

G.O. Slabkiy
State Administration “Ukrainian
Institute of Strategic Research of the
Ministry of Public Health of
Ukraine”, Kyiv, Ukraine

G.Ya.Parhomenko
Head of “Healthy sight” clinic,
Kyiv, Ukraine

Characteristic of the network of hospitals in Ukraine and principal indices of its exploitaion

Abstract. *This article shows the data of dynamics in the number of health service institutions, during 2009-2013 years. 900 (36,2%) decrease in the number of health service institutions, is demonstrated. 17% decrease in provision of population with hospital beds is also shown. On regional levels fund of hospital beds is unevenly distributed and exploited.*

Key words: *health service institutions, network, hospital beds, provision, indices of exploitation, dynamics.*

1. Introduction. Reform of health service system is started in Ukraine. [1]. This envisages structural reconstruction in the system of medical aid. [2]. Introduction of the hospitals of new type is provided on the secondary level depending on intensiveness of medical aid. These are to be the hospitals of intensive aid, hospitals of planned treatment, specialized hospitals and hospices. [3,4]. Structural base in hospital aid is composed by hospital circuits [5,6]. At present new model of the system of medical aid is being trained in pilot projects [7].

Detailed analysis of existing network of hospitals and results of its exploitation is necessary for effective implementation of reforms.

Goal of the paper: to study and analyze network of hospitals in Ukraine and principal indices of its exploitation.

2. Materials and methods. In the course of study bibliosemantic and statistic methods and also structural-and-logistic method were used. Data of statistic reports of the Center of Medical Statistic of Ministry of Public Health of Ukraine were analyzed as primary materials. Period of study – years 2009-2013.

Programs “Statistica -6” and Microsoft Excel 2000 were used to process materials obtained.

3. Results and Discussion.

In 2013 the network of health service institutions in Ukraine was composed by 1587 health institutions, among them 27 regional hospitals, 29 pediatric regional hospitals, 390 city hospitals, 88 pediatric city hospitals, 14 city emergency hospitals, 33 hospitals for disabled veterans of Great Patriotic War, 122 specialized hospitals (among them 22 infectious hospitals for adults and 6 infectious hospitals for infants, 36 tuberculosis hospitals for adults and 3 tuberculosis hospitals for infants, 3 ophthalmologic hospitals, 11 restoring hospitals, 8 AIDS centers and others 32), 471 central region hospitals, 101 region hospitals, 104 district hospitals 88 maternity hospitals, 17 clinics at research institutes and medical universities, 84 psychiatric hospitals, 5 narcologic hospitals, 7 hospices, 2 self-supporting hospitals, 1 hospital for lepers and 4 other medical institutions.

During the last 5 years (2009–2013) the number of health service institutions in the system of Ministry of Public Health of Ukraine reduced from 2487 in 2009 to 1587 in 2013.

Reduction of the total number of medical institutions has regional differences (table 1). In general during the period under study the network of medical institutions shows 36,2% reduction with variations from 56,9% in Vinnitsa region to 6,2% in Kyiv city.

Provision of population of Ukraine with in-patient hospital beds reduced from 86,8 for 10000 people in 2009 to 72,03 in 2013. In EC countries this index equals to 55,0. The number of in-patient hospital beds reduced considerably in all the regions (table 2).

In general in Ukraine provision of population with in-patient hospital beds for 10000 people reduced for 17%. The maximal reduction was registered in the regions: Chernivtsy – 26,2%, Vinnitsa – 23,7%, Dnipropetrovks – 23,6% and Lugansk – 21,9%; minimal reduction was registered in Kyiv – 7,7%, Kharkiv – 10,8% and Zhitomir – 12,0% regions.

Table 1

Number of health service institutions in the system of Ministry of Public Health of Ukraine in the years 2009–2013

Administrative- and-territorial unit	Year					Dynamics of reduction (%)
	2009	2010	2011	2012	2013	
AR Krim	82	81	74	78	69	15,9
<i>Region</i>						
Vinnitsa	116	115	56	57	50	56,9
Volin	56	56	50	50	43	23,2
Dnipropetrovsk	172	168	110	122	104	39,5
Donetsk	208	204	161	169	138	33,7
Zhitomir	73	73	62	65	55	24,7
Transkarpatian	65	64	49	53	43	33,8
Zaporizhia	96	92	78	81	61	36,5
Ivano-Frankivsk	78	78	61	74	58	25,6
Kyiv	96	94	80	88	66	31,3
Kirovograd	77	74	56	61	40	48,1
Lugansk	151	150	109	123	96	36,4
Lviv	122	122	102	118	102	16,4
Mikolaiv	61	62	51	44	39	36,1
Odessa	125	123	100	96	73	41,6
Poltava	118	110	74	80	51	56,8
Rivne	69	69	56	59	41	40,6
Sumy	70	69	56	63	45	35,7
Ternopil	64	63	54	59	51	20,3
Kharkiv	120	121	88	98	80	33,3
Kherson	66	65	57	58	33	50,0

Khmelnitsky	79	78	66	65	39	50,6
Cherkassy	93	88	72	72	60	35,5
Chernivtsy	65	59	46	51	25	61,5
Chernigiv	87	86	74	80	55	36,8
<i>City</i>						
Kyiv	65	65	60	66	61	6,2
Sevastopol	13	13	9	12	9	30,8
Ukraine	2 487	2 442	1 911	2 042	1 587	36,2

