



independent institute for  
**SOCIAL POLICY**

## **Evidence about Equity in the Russian Health Care System**

**The report prepared in accordance with the Bilateral Cooperative Agreement  
between the Russian Federation and the World Health Organization for 2006-2007**

**Composite authors:**

**S.V. Shishkin – Project director**

**N.V. Bondarenko**

**A.Ya. Burdyak**

**K.M. Kelmanzon**

**M.D. Krasilnikova**

**L.D. Popovich**

**S.V. Svetlichnaya**

**E.V. Selezneva**

**I.M. Sheiman**

**V.I. Shevsky**

Moscow, December 2007

## Table of Contents

<b>1. BACKGROUND.....</b>	<b>3</b>
<b>2. PROJECT OBJECTIVES:.....</b>	<b>3</b>
<b>3. METHODOLOGY OF ANALYSIS.....</b>	<b>4</b>
<b>4. BASIC RESULTS OF THE PROJECT.....</b>	<b>5</b>
<b>5. DIFFERENCES IN ACCESS TO HEALTH CARE SERVICES.....</b>	<b>8</b>
5.1. VARIANCES IN THE USE OF HEALTH CARE SERVICES FOR THE POPULATION CATEGORIES THAT DIFFER IN SEX, AGE, AND EDUCATION.....	8
5.2. DIFFERENCES IN USE OF HEALTH CARE SERVICES FOR RESIDENTS OF INHABITED LOCALITIES OF DIFFERENT TYPES.....	11
5.2.1. <i>Difference in use of outpatient care.....</i>	<i>11</i>
5.2.2. <i>Differences in use of inpatient care.....</i>	<i>14</i>
5.3. REGRESSION ANALYSIS OF HEALTH CARE USE FACTORS.....	16
5.3.1. <i>Model descriptions.....</i>	<i>16</i>
5.3.2. <i>Factors of referring to health care personnel.....</i>	<i>16</i>
5.3.3. <i>Factors of use for additional examinations and procedures.....</i>	<i>17</i>
5.3.4. <i>Factors of use of inpatient care.....</i>	<i>17</i>
5.4. DIFFERENCES IN THE VOLUMES OF HEALTH CARE DELIVERED TO THE POPULATION OF BUILT-UP AREAS OF DIFFERENT TYPES EXPOSED ON THE INSURANCE STATISTICS BASIS.....	20
5.4.1. <i>Sampling description.....</i>	<i>20</i>
5.4.2. <i>Differences in the utilization of outpatient care.....</i>	<i>21</i>
5.4.3. <i>Differences in the access to specialized outpatient care.....</i>	<i>22</i>
5.4.4. <i>Differences in the level of hospitalization and in the pattern of inpatient care.....</i>	<i>24</i>
<b>6. DIFFERENCES IN THE USE OF CHARGEABLE HEALTH CARE SERVICES.....</b>	<b>27</b>
6.1. DIFFERENCES IN THE PREVALENCE OF HEALTH CARE PAYMENT PRACTICE FOR THE POPULATION WITH DIFFERENT LEVELS OF INCOME.....	27
6.2. DIFFERENCES IN THE PREVALENCE OF PRACTICES OF PAYMENT FOR HEALTH CARE FOR THE RESIDENTS OF DIFFERENT TYPES OF INHABITED LOCALITIES.....	29
6.3. REGRESSION ANALYSIS OF THE IMPACT OF FACTORS OF USE OF CHARGEABLE MEDICAL SERVICES.....	29
6.3.1. <i>Model description.....</i>	<i>29</i>
6.3.2. <i>Factors of use of chargeable outpatient care services.....</i>	<i>30</i>
6.3.3. <i>Factors of payment for additional examinations and procedures.....</i>	<i>30</i>
6.3.4. <i>Factors of payment for inpatient care.....</i>	<i>30</i>
<b>7. DIFFERENCES IN FREE HEALTH CARE ACCESSIBILITY FOR POPULATIONS OF REGIONS DIFFERENT IN THEIR ECONOMIC DEVELOPMENT.....</b>	<b>33</b>
<b>8. INEQUITY IN DISTRIBUTION OF HEALTH EXPENDITURE BURDEN.....</b>	<b>34</b>
<b>9. PUBLIC IDEAS ABOUT THE EQUITY IN ACCESS TO HEALTH CARE SERVICES.....</b>	<b>37</b>
<b>10. RECOMMENDATIONS ABOUT PRIORITIES IN STATE POLICY IN RELATION TO INEQUITY OF ACCESS TO HEALTH CARE.....</b>	<b>44</b>
10.1 PRIORITY OF SOLVING INEQUITY PROBLEMS IN ACCESS TO HEALTH CARE.....	44
10.1.1 <i>Inequality of first order.....</i>	<i>44</i>
10.1.2. <i>Inequality of second order.....</i>	<i>46</i>
10.2. MEASURES FOR INEQUITY SMOOTHING.....	47
10.2.1. <i>Priority tasks.....</i>	<i>47</i>
10.2.2. <i>Inequity smoothing measures of first order.....</i>	<i>47</i>
10.2.3. <i>Inequity smoothing measures of second order.....</i>	<i>49</i>
<b>11. AREAS FOR CONTINUATION OF THE ANALYSIS OF INEQUITY OF ACCESS TO HEALTH CARE.....</b>	<b>50</b>

## 1. Background

Universal access to effective health services of reasonable quality is considered by the World Health Organization as an essential requirement in an advanced society<sup>1</sup>. The Russian government has defined better access to health care for all population and improvement of medical services quality as the main objective for health care public policy<sup>2</sup>. In Russia, there is significant inequity in access to health care. This is caused by the very history of Russian health care system (along with public state institutions of health care, there simultaneously exist departmental health care systems), large-scale decrease of public health care funding during 1990-s, decentralization of public finance and sound differentials of economic potential among regions, increase of income inequality among various social and territorial groups. Current economic growth in Russia is featured by widening differences among regions by level of economic development and health care funding capacities. It produces new challenges for public policy aimed at assurance of health care accessibility.

A lot is already known about inequality in access to health care in Russia, but the reliable evidence is quite restricted. State statistics shows the differences among regions in indicators of need for health care (morbidity); health care resources; volumes of health care services delivered (outpatient visits, emergency calls, hospitalizations, bed-days, etc.). On the base of sociological data, health care seeking behaviour of people by gender, education, income, residence has been analyzed, and the inequality in access to free and to paid care has been revealed<sup>3</sup>. Yet the data provides only a general picture of the inequity in health care system. Aggregate indicators of health care delivery conceal differences in the volume and quality of health care services available for different groups of population. Available large-scale surveys data (RLMS, NOBUS) are not used properly for the analysis of these differences.

There is no apparent and unambiguous answer to the natural question of what differences are admissible and to which extent. Current inequalities and their trends require more detailed investigation and discussion for proper choice of public health policy priorities and tools..

## 2. Project objectives:

- 1) Reveal differences in the access to health care services for various social and demographic groups;
- 2) Reveal differences in usage of paid medical services for various social and demographic groups;
- 3) Analyze differences in access to free health care among residents of more and less economically developed regions;
- 4) Reveal differences in health expenditure burden among different income groups and among residents of more and less economically developed regions;
- 5) Explore people's current visions of equity in access to health care;

---

<sup>1</sup> The European health report 2002. Copenhagen, 2002. P. 66.

<sup>2</sup> The Program for medium-term social economic-development of the Russian Federation (2006 - 2008). Approved by the Decree of the Russian Federation Government of January 19, 2006 No. 38-p.

<sup>3</sup> Blam I., Kovalev S. Commercialization of medical care and household behavior in transitional Russia. RUIG/UNRISD project. 2003; Besstremyannaya G.E., Shishkin S.V. (2005) Accessibility of health care. – Besstremyannaya G.E., Burdyak A.Ya., Zaborovskaya A.S. [et al]; Head of composite author Ovcharova L.N. Revenue and social services: inequality, vulnerability, poverty. / Independent Institute for Social Policy. Moscow, 2005, (in Russian) <http://www.socpol.ru/publications/#dohody&uslugi>; Rimashevskaya N.M. (Ed.). Health and health care in gender dimension. Moscow: The Agency "Social Project", 2007 (in Russian); Schepin O.P. (Ed.). The modern approaches to health care administration on regional level. Moscow, 2006 (in Russian); Suvorov A.V. The structure of incomes and expenditures of population in the modern Russia. The problems of forecasting. Moscow, 2004 (in Russian).

- 6) Elaborate recommendations for public policy related to inequity in access to health care;
- 7) Determine perspectives of future research on differences in the quality of health care available for different social groups.

The project is implemented in accordance with the Bilateral Cooperative Agreement between the Russian Federation and the World Health Organization for 2006-2007.

### **3. Methodology of Analysis**

1. Differences in the accessibility of health care are considered within the framework of this survey as the differences:

- In the access to medical services for populations that differ by sex, age, education, residence, level of income; the differences in accessibility are understood here as the differences, conditioned by these characteristics, in use of health care, the ways and scopes of getting health care services of different types (primary, specialized outpatient, inpatient);
- In the access to free and chargeable health care services for different social-demographic population brackets.

2. The differences in accessibility of health care services for different social and demographic groups of population are analyzed as the differences in the following parameters:

- Use of different types of health care services;
- Difficulty in making an appointment with the doctor as estimated by population;
- Volumes of delivered outpatient and inpatient care;
- Ways of hospitalization;
- Assessment by the population of the quality of outpatient and inpatient health care services.

As the sources of information to analyze the differences in use of outpatient and inpatient care the findings of three sociological surveys were analyzed:

“The Russia Longitudinal Monitoring Survey” (RLMS)<sup>4</sup>. The survey is conducted annually in 36 regions of Russia. The sample includes approximately 4,000 households (12.6 thousand of respondents). The latest available data of the 13-th wave (September-December of 2004) was used.

“The National Monitoring of Household Welfare and Participation in Social Programs” (NOBUS). The survey was conducted in April-May of 2003; a sample of 44.5 thousand households (117.2 thousand respondents) from 79 Russia regions is representative on the national level and for 46 regions separately<sup>5</sup>

“The Consumer Sentiment Index” (CSI), currently conducted by Independent Institute of Social Policy<sup>6</sup>. Surveys are carried out by the Analytical Center of Yuriy Levada once in two months; the sample of 2.5 thousand respondents represents adult population (older than 16 years old). Besides of standard questions, the questionnaire designed specifically for accessibility of health care was included into the survey in March of 2006.

