccine storage/transfer conditions
– The medical worker recommended not to vaccinate
– Other (specify)

B5.6. Have you even been dissuaded by the medical staff from vaccinating the child?

- Yes
- No

B5.7. What was the reason mentioned by the medical staff while dissuading you from child's vaccination? You may mention up to 3 reasons

- Mild illness without high fever (temperature lower than 38.5)
- Acute illness with high fever (temperature higher than 38.5)
- Past history with convulsions
- Previous adverse events after vaccination
- Ongoing treatment with antibiotics
- Asthma, eczema, atopy or hay fever
- Previous vaccine-preventable illnesses (e.g. measles, mumps, rubella, pertussis-like illness, varicella)
- Prematurity
- Child was breastfed
- There was infectious disease in family, childcare etc.
- Other (specify)

B5.8. Have you ever asked for a fake medical certification for immunization?

- Yes
- No

B5.9. If you have a child up to 6 years old, did you meet with the vaccine absence, when you wanted to immunize your child?

- Yes
- No
- Do not have childen up to 6 years old

PART C.SELF ASSESSMENT OF HEALTH STATUS AND LIFESTYLE

C1. Do you smoke tobacco now (for example cigarettes) every day, not every day or do not smoke at all?

Answer options:

– Every day
– Not every day
– Do not smoke at all => C3
– DA / R

C2. How many cigarettes do you smoke on average in a day? _____

C3. During the last 12 months how often did you consume alcohol drinks?

CARD C3.

- Almost each day
- 3-4 times per week
- 1-2 times per week
- 1-3 times per month or never

C4. Think about your one typical day, when you are drinking. What type of alcohol drinks – beer or low alcohol drinks, wine or strong drinks (vodka, cognac or whiskey) – you consume most often and how much do you drink during one day?

What they drink? And How many milliliters?

- Beer _____ml
- Wine _____ ml
- Vodka, strong drinks_____ ml

C5. During the last 7 days how many kilo of fruits or berries (apples, pears, oranges etc.) have you consumed personally? _____ kg

C6. How do you assess your health status on a 5-point scale?

CARD C6.

- Very good
- Good
- Average, not good, not bad
- Bad
- Very bad

C6. How many kilograms do you weight? |_____| kg

C7. What is your height in centimeters|_____| cm

C8. How many hours or minutes per week do you have physical exercises at least of average intensiveness? (consider not only activities at gym, but also walking, cycling, planting) – in such a way to gasp, sweat? _____ hours _____ minutes

C9. What, in your opinion, negatively affects your health? You can choose no more than three answers. CARD C10

- The environment status 1
- Psychological stress 2
- Harmful habits 3
- Improper nutrition 4
- Working conditions 5
- Economic problems 6
- Low quality of medical assistance 7
- Lack of physical activity 8
- Inattention to yourself 9
- Heredity 10
- Other (please specify) _____ 11

- Nothing influences 12

C11 How much do you care about your health? C11 CARD

- Very good 5
- Rather good 4
- Moderately 3
- Rather bad 2
- I do not care 1

C12.Do you have any chronic or long term diseases?

Answer options:

- Yes
- No
- DA/R

C13a. Have you ever had heart attack(infarction)?

Answer options:

- Yes
- No
- DA/R

C13b. How old have you been what it happened? ___ years

C14a. Have your family members had heart attack (infarction)?

Answer options:

- Yes
- No
- DA/R

C15. Have you or your family members got the following procedures/surgeries:

C16. When did it take place?

C17. How much dod you pay for this?

Answer options:

- Stenting Yes-No; Year; ___ UAH
- Shtunting Yes-No; Year; ___ UAH
- Coronary angiography Yes-No; Year; ___ UAH

C18. Do you have any of these diseases:

- Hypertension (high blood pressure) - Yes/No
- Diabetes - Yes/No
- Stroke (stroke consequences) - Yes/No

C19. Do you have and officially established disability?

Answer options:

- Yes
- No
- DA/R

C20. How would you assess on scale from 1 to 5 , where 1 is “very bad”, and 5 is “very well” , the location, where do you live for following characteristics:

CARD C20.