Table 2

**Dynamics of population provision with hospital beds in Ukraine
during the years 2009–2013 (for 10 000 people)**

Administrative- and-territorial unit	Year					Dynamics of reduction (%)
	2009	2010	2011	2012	2013	
AR Krim	86,7	85,9	83,1	81,61	72,4	16,5
<i>Region</i>						
Vinnitsa	84,0	84,2	79,8	75,37	64,1	23,7
Volin	80,9	80,9	79,8	79,12	71,5	11,6
Dnipropetrovsk	98,1	97,3	85,0	83,97	74,9	23,6
Donetsk	81,8	81,9	79,0	77,73	68,8	15,9
Zhitomir	75,0	74,6	74,1	73,69	66,0	12,0
Transkarpatian	78,8	77,8	75,3	72,75	65,6	16,8
Zaporizhia	87,8	87,7	85,9	84,83	72,3	17,7
Ivano-Frankivsk	89,3	88,9	85,2	83,08	70,3	21,3
Kyiv	84,7	84,1	82,2	80,46	71,7	15,3
Kirovograd	93,4	93,6	91,4	86,57	77,1	17,5
Lugansk	99,8	99,0	90,0	89,19	77,9	21,9
Lviv	90,8	90,9	89,2	88,77	77,3	14,9
Mikolaiv	80,1	80,5	80,1	79,06	69,2	13,6
Odessa	84,5	84,2	79,3	76,85	68,7	18,7
Poltava	84,4	84,2	82,2	81,52	70,7	16,2
Rivne	87,0	87,3	82,6	81,58	69,7	19,9
Sumy	92,8	93,2	91,2	87,68	77,5	16,5
Ternopil	89,6	89,7	88,2	85,88	76,6	14,5
Kharkiv	78,5	78,7	77,4	76,52	70,0	10,8
Kherson	84,1	83,8	82,5	81,01	71,3	15,2
Khmelnitsky	87,8	88,0	84,0	83,17	73,6	16,2
Cherkassy	86,8	86,4	83,9	82,53	71,1	18,1
Chernivtsy	88,8	85,2	78,8	78,28	65,5	26,2
Chernigiv	113,3	114,0	110,6	109,99	93,6	17,4
<i>City</i>						
Kyiv	77,1	76,7	76,6	74,15	71,2	7,7
Sevastopol	78,9	78,9	78,8	78,32	68,1	13,7
Ukraine	86,8	86,5	83,0	81,47	72,03	17,0

Average occupation of bed during the year is one of important indices of effective exploitation of hospital beds fund, evaluation of availability, quality and effectiveness of diagnostics and treatment.

Analysis of indices of hospital beds fund exploitation during the years 2009-2013 demonstrates unessential reduction in the average number of the days of their functioning (table 3).

Table 3

Functioning of hospital bed (days) during the years 2009–2013

Administrative-and-territorial unit	Year					Dynamics of changes 2013 /2009 (%)
	2009	2010	2011	2012	2013	
AR Krim	332,96	329,21	320,31	331,13	326,53	-1,93
<i>Region</i>						
Vinnitsa	333,87	335,50	330,79	336,64	338,92	+1,51
Volin	341,01	346,13	343,00	341,69	342,46	+0,43
Dnipropetrovsk	332,50	337,14	334,59	339,32	334,23	+0,52
Donetsk	333,26	335,95	335,74	334,93	331,84	-0,43
Zhitomir	320,85	328,17	326,34	326,29	333,84	+4,05
Transcarpatian	318,13	322,80	315,06	322,25	316,83	-0,41
Zaporizhia	321,04	324,82	317,66	322,64	319,67	-0,43
Ivano-Frankivsk	317,56	322,41	309,21	316,13	318,58	+0,32
Kyiv	323,04	328,34	323,87	325,21	328,81	+1,79
Kirovograd	336,76	347,65	338,83	344,34	342,71	+1,77
Lugansk	336,16	335,03	339,37	341,91	337,67	+0,45
Lviv	331,39	335,01	332,95	335,40	334,82	+1,04
Mikolayv	344,60	341,58	330,79	337,94	331,46	-3,81
Odessa	321,74	323,13	325,20	331,35	329,70	+2,47
Poltava	309,79	316,61	308,53	310,11	304,85	-1,59
Rivne	333,90	336,43	340,72	336,04	336,13	+0,67
Sumy	315,32	319,21	318,87	328,70	327,47	+3,85
Ternopil	337,51	341,22	337,33	335,40	336,69	-0,24
Kharkiv	323,45	323,42	318,87	316,15	315,15	-2,57
Kherson	333,61	333,19	329,12	335,44	326,66	-2,08
Khmelnitsky	321,45	326,70	334,74	331,98	337,29	+4,93
Cherkassy	325,28	329,92	328,33	335,49	335,31	+3,08
Chernivtsy	332,75	344,70	350,98	348,58	344,31	+3,47
Chernigiv	328,36	324,42	325,65	330,83	332,07	+1,13
<i>City</i>						
Kyiv	292,71	294,95	299,61	305,84	308,56	+5,41
Sevastopol	329,73	331,98	320,99	311,88	305,79	-7,26
Ukraine	326,62	329,43	326,91	330,11	328,58	+0,6

Indices hospital bed functioning higher than average in Ukraine are registered in Chernivtsy (344,31), Chercassy (335,31), Khmelnitsky (337,29), Sumy (327,47), Odessa (329,70) and Zhitomir (333,84) regions.

Indices hospital bed functioning lower than average in Ukraine are registered in Sevastopol (305,79), Kherson (326,66), Kharkiv (315,15) and Mikolayv (331,46) regions.

4. Conclusion. The number of health service institutions in Ukraine is reduced during the last five years (2009-2013) for 900 (36,2%). On regional levels this reduction is uneven. At 17% reduction of hospital beds fund and 72,03 beds for 10000 people this index is higher than in EC countries (55,0). Hospital beds are functioning not enough rationally. They are occupied from 305,79 days during the year in Sevastopol to 344,31 days in Chernivtsy region.

5. References