The analysis of differences in hospitalizations and estimations by the population of difficulties in making appointments with physicians and the quality of outpatient and inpatient care services delivered was carried out on the basis of the CSI survey data in March 2006.

---

<sup>4</sup> RLMS. The Russia Longitudinal Monitoring Survey, <http://www.cpc.unc.edu/rlms/>

<sup>5</sup> <http://siteresources.worldbank.org/INTRUSSIANFEDERATION/Resources/NOBUS.pdf>

<sup>6</sup> <http://ipn.socpol.ru/>

According to the information of ROSNO-MS, one of the largest health insurance companies, the differences were analyzed in the volumes of outpatient care delivered (the number of visits to physicians of different specialties) and the inpatient care (the number of hospitalizations by profiles of the inpatient care facilities) for the population categories that differ in age and the place of residence (type of inhabited locality). The analysis was carried out for 4788.2 thousand insured citizens insured by ROSNO-MS company under the compulsory health insurance program in seven regions (51% of the total number of citizens in these regions).

3. The differences in use of chargeable health care services were analyzed by comparison of the share of persons that had spending on health care services and drugs for treatment in the inpatient care environment<sup>7</sup>, in the groups of population that differ in social-demographic and economic characteristics. The source of data was the information obtained through the above mentioned surveys by RLMS, NOBUS.

4. The analysis of differences in access to free health care for the regions with different level of economic development was carried out on the NOBUS data, which allow calculating the share of patients that got only free services among the population of different regions.

5. The inequality in the distribution of health expenditure burden is analyzed as the difference in the share of health care expenses in the total household expenses minus the expenses for food. Such analysis is carried out on the survey data by RLMS and NOBUS.

6. In order to cope with the task of clarifying the ideas currently circulating in Russian society in relation to social justice in the access to health care, a special block of issues was developed on the subject, which was included in the survey held in July 2007 within the framework of “Consumer Sentiment Index” Project.

#### **4. Basic Results of the Project**

1. To implement the project a working group was established consisting of:

Bondarenko N.V. – junior research fellow of Yuri Levada Analytical Center;

Burdyak A.Ya. – senior research fellow of the Independent Institute for Social Policy;

Kakorina E.P. – Department Deputy Director of the Ministry of Health and Social Development of the Russian Federation;

Kanatova N.B. – coordinator for scientific programs of the Independent Institute for Social Policy;

Kel'manzon K.M. – Councilor of OAO “ROSNO-MS” General Director;

Krasil'nikova M.D. – Head of “LEVADA-CENTER” sector;

Popovich L.D. – First Deputy Director General – Executive Director of OAO “ROSNO-MS”;

Shevsky V.I. – Consultant of “Zdravconsult”;

Sheiman I.M. – Professor of the State University – the Higher School of Economics;

Shishkin S.V. – Research Director of the Independent Institute for Social Policy.

Selezneva E.V. – junior research fellow of the Independent Institute for Social Policy;

Svetlichnaya S.V. – head of information-analytical service of OAO «ROSNO-MS»

2. On May 28, 2007 an expert workshop was held on the issues of equity in health care. At the workshop the findings were discusses of the analysis of inequality in health care accessibility, specified were the objectives of further work on the project.

---

<sup>7</sup>The provision of drugs for the patients in the inpatient care environment of public and municipal health care facilities is covered by the State Benefits Package.

3. On November 15, 2007 a round table discussion was held on the topic of “Inequity of access to health care”, where the basic results were presented and discussed of the implemented project. In the round-table discussion took part the responsible officers of the Expert Department of the Administration of RF President, the Ministry of Health and Social Development of RF, the Ministry of Economic Development and Trade of RF, the Federal State Statistics Service, the RAMS National Public Health Research Institute, the Setchenov Moscow Medical Academy, the RAS Institute of Economics, the World Bank, the Cochrane Collaboration Office for Russia and others.

The materials of the round table (program and presentations) are placed on the site of the Independent Institute for Social Policy ([www.socpol.ru](http://www.socpol.ru)).

4. The basic conceptual results of the project are as follows:

4.1. The differences in access to health care services were detected and systematized for different social-demographic and territorial groups of population. The analysis of the obtained information allows making the following conclusions:

The system of health care in Russia is characterized with significant inequity of access to health care for groups of population different in the level of education, income, residence:

- Persons with higher education refer for the outpatient health care services more frequently, including consultations of specialists and diagnostic examinations, and less regularly for the inpatient care.
- The groups of population with a higher level of income refer for health care more often than the poor people.
- Rural inhabitants refer for the outpatient care less frequently in comparison with the urban residents. And here it is the population of big and largest cities, as compared with the inhabitants of small towns and villages, who have subjective perception of the outpatient care as less accessible and estimate the quality of primary care as lower;
- The inhabitants of villages, small and medium sized townships stay in hospitals more often than the residents of big and largest cities, which is, evidently, the consequence of both lower use of primary health care and low quality of diagnostics and more limited possibilities for getting outpatient care in the rural areas and small townships.

The obtained information is the evidence of some discrimination that exists for the people older than work age in favour of able bodied when getting specialized outpatient care and when referring to hospitals.

The exposed differences can justifiably be considered as the manifestations of inequity of access to health care services.

4.2. The practices used for getting health care for fees differ significantly among the population groups with different levels of income and place of residence. The rich pay for the visit to a medical specialist 2.5 times more frequently as compared with the representatives of low income groups, residents of largest and big cities would resort to payments for the outpatient care services than the inhabitants of medium sized and small towns and villages. These differences reflect inequity in the possibility of getting health care, conditioned by the differences in the level of income of the population.

4.3. Very significant are the distinctions in the accessibility of health care for the citizens of different regions of the country. The share of population that had the opportunity to take medical services fully free of charge is 1.3 times higher in the more economically developed regions as compared with the outsider regions. These differences appear as the regional inequity in the accessibility of free health care services.

4.4. Noticeable inequity in the burden of health expenditure exists between the populations with different levels of income. The poor spend on purchasing of drugs and medical

services 1.5. times bigger share of their budget compared to the rich. The burden of health expenditure is higher for households that live in the regions with a lower level of economic development.

Over 8% of population have to bear catastrophic expenditures for health care and the burden of these expenditures is significantly higher for the poor than for the rich.

4.5. In accordance with the data obtained during the survey, health care is interpreted by the majority of the population as such sphere of human life where any factors of differentiation in accessibility are unfair. The conceptions of the greater part of population in Russia about the ways to ensure access to health care reflect the values of equal rights and paternalism.

5. The scale of inequity exposed in the use of health care and accessibility of free medical services for the communities of different regions, different types of inhabited localities, with different levels of income demand the revision of priorities in the public health care financing policy.

As the priorities of the Government policy towards inequity in access to health care the following can be recommend:

- To overcome the discrimination of people over the working age by increasing the financing provision for health care services for elderly people;
- To improve the level of financial protection of patients with “catastrophic” expenditures on health care by development of the state program for supplementary drug supply;
- To increase the range of measures to control chronic diseases and prevent their complications on the basis of programs for chronic disease management;
- To improve the arrangement of specialized care for residents of small settlements by way of forming a controlled multi-level system of care delivery in every region;
- To improve the level of public awareness on the matters of health care;
- To smooth inter-regions differences in the level of development of health care systems by way of implementing a long-term federal objective program for smoothing inequity in financial provision for health care in different regions.

6. The results of the conducted survey are evidence of the necessity to continue the analysis of access to health care services for different categories of the population. As the lines for further research the following can be recommended:

- To analyze the influence of factors of differences in modes of living and attitudes to own health and the factors of organizing the delivery of health care and informing the population on the use of different types of health care for the inhabitants of built-up areas of different types and persons with different levels of income.
- To study the impact of regional differences in the organization of secondary health care delivery to the population on the differences in its accessibility for the inhabitants of different types of inhabited territories in different regions.
- To do the in-depth study of reasons for the current differences in the level of admissions for the inhabitants of different types of built-up areas and the differences in the access to secondary health care for the persons of working age and older than the working age.
- To analyze the differences in the set of health care services, and in the degree of compliance of the delivered health services with the standards of care, in the clinical effectiveness of the delivered health care services by the population categories, which differ by place of residence, age, education and income levels.
- To determine the differences in the access to free health care and in the burden of health expenditures of patients with different kind of diseases.

The system of monitoring of inequity in access to health care for different groups of population should be created.

7. The analytical report with the results of the project was submitted to the Expert Department of the RF President, the RF Ministry of Health and Social Development, the RF Ministry of Economic Development and Trade and was placed on the site of the Independent Institute for Social Policy ([www.socpol.ru](http://www.socpol.ru)).

The detailed description of the obtained results is presented below.

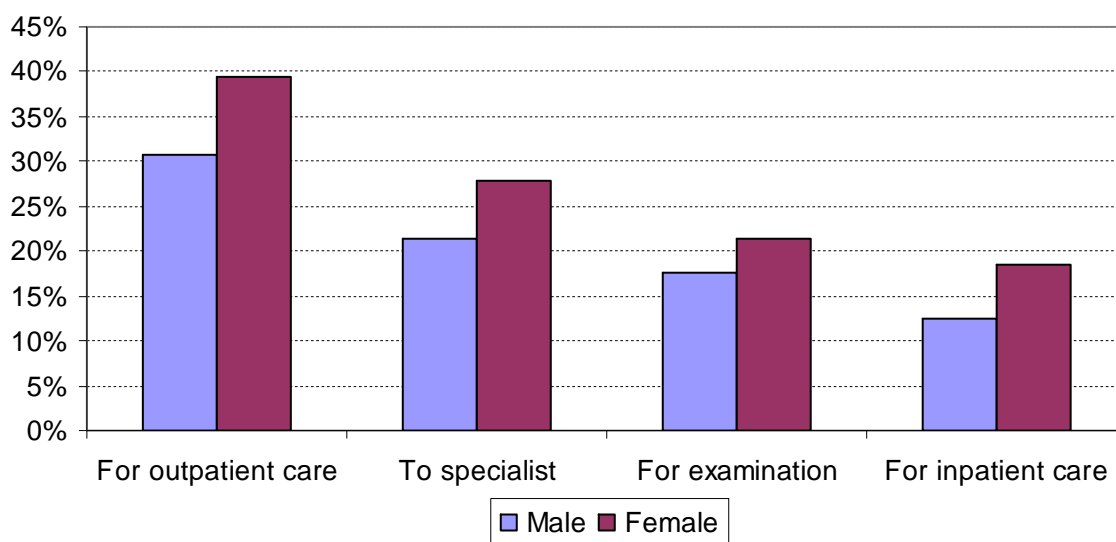
## 5. Differences in access to health care services

### 5.1. Variances in the use of health care services for the population categories that differ in sex, age, and education.