- Very well Well Not well, not bad Bad Very bad

- Quantity of outdoor sport grounds
- Quality of equipment for sports grounds
- Quantity of outdoor children playgrounds
- Quality of equipment for children playgrounds
- Existence of green areas - trees, parks, alleys, lawns
- Safety during the day
- Safety at night
- Presence of bicycle paths
- General assessment of surrounding area

PART D.SOCIO-DEMOGRAPHIC PROFILE OF RESPONDENT

D1. Record sex as observed:

- Male
- Female

D2. How old are you? _____ years

D3. What is your education? CARD D3. one answer

- Primary or secondary
- High school completed
- Vocational (PTU, lyceum)
- Specialized secondary education (college, Junior Specialist)
- Basic higher education (Bachelor)
- University degree (Specialist, Master)
- Scientific degree (PhD, DSci)

D4. What is your main occupation? CARDD4.one answer

- Employed
- Self-employment
- Working pensioner
- Temporarily unemployed; seeking for a job
- Non-working and not seeking for a job (incl. housewife, maternity leave etc.)
- Student
- Non-working pensioner
- Disability (handicap)
- Other (specify)

D5.Do you have any health insurance now? It is not a question of onligatory social insurance or liability insurance (such as car insurance):

- Private medical insurance directly from the insurer? Yes/ No
- Private health insurance directly through your current or former employer? Yes/ No
- Private health insurance through a current or former employer of your (her) husband (wife)? Yes/ No
- Any other type of social health insurance? (specify) _____

D6.How many persons, adults and children (including you) live with you a common household? _____people

D7. Currently, how many people in your households (incl. you) have chronic diseases or serious health problems? _____people

D8.Please look at the card and tell which of the statements most accurately correspond to the financial status of your family? CARD D17.one answer

- We do not have enough money for food even
- We have enough money for food, but to buy clothes is difficult
- We have enough money for food and clothes and we can save a little, but not enough to buy expensive things (such as a TV or refrigerator)
- We can afford to buy some expensive things (such as a TV or refrigerator) or save money
- We can make significant savings

D9. Tell us, what is your household net average income per month (in other words, the income after the tax paid) – including all family members and all sources of income – salry, social premiums, pension, rents, honorariums etc.? _____ UAH

D10. Please look at this card D10. Tell me, which of these categories corresponds to the net average income of your household per month (that is income after tax discharges) - taking into account all household members, and all sources - wages, social benefits, pensions, rents, honorariums etc.? One answer

- Less than 1000 UAH
- From 1001 to 1500 UAH
- From 1501 to 2000 UAH
- From 2001 to 2500 UAH
- From 2501 to 3000 UAH
- From 3001 to 3500 UAH
- From 3501 to 4000 UAH
- From 4001 to 4500 UAH
- From 4501 to 5000 UAH
- From 5001 to 6000 UAH
- From 6001 to 7000 UAH
- From 7001 to 8000 UAH
- From 8 001 to 9 000 UAH
- From 9 001 to 10 000 UAH
- More than10 000 UAH

D11. How much do your household spend per month for the food and non-alcohol beverages, 86

D14. Next questions concern your WILLINGNESS and ABILITY to pay for medical services provided by the state or included in the social health insurance package. Imagine that you could obtain these services with GOOD QUALITY and QUICK ACCESS if you pay an OFFICIAL FEE to the health care facility (e.g. polyclinic, clinic or hospital).

SHOW CARD D14. This card presents the meaning of good quality and quick access.

Good quality would mean:

- Modern medical equipment
- Renovated health care facility
- Polite staff with good reputation and skills

Quick access would mean:

- Max 30 min travelling to the health care facility
- Max 10 min waiting in front of the physician office
- Max 1 month waiting for a planned surgery

Q.14A In case you experience a MAJOR HEALTH PROBLEM (unfamiliar symptoms that make you concerned), would you be willing to pay an official fee for a consultation and examination by a PHYSICIAN in order to obtain services with good quality and quick access as described in the card?

– Yes => D14c
– No
– DA/R

Q.14B What is the REASON for your unwillingness to pay – unable to pay, refuse to pay, or both?
– Unable => D15
– Refuse => D15
– Both => D15

Q.14C What is the exact amount you are willing and able to pay for such a visit in order to get the service of high quality and quick access?

Q.15DC Take a look on Card 14D. Considering the fee intervals regarding physician's services shown on the card, how much exactly are you WILLING and ABLE to pay for such visit in order to obtain services with good quality and quick access?

CARD 14D:

– Less than 50 UAH
– From 51 to 100 UAH
– From 101 to 150 UAH
– From 151 to 200 UAH
– More than 201 UAH

D15. Are you a forced migrant from Crimea or occupied / frontline territories in Donbas?

Answer options:

– Yes
– No
– DA/R

Thank you for your agreement to answer the questions of this survey!