The CSI data that refer to the most recent period (March 2006) confirmed the existence of differences<sup>8</sup> in the use of health care services between men and women (women appeal for the inpatient and outpatient care more frequently (See Figure 1)), the people of working age and above the working age (the former visit physicians and stay in hospitals less frequently (See Figure 2)), and people with different levels of education (persons with higher education appeal for outpatient health care more frequently, but for inpatient – less frequently (See Figure 3)).

Figure 1.

#### Share of male and female patients that applied for outpatient and inpatient care, in %



Source: calculated by the CSI survey data (March 2006).

The variances were exposed in the periods of waiting and means of hospitalization of people belonging to different age categories. The patients of working age are hospitalized more frequently immediately on their turning to the health care facility. The people of over the working age have to wait for admissions longer, and they would often call the emergency care

<sup>8</sup> Besstremyannaya G.E., Shishkin S.V. (2005) Accessibility of health care. – Besstremyannaya G.E., Burdyak A.Ya., Zaborovskaya A.S. [et al]; Head of composite author Ovcharova L.N. Revenue and social services: inequality, vulnerability, poverty. / Independent Institute for Social Policy. Moscow, 2005, (in Russian) <http://www.socpol.ru/publications/#dohody&uslugi>; Rimashevskaya N.M. (Ed.). Health and health care in gender dimension. Moscow: The Agency “Social Project”, 2007 (in Russian); Schepin O.P. (Ed.). The modern approaches to health care administration on regional level. Moscow, 2006 (in Russian).

with the intention to be taken to hospital (See Figure 4). These variances can have two reasons. Firstly, the people of working age, most probably, pay less attention to their health and seek health care only when it is too late to treat without hospitalization. Secondly, the obtained data can be evidence of some discrimination that exists towards people of the age beyond the ability to work in favor of the able-bodied when referring to hospital for inpatient care.

Figure 2.

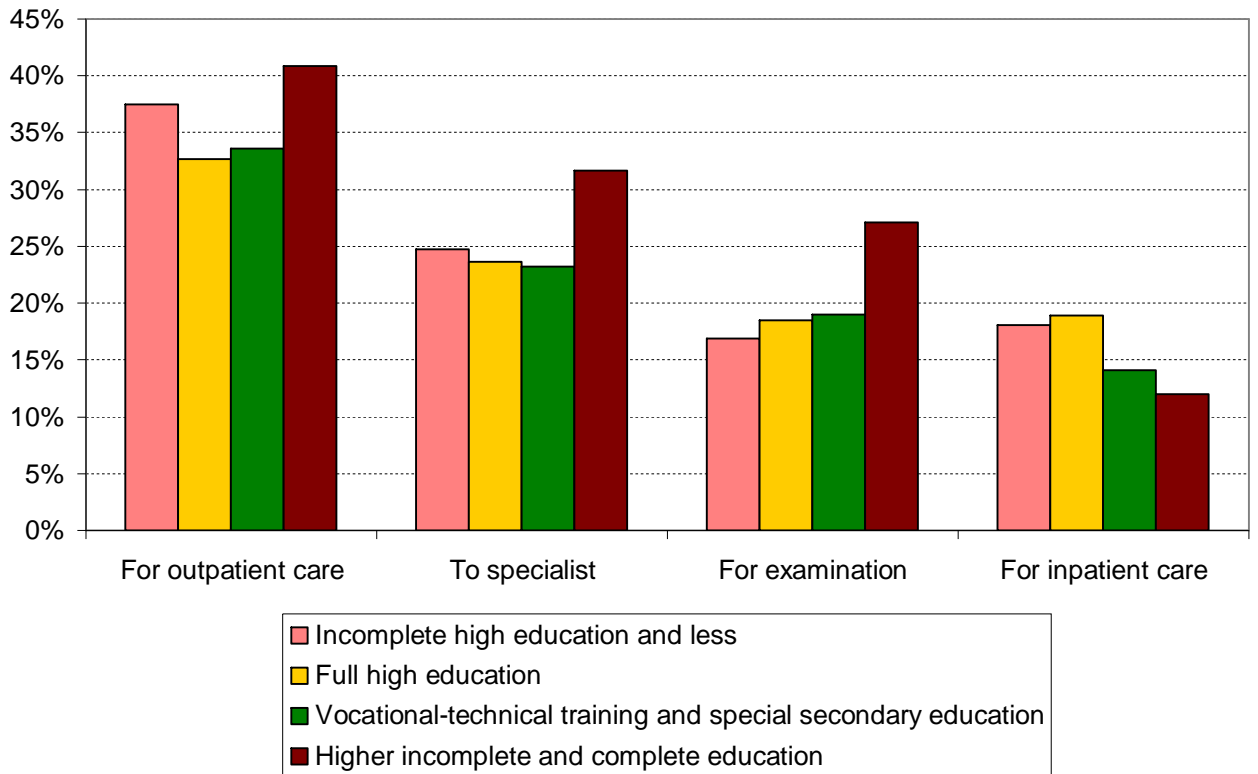
**Share of patients that applied for outpatient and inpatient care in different age categories, in %**



Source: calculated by the CSI survey data (March 2006).

Figure 3.

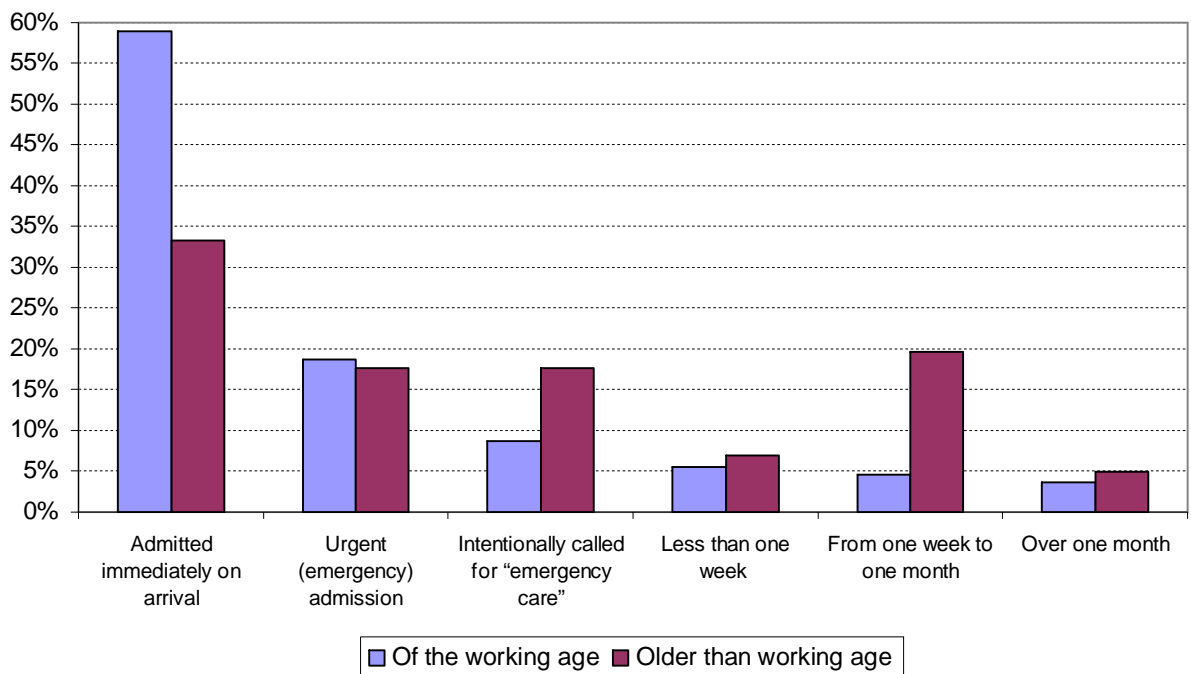
**Share of patients that applied for outpatient and inpatient care among the population with different level of education, in%**



Source: calculated by the CSI survey data (March 2006).

Figure 4.

**Length of waiting for admissions for different age categories, distribution of respondent's responses, in %**



Source: Calculated by the data of CSI survey (March 2006).

## 5.2. Differences in use of health care services for residents of inhabited localities of different types

The object of analysis was the differences in the use of health care services for the citizens of four types of inhabited localities:

- 1) Moscow and St.-Petersburg;
- 2) Large cities: administrative centers of the Russian Federation subjects with the number of citizens of at least 300 thousands;
- 3) Medium and small towns: all the other cities and towns that do not belong to the first two groups;
- 4) Village: settlements in the rural areas.

The data obtained is evidence of essentially different profiles of accessibility of the outpatient and inpatient health care for the said population groups.

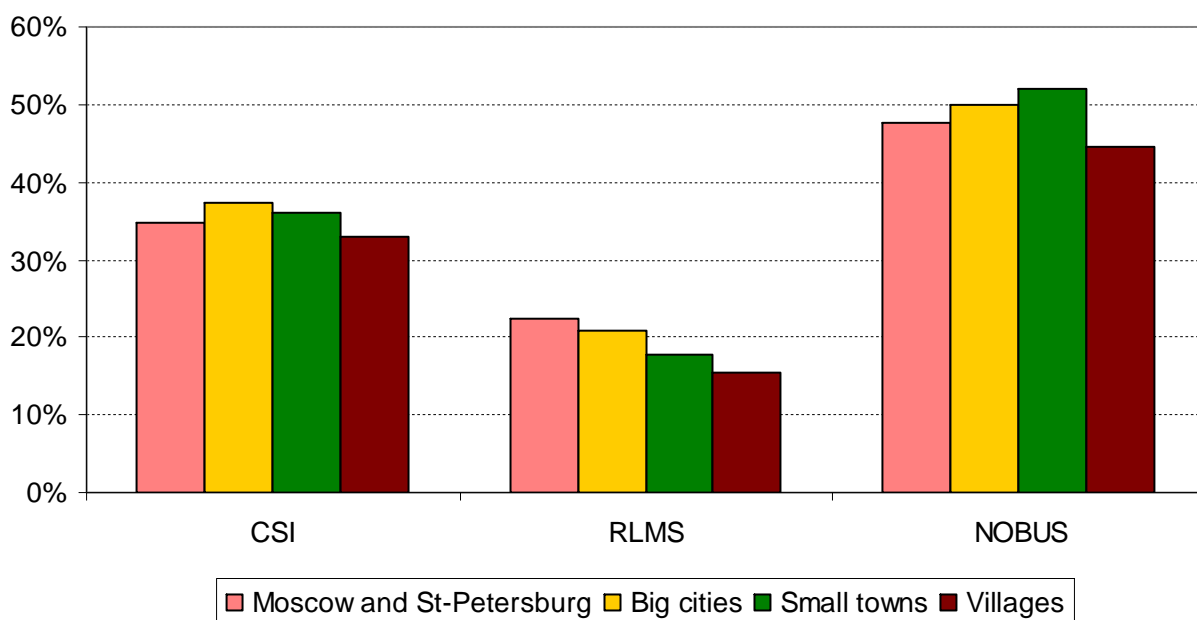
### 5.2.1. Difference in use of outpatient care

The results of three sociological surveys in question do not provide an identical picture of differences in the use of outpatient care for the residents of different built-up areas, but in common is the registration of lower apply of rural residents as compared with the urban population (See Figure 5).

The data of CSI survey make it possible to compare the indicators of apply to specialists and for diagnostic examinations. Here the differences can be seen quite clearly between the rural and urban communities, and in relation to examinations the trend can be traced (See Figure 6): the smaller is the community the lower is the number of people who get such specialized care.

Figure 5.

**Share of patients who applied for outpatient care among the inhabitants of different types of settlements, by the information of CSI (2006)\*, RLMS (2004)\*\*, NOBUS (2003)\*\*\*, in %**



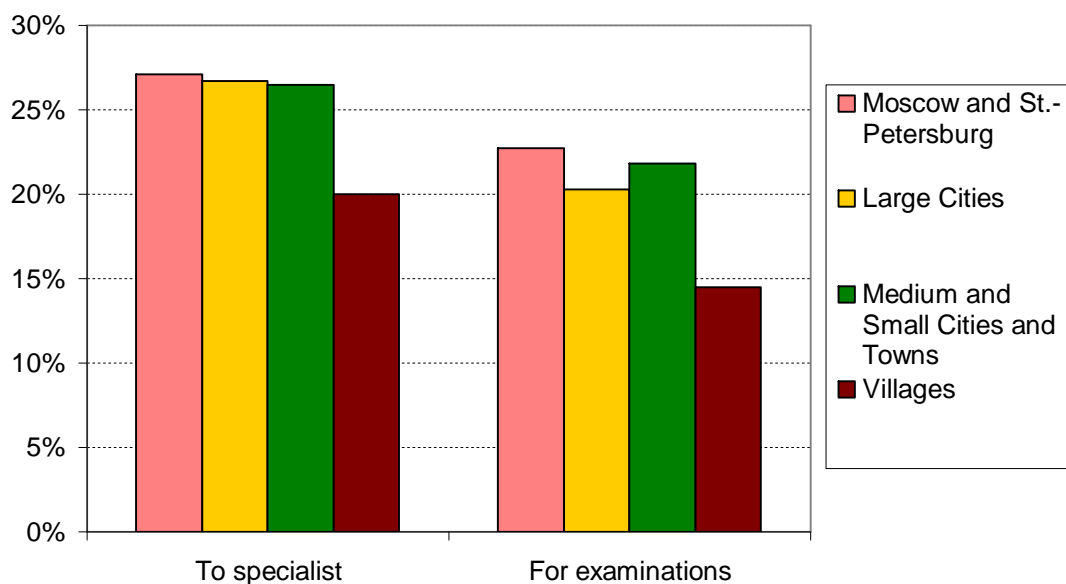
\* - During tree months.

\*\* - During one month.

\*\*\* - During one year.

Figure 6.

**Shares of those who applied to specialists and for examinations\*, in %**



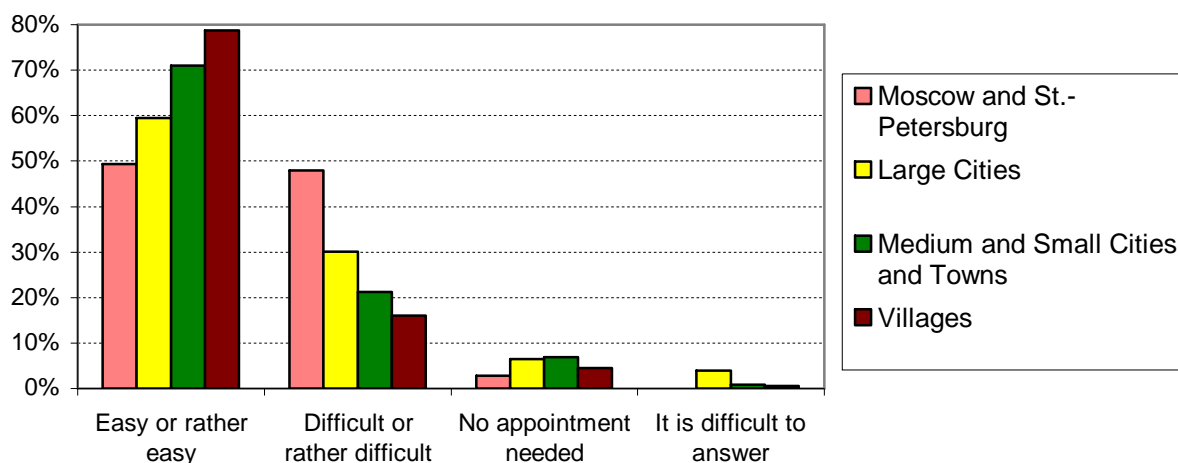
\* - during three months prior to the survey

Source: Calculated by the data of CSI survey (March 2006).

According to the CSI data, the bigger is the size of the inhabited locality the more regularly would the respondents point out to the difficulties in making an appointment with the catchment area physician and the specialists (See Figures 7, 8). Over 43% of the population of Moscow and St.-Petersburg point out that they have to wait for a long time for the consultation of catchment area therapists and specialists. In the other types of inhabited localities these figures are about two times smaller and even more so. With large scale of consumption of outpatient care in the cities, in particular in the largest and big cities, it is perceived by the residents as less accessible.

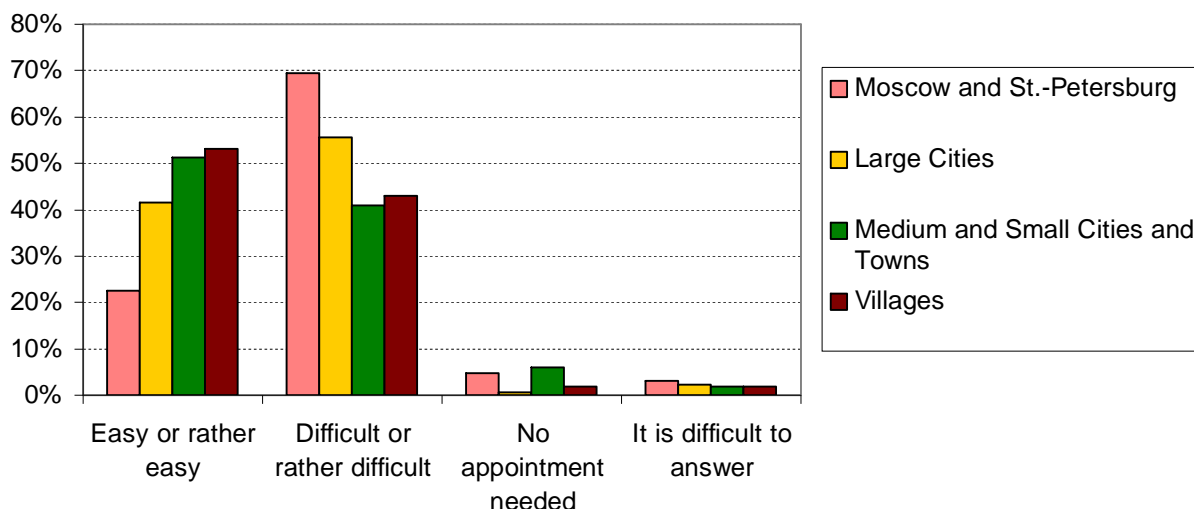
Figure 7.

**Difficulty to make appointment with catchment area physician, distribution of respondents' responses, in %**



Source: Calculated by the data of CSI survey (March 2006).

*Figure 8.*  
**Difficulty to make appointment with specialist, distribution of respondents' responses, in %**



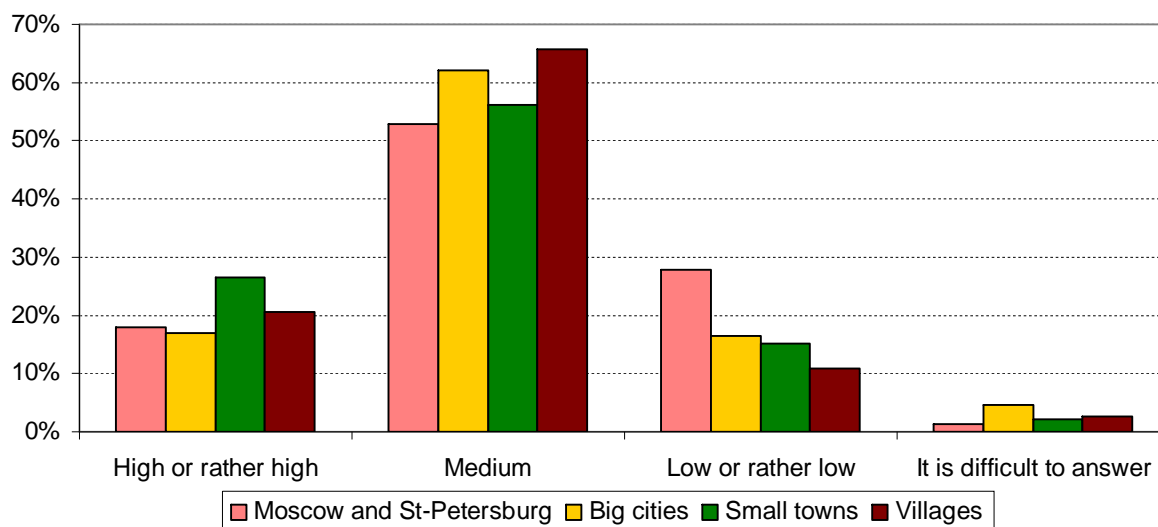
Source: Calculated by the data of CSI survey (March 2006).

Attention should be also drawn to essential difficulties in evaluating the difficulty of making an appointment with catchment area therapists and specialists. In the perception of citizens of all types of inhabited localities the accessibility of specialized outpatient care turned out to be remarkably lower.

It is also interesting to note the differences in the evaluation of quality of outpatient care given by the citizens of different types of inhabited locations. The performance of catchment area therapists is estimated somewhat higher in small towns and villages (where less difficulties are encountered when making appointment with the doctor), and lower in big cities, Moscow, and Petersburg (See Figure 9.) The differences in evaluating the performance of specialists are insignificant.

Figure 9.

**Subjective estimate of the quality of services provided by a catchment area physician,  
distribution of respondents' answers in %**



Source: Calculated by the data of CSI survey (2006).

### 5.2.2. Differences in use of inpatient care

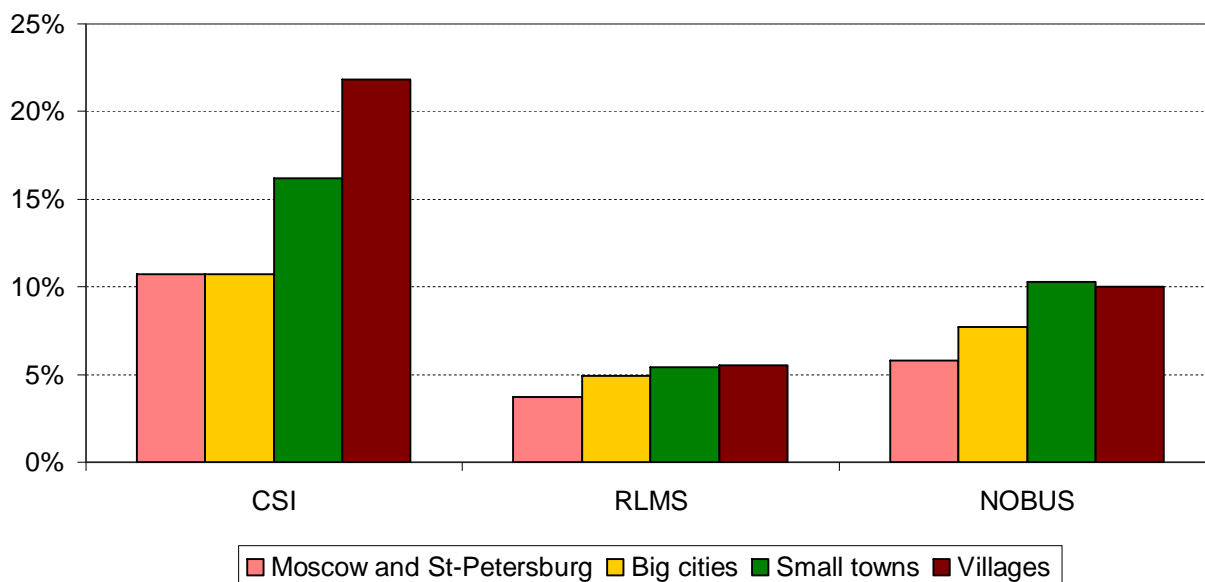
The situation with use of inpatient care services is directly reverse as compared to the outpatient care delivery<sup>9</sup>: according to the data of all three surveys, the citizens of the rural areas, medium and small cities and towns stay in hospitals more often than the citizens of big and largest cities (See Figure 10). Evidently that is the consequence of less use of primary care, low quality of diagnostics and more limited capacities of secondary outpatient care in the villages and small towns. We may guess that diseases in their populations get diagnosed at later stages, which demand hospitalization.

According to the CSI data, the inhabitants of villages, medium and small cities and towns are hospitalized immediately after referring directly to the health care facility more regularly, and the citizens of Moscow, St.-Petersburg and big cities more often get hospitalized after calling for emergency care and wait for admissions more often (See Figure 11). These differences can be interpreted in two ways. Firstly, that is, evidently, the consequence of more seriously neglected cases in the populations of villages and small towns; they would refer to the health care facilities only at such stages when the treatment of the disease is only possible in the inpatient settings. Secondly, these differences are evidence of greater accessibility of emergency care for the populations of big and, in particular, the largest cities.

<sup>9</sup> The similar difference in use of outpatient and inpatient care by urban and rural population was described previously on the example of Voronezh oblast (Schepin O.P. (Ed.). The modern approaches to health care administration on regional level. Moscow, 2006 (in Russian)).

Figure 10.

**Share of patients who applied for inpatient care among the inhabitants of different types of communities, by the data of surveys of CSI (2006)\*, RLMS (2004)\*\*, NOBUS (2003)\*\*\*, in %**



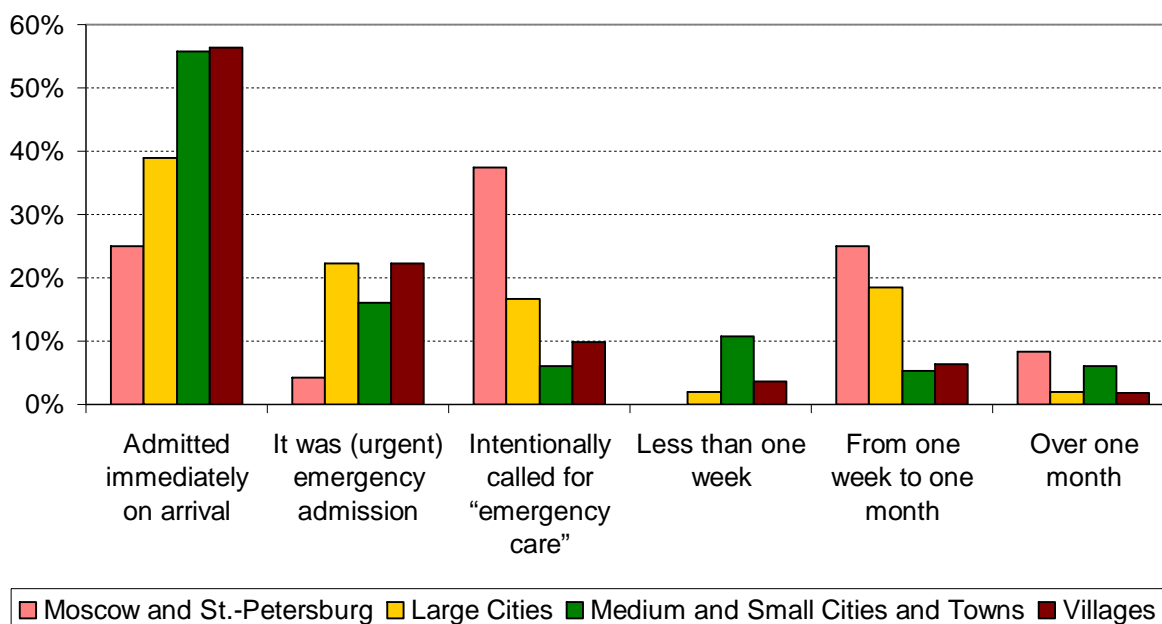
\* - During one year.

\*\* - During three months.

\*\*\* - During one year.

Figure 11.

**Length of waiting for hospitalization for populations of different types of populated localities, distribution of respondents' responses, in %**



Source: Calculated by the data of CSI survey (March 2006).

### 5.3. Regression analysis of health care use factors

#### 5.3.1. Model descriptions

In order to estimate to what extent the differences between social-demographic characteristics of populations determine the differences in health care accessibility, a regression analysis was carried out of the aggregate influence of such characteristics as well as the status of health and indicators of regional health care systems development on the use of health care. The analysis was carried out by the data of RLMS (2004).

The binary logistic regression model was applied:

$$\ln(P/(1-P)) = B_0 + B_1X_1 + \dots + B_nX_n,$$

where

$P$  – probability of respondents' apply for certain kinds of health care;

$X_i$  – value of  $i$ -factor ( $i = 1, n$ );

$B_i$  – coefficients of regression ( $i = 0, n$ ).

In the model the dependent variable is the chance of occurrence of the event (turning for a certain kind of health care service), equal to the logarithm of ratio of the probability of occurrence of the event to the probability of its non-occurrence. For the analysis the model was selected in the form of a linear function of the set of social-demographic and economic characteristics of the respondent (sex, age, education, type of settlement, presence of children, household per capita income, quantity of consumed alcohol), status of health (self-assessment of health, presence of chronic diseases) and the indicators of the level of health care system development in the region where the respondent resides (availability for the population of physicians, hospital beds, amount of per capita public financing of the territorial State Benefits Package).

Three models were evaluated, in which the dependent variables characterized the chance of seeking for three kinds of health care respectively: referring to health care personnel, taking some additional examination and procedures, and treatment at the hospital.

By using the step-by-step regression the dependent variables were selected, which significantly influence on the chance of respondent's referral for each of the three kinds of health care in question. Regression estimators of the parameters of logistic equations for the three dependent variables are shown in Table 1. The regression coefficients give the estimate of the influence of each regressor on the dependent variable and allow ranging the factors within one regression model by their explanatory power.

#### 5.3.2. Factors of referring to health care personnel

The first model – the chance of referring to health care personnel – was estimated for the respondents that had health problems in the latest month. Their number made 6780 out of 12 641 respondents. Out of which 34% applied for medical aid, others for some reasons or other took self-treatment.

By the results of the regression analysis made, as one could have expected, the most significant factors of a person's referral to health care personnel were the self estimate of the health status and the presence of a chronic disease.

The level of income is the next in significance factor of use after the status of health. With the growth of well-being grows the probability of use of medical aid: the rich (the fifth quintile) would refer to health care personnel by 37% more frequently than the poor (the first quintile).

The use is affected by the differences in the type of settlement where the respondent resides. The population of Moscow and St-Petersburg under similar circumstances would solve the problems occurring to their health individually, without turning to health care staff for help.

The highest opportunity to seek for health care is with the residents of big cities, they do it by 22% more frequently than the country people.

The results of the regression analysis show that children have a much higher odds of seeking health care compared to adults. And the indicators for people of working age and elderly people do not differ significantly. In other words, for the people over their working age the impact of the age factor turns out to be of little significance in the package of all factors under consideration.

It is interesting to note as well, that the probability of referring to medical personnel also negatively depends on the amount of alcohol<sup>10</sup>, that the respondent consumes.

The characteristics of resource availability of the health care system of the region in which the respondent resides make no essential influence on the differences in applying to health staff. The amount of per capita financing of the territorial State Benefits Package does not affect the use of residents of different regions for medical aid.

### ***5.3.3. Factors of use for additional examinations and procedures***

The second model was estimated for 2299 respondents – those who applied to medical staff during the passed month. Out of them 42.3% took additional examinations or procedures.

Out of the examined variables the risk level of applying for examinations and procedures is most strongly connected with the presence of chronic disease in a patient. According to the data of the regression analysis such people would apply for such kind of health care service 1.5 times more regularly than healthy people.

As compared with men, women would apply for such kind of health care service by 24% more frequently.

Of significance is the type of the populated area: urban population undergo additional examinations about one third more frequently as compared with the rural population.

In accordance with the findings of the regression analysis the factor of belonging to the category of people older than the working age and to children determines their lower use of additional examinations and procedures than of the persons of working age by 20% and 35%, respectively. That outcome is evidence in favour of the correctness of the above stated hypothesis about certain discrimination of persons over the working age in comparison with the able bodied people.

### ***5.3.4. Factors of use of inpatient care***

By the data of RLMS only 5.1% of the interviewed took their treatment in hospitals during three months prior to the time of interviewing. It is not correct to estimate the ratio of odds of occurrence of such event by means of binary logistic regression. That is why the totality of respondents for testing the model was reduced to those only who stayed in hospital, as well as those who did not get the inpatient care services but had some health problems during the latest 30 days. So, the regression analysis was carried out on the sub-sampling of 6886 persons, in which the share of those who referred to hospital made 9.1%.

The probability of applying for inpatient care is to a considerable extent determined by the way the respondent estimates the status of own health. The person with “poor” health has about 2.5 times more risk of being hospitalized as compared with those who estimate their health status as “medium”. The person with “very poor” health has almost a 5 times higher risk. The presence of a chronic disease increases the probability of being hospitalized by 1.5 times.

In terms of exposing the inequity in the access to health care, the essential outcome is the fact that with increasing the size of the settlement the probability of applying for inpatient care

---

<sup>10</sup> The volume of alcoholic beverages consumed by every person, taking into account the strength, was transferred into grams of pure alcohol.

decreases. We may suppose that the inpatient care becomes a forced compensation for village inhabitants for their lower use of the outpatient care services.

It should be also pointed out that the odds of referring to hospital turned out to be lower, under similar circumstances, for the people advanced in years as compared with those of younger age. That is another argument in favour of the hypothesis about certain discrimination of the elderly in the delivery of health care services.

By the data of the analysis made, it is male patients that stay in hospitals more regularly, but the risk of applying for inpatient care reversely depends on the amount of alcohol consumed by the respondent.

Residents of the regions with higher availability of physicians would apply to hospital with a somewhat higher probability, however, the differences in the use generated by that factor are not essential. The regional differences in the availability of hospital beds and in the level of public financing turned out to be insignificant.

Table 1.

**Regression analysis outcome: model of use of different kinds of health care**

Independent variables	Referring to health care personnel odds		Use of examination odds		Use of inpatient odds	
	B	Exp(B)	B	Exp(B)	B	Exp(B)
<i>Self-assessment of health</i> (screening group – “medium, neither good nor bad”)						
“Good”	-0,413**	0,662				
“Very good”						
“Poor”	0,752**	2,122			0,896**	2,45
“Very poor”	1,207**	3,345			1,548**	4,701
<i>Presence of chronic disease</i> (at least one)	0,357**	1,43	0,427**	1,533	0,415**	1,514
<i>Sex</i> (1 – female, 0 – male)			0,214**	1,239	-0,196*	0,822
<i>Age</i> (screening group – able bodied)						
Older than the working age	-0,031	0,97	-0,228*	0,796	-0,439**	0,645
Children	0,851**	2,343	-0,432**	0,649	0,057	1,059
<i>Type of settlement</i> ((screening group – village)						
Moscow and St-Petersburg	-0,528*	0,59	0,205	1,228	-1,279**	0,278
Big cities (over 300 thousand people)	0,202**	1,223	0,301*	1,351	-0,298*	0,742
Medium-sized and small towns	0,06	1,062	0,283*	1,327	-0,119	0,888
<i>Income</i> <sup>11</sup> (screening group – the first quintile)						
2 quintile	0,195*	1,215				
3 quintile	0,248**	1,281				
4 quintile	0,246**	1,279				
5 quintile	0,312**	1,366				
<i>Grams of alcohol consumed per day on the average during the latest 30 days</i> (in neat alcohol, grams)	-0,002**	0,998			-0,002**	0,998
<i>Presence of children under 17 years of age living at their parents’</i>					0,209	1,233
<i>Amount of public financing for health care</i> <sup>12</sup> in the region in 2004.	0**	1			0	1
<i>The number of physicians in the region per 10000 people in 2004.</i>	0,009*	1,009			0,013*	1,013
Constant	-2,365**	0,094	-0,78**	0,458		
N of respondents	6780		2299		6886	
Percent of correctly predicted cases	68%		57,80%		90,90%	
Log-likelihood	8214,243		3067,93		4026,87	

<sup>11</sup> Per capita maximum of resources available (by expenses) and the receipts of a household.

<sup>12</sup> Amount of per capita public funding of the territorial State Benefits Package (taking into account the regional coefficients of rise in costs).

## 5.4. Differences in the volumes of health care delivered to the population of built-up areas of different types exposed on the insurance statistics basis

### 5.4.1. Sampling description

Valuable information to analyze the differences in health service accessibility is found in the databases of insurance companies that are participating in the compulsory health insurance (CHI). The board of ROSNO-MS, one of the largest insurance companies in Russia, kindly allowed making use of its information resources for the purposes of such analysis. The company branches operate in 38 regions of the country, besides, in some of them the number of people insured by the company is compatible with the total strength of the population in these regions.

7 regions were selected for the analysis. Their selection was guided by two basic criteria:

- 1) Compatibility of the number of the insured by the company with the strength of the region population;
- 2) Level of data detail on the types of health care services delivered to the insured<sup>13</sup>.

The objects under examination were the four regions with the average for Russia level of urbanization (one in the North-West Federal Okrug, one in the Privolzhsky, one in the South, and one in the Siberian okrugs) and with a low population density; two regions with a higher share of rural population with a higher population density (one in the Central Federal Okrug, the other in the Privolzhsky) and one urbanized region with a low population density in the North-West Federal Okrug (See Table 2). The total number of the insured persons under the MHI in the “ROSNO-MS” Company in these seven regions made 4788.2 thousand people (50.6% of the total number of residents).

Table 2.

**Indicators of population in the surveyed regions in 2006.**

	<b>Region 1</b>	<b>Region 2</b>	<b>Region 3</b>	<b>Region 4</b>	<b>Region 5</b>	<b>Region 6</b>	<b>Region 7</b>
Total population	667,6	2 034,6	994,2	2 313,6	711,5	1 442,9	1 291,4
Population under the survey	667,6	879,9	423,9	1 364,7	291,7	691,1	469,2
% of the total population	100,0	43,25	42,6	59,0	41,0	47,9	36,3
Share of urban population	70,4	69,1	67,0	62,7	63,1	71,6	73,0
Population density (pers./sq.km.)	13,4	14,6	18,8	44,3	31,4	12,8	2,2

The subject under consideration was the indices of the volumes of inpatient and outpatient care in 2006 per one insured person for the population categories that differ in the age and place of residence (types of the inhabited localities<sup>14</sup>). The indices of the volumes of care included all the cases of care delivery to the insured persons both at their places of residence and in other inhabited localities (for example, the volumes of care to rural area populations covered the services which they received in both urban and rural health care facilities).

<sup>13</sup> It is not the same in different regions as it depends on the payment methods chosen by the regional authorities for health care under the CMI system.

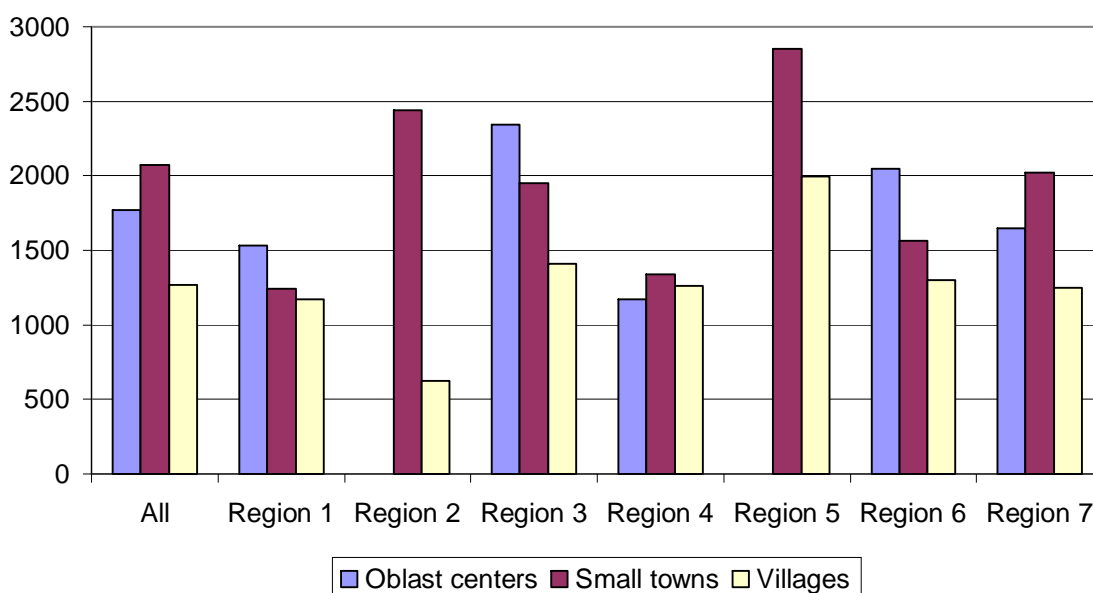
<sup>14</sup> In five regions the data of insurance statistics allowed specifying the residents of the oblast center, other cities of the region and in the rural areas; in two regions (regions No. 2 and No.5) – urban and rural population only.

#### 5.4.2. Differences in the utilization of outpatient care

Calculation of the appealability<sup>15</sup> index for outpatient care among the population of urban built-up areas and rural territories shows that actually in all the regions lower values are noted for that indicator among the rural inhabitants (Figure 12). At the same time the spread of values of the appealability indicator reflects the regional differences in the morbidity and health care service organization. The analysis of appealability by groups of diseases showed that in four regions out of seven the rural inhabitants applied for outpatient care services much less frequently, as compared with the urban population, in relation to peripheral nervous system and diseases characterized by the increased blood pressure, in five regions – in relation to asthma and the asthmatic status, in six regions – in relation to stomach and duodenal ulcer.

Figure 12.

**Outpatient care appealability per 1000 population of different types of built-up areas in seven regions of Russia in 2006.**



Source: calculation by the data of ROSNO-MS insurance company.

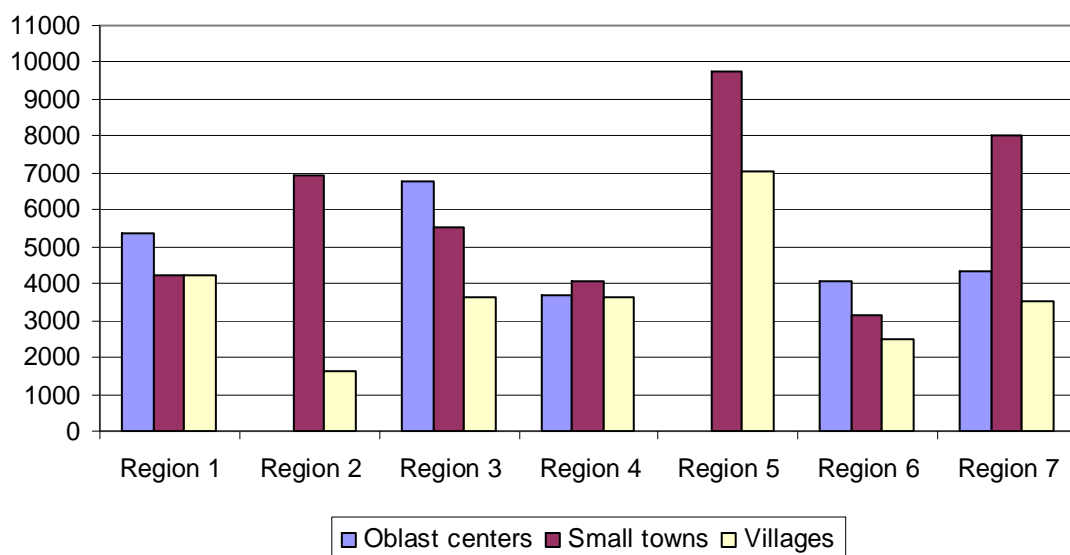
The calculation of indicator of physicians' attendance<sup>16</sup> by the inhabitants of the urban and rural built-up areas showed that in all the regions lower values of that indicator are noted for the rural population (Figure 13). In three regions out of five residents of the oblast center attend physicians more frequently, in two regions – the population of other cities.

<sup>15</sup> The indicator of appealability was calculated as the number of primary visits because of different diseases as related to 1000 population.

<sup>16</sup> The indicator of attendance was calculated as the number of visits made to physicians of different specialties that do outpatient examinations as related to 1000 population.

Figure 13.

**The number of visits to physicians per 1000 residents of built-up areas of different types in seven regions of Russia in 2006.**



Source: calculations by the information of ROSNO-MS insurance company.

If we consider now the indices of the volumes of outpatient care delivered to one patient, which is measured by the number of visits to physicians (Table 3), we can see one patient residing in the rural area, in five regions out of seven, there were fewer outpatient visits in comparison with one patient residing in the urban built-up areas.

Table 3.

**Average number of outpatient visits per one patient residing in the urban and rural areas in seven regions, in 2006.**

	Total	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7
Residents of the oblast center	8,7	9,3	н/д	10,4	8,5	н/д	6,1	8
Residents of the urban settlements	10,2	8,9	10,7	7,0	8,2	12,8	4,8	12,8
Residents of rural areas	7,1	9,5	5,2	6,7	7,3	10,1	4,3	6,8

Source: calculations by the information of ROSNO-MS insurance company.

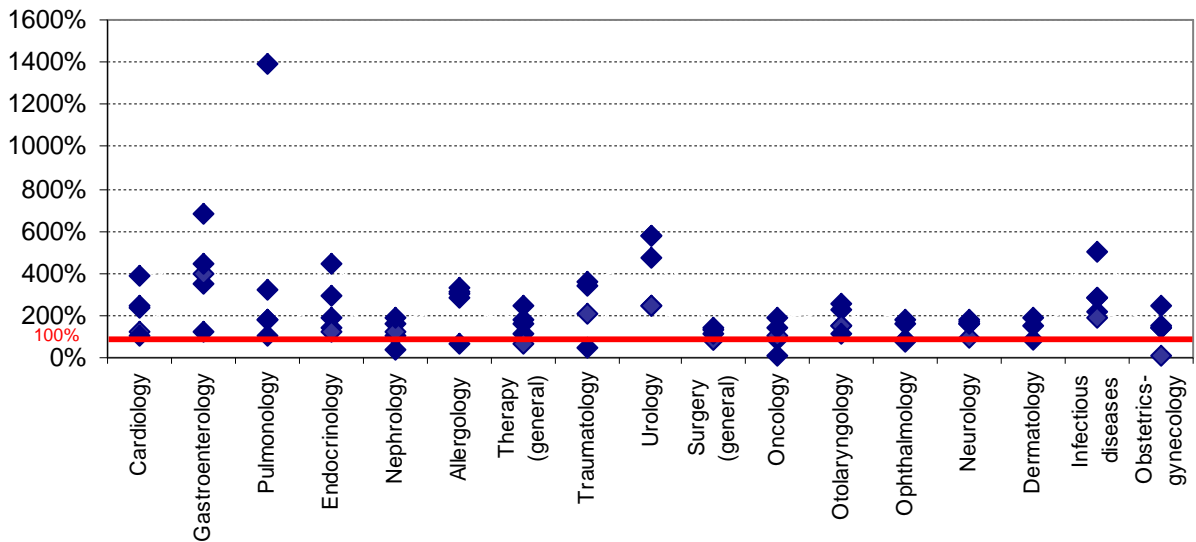
**5.4.3. Differences in the access to specialized outpatient care.**

The analysis has shown that there are very significant differences between the populations of the oblast center and other cities and rural areas in the number of visits to physicians of different specialties (See Figures 14 and 15). The attendance by the rural residents of physicians endocrinologists, neurologists, and infection disease specialists in all the regions under consideration was lower than the attendance to same specialists by the residents of urban settlements. In six regions out of seven the values of indices of attendance to physicians cardiologists, traumatic surgeons, urologists, oncologists, otolaryngologists, and ophthalmologists for rural residents was lower than for the residents of urban built-up areas. In five regions out of seven the attendance by rural residents to physicians Pulmonology specialists, allergologists, therapists, obstetrician-gynecologists was also lower than the attendance to these specialists by the residents of urban built-up areas. At the same time, for certain profiles in some of the regions reverse ratios were observed or the values of indices were close. The difference in the values of indices of attendance can hardly be ascribed to the differences in the morbidity

pattern for the residents of different types of inhabited localities. They would rather reflect the regional specifics in the organization of outpatient care and are evidence of inequity in the possibility of getting different kinds of specialized health care services for different territorial populations.

Figure 14.

**Ratio of the number of visits to physicians of different specialties by the residents of oblast centers and rural inhabited localities\* in five regions of Russia in 2006.**

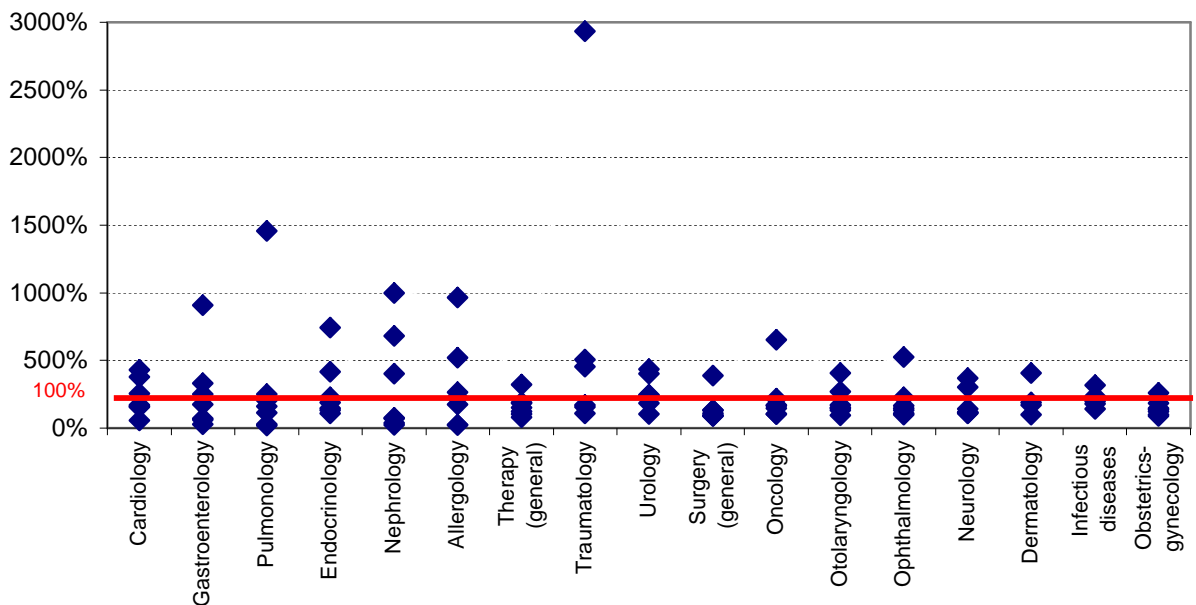


\* - the average number of visits to physicians of different specialties per one rural inhabitant in the region is taken for 100%.

Source: calculations by the information of ROSNO-MS insurance company.

Figure 15.

**Ratio of the number of visits to physicians of different specialties by the residents of cities and residents of rural areas\* in seven \*\* regions of Russia in 2006.**



\* -For five regions – the data about visits by the residents of cities with the exception of the oblast center; in two regions – by the residents of all cities.

\*\* - the average number of visits to physicians of every specialty per one inhabitant of rural area in the region is taken for 100%.

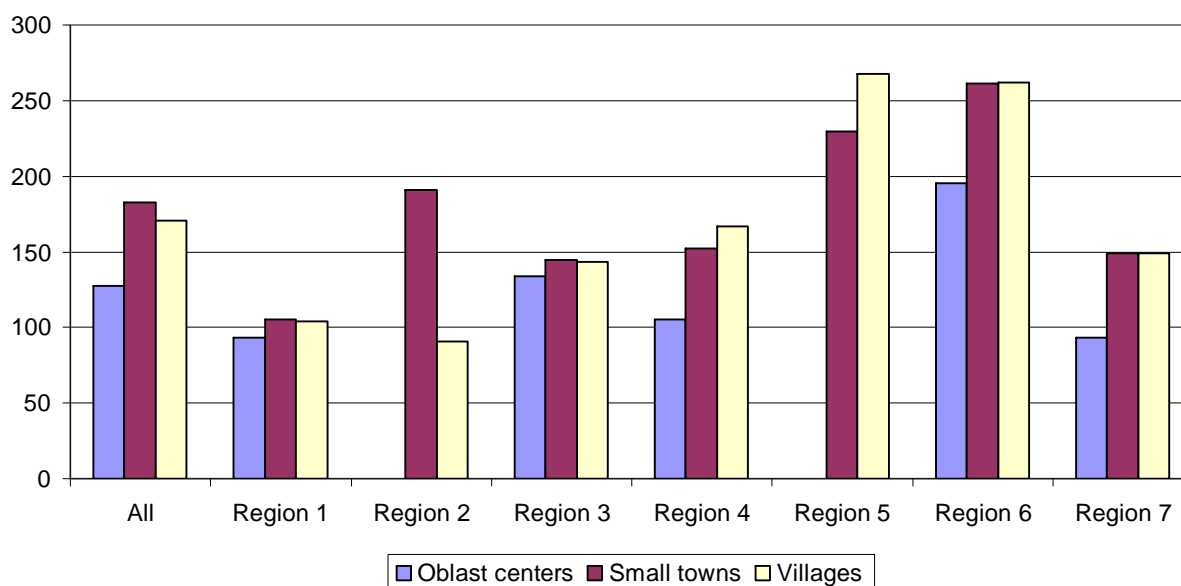
Source: calculations by the information of ROSNO-MS insurance company.

#### 5.4.4. Differences in the level of hospitalization and in the pattern of inpatient care.

Comparison of information about the level of hospitalization of residents of different types of inhabited localities (Figure 16) shows that the residents of the oblast centers get inpatient care less frequently than other inhabitants. The differences between the population of medium-sized and small towns and the inhabitants of the rural areas in the level of hospitalization are not big in five regions. The exception was made by region 2 (in the Siberian okrug), in which the level of hospitalization of residents of urban settlements was two times higher than the level of hospitalization among the rural inhabitants, and region 5 (in Privolzhsky okrug), where the level of hospitalization of rural inhabitants was by 16% higher than the level of hospitalization of the urban locality residents, which can be evidence of irregular accessibility of inpatient care to these contingents.

Figure 16.

**The number of hospitalized per 1000 residents of inhabited localities in seven regions of Russia in 2006.**

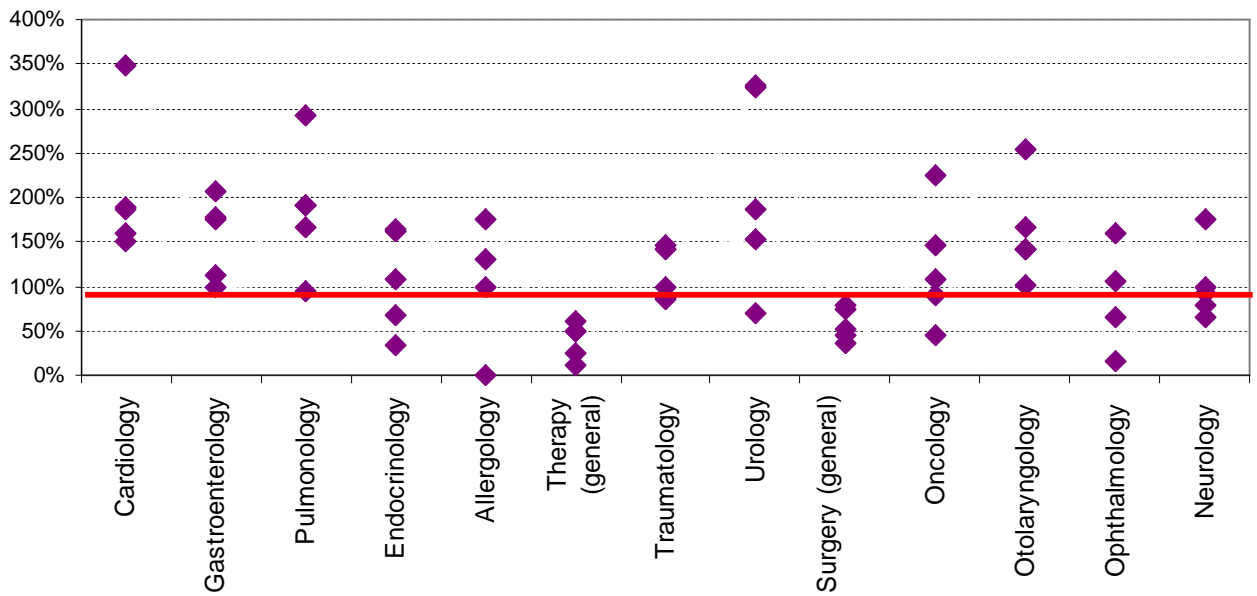


Source: calculations by the information of ROSNO-MS insurance company.

When examining the number of hospitalized cases per 1000 of the insured by the profiles of hospital departments (beds), great differences were exposed in their figures calculated for the urban and rural populations of each of the regions (See Figure 14 and 15). The level of admissions to specialized beds was, as a rule, lower than that for the residents of urban settlements, but essentially higher for the beds of general therapy and general surgery. Evidently, such inequality reflects the differences in the organization of inpatient care (in the cities the bed profiles in hospitals are more specialized, in the rural hospitals domineer the beds of general therapy and general surgery profiles), as well as lower accessibility to some kinds of specialized inpatient care for rural area inhabitants.

Figure 17.

**Ratio of the level of hospitalization of the residents of oblast centers and rural area inhabitants \* by the specialty of hospital departments in five regions of Russia in 2006.**

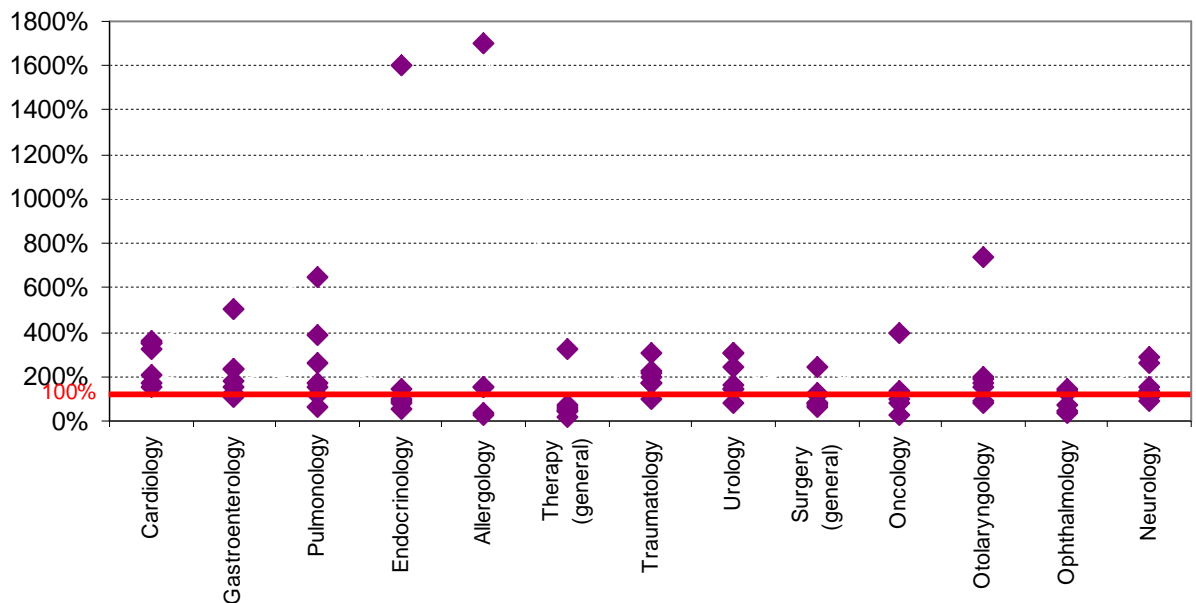


\* - the average level of hospitalized per 1000 rural inhabitants in the region is taken for 100%.

Source: calculations by the information of ROSNO-MS insurance company.

Figure 18.

**Ratio of the levels of hospitalization of residents of urban and residents of rural inhabited localities\* by specialty of hospital departments in seven \*\* regions of Russia in 2006.**



\* - For five regions information about the attendance of city residents with the exception of the oblast center; in two regions – of the residents of all cities.

\*\* - the average number of hospitalized per