SUPPLEMENTARY PART OF THE RESEARCH INSTRUMENT
SECTION B3. EXPERIENCE OF INPATIENT SERVICE CONSUMPTION

B3.2. You mentioned that during last 12 months you had an experience of inpatient service consumption. How many nights in general have you spent in inpatient facility during the last year?
____ nights

B3.3. Who did refer you to the last hospitalization:

- Own decision
- Ambulance
- Physician – choose specialty
- Or it was planned / regular hospitalization?
- Other (specify)
- DA / R

B3.4. What was your diagnosis when you came to inpatient care? _____

B3.5. Where have you been hospitalized last time?
CARD B3.5

- City or regional hospital/maternity hospital
- Oblast hospital / maternity hospital
- Republican clinic/ hospital / maternity hospital
- Departmental hospital / maternity hospital
- Private clinic / maternity hospital
- Other (specify)
- DA /R

B3.6. Why did you choose that exact facility? CARD B3.6. choose up to three options

- Referral of the doctor (do not choose); I or my family always have inpatient care there
- Building / facility is in a good condition
- There is necessary equipment there
- Location
- Physician is always present
- Friendly medical staff
- Affordable drugs
- Service payment is affordable or cheap
- Short waiting time (places are available)
- Competent medical staff
- This is a private health care facility where the quality of medical assistance is better than in the nearest state health care facilities.
- Ambulance took me there
- Physician – acquaintance / This physician was recommended
- Other (specify) _____
- DA /R

B3.7. How many nights did your last hospitalization last for?
____ nights

B3.8. Was this hospitalization:

- Urgent (called ambulance)
- Related to surgery
- Related to pregnancy (exclude delivery)
- Related to birth of a child

B3.9. How much time did it take before doctor of inpatient examined you?
____ hours____ minutes

B3.10. Not counting drugs, diagnostic procedures, and laboratory tests during this hospitalization how much did you pay?
B3.11. (for each item, regardless of respondent paid or did not pay, ask) Did somebody require any payment, even if only hinted?

- Pay to the account of a charitable fund or other (nonmedical) organization? _____ UAH
- Pay at the cash desk according to official rules and official prices of medical facility? __ UAH
- Pay in envelope - from hands to hands - or give a gift to the doctor or other medical staff? (if it is a gift - ask to estimate the price)

- Pay separately for health care goods – gloves, syringe, X-ray film and other materials

B3.12. Did this payment covered improved conditions of stay (e.g. VIP room)?
Answer options:

- Yes
- No
- DA/R

B3.13. Have you had any diagnostics or laboratory tests during the inpatient treatment?

- A. Lab. Tests: Yes No
- B. Diagnostics: Yes No

B3.14. How much did you pay?

- A. Lab. Tests: ___ UAH
- B. Diagnostics: ___UAH

B3.15. How many drugs' names physician prescribed you during the last inpatient treatment?
_____ names If none (0) => go to instruction before B3.22

B3.16. How many of them did you receive in the hospital free of charge? ____ names
If all were free-of-charge (B3.16=B3.15) => go to instruction before B3.22

B3.17. If you were given any drugs and you needed to pay for them, how much did you pay for these drugs?
_____ UAH

B3.18. Did you buy <u>all</u> the drugs that were prescribed? (except those which were given to you at the hospital)

<u>Answer options:</u>

- No
- Almost all
- All => B3.20

B3.19. Why did you buy not all of the drugs? (several options are available)

<u>Answer options:</u>

- Did not have money
- Did not consider that buying all is necessary
- Drugs were absent in pharmacy, did not find
- Other (specify)

B3.20. How much did you pay for these drugs (except of those given at the hospital)? ____ UAH

B3.21. Which part of your drugs' expenditures were reimbursed by state ? _____ %

B3.22. Was it difficult for you and your family to find money to cover all the expenses (formal and informal) that were linked to this inpatient care?

<u>Sub-questions:</u>

- For the services of medical doctor, surgery?
- For pharmaceuticals?
- For diagnostics and laboratory tests?

<u>Answer options:</u>

- Not difficult at all
- Rather easy
- Rather difficult
- Extremely difficult

B3.23. How much your household needed to ask or borrow money from relatives, friends, bank, with credit card or sell jewelry, property to cover these expenses in order to cover these expenditures for the hospitalization? _____ UAH

B3.24. How do you assess the following aspects of inpatient care?

CARD B3.24. read and choose an answer in each row in table below.

B3.29. Now look at card B3.25. Here are listed all aspects that I have just read to you. Please, say, which of these are more important for you. You can choose up to three.

<u>Answer options:</u>

- Very good
- Good
- Normal
- Bad
- Very bad

<u>CARDB3.24:</u>

- Time spent for registration in the admission department, including the delivery by ambulance
- Sanitation and setting of healthcare provision
- Quality of food

- Affordability and availability of diagnostic and laboratory tests
- Affordability and availability of medicines
- Qualification of doctors
- Friendliness of doctors
- Friendliness of nurses
- Effectiveness of treatment
- Clear and transparent policies of payment for care (including the absence of informal payments)
- In general, how do you assess the inpatient care?
- NONE OF ABOVE OPTIONS
- DA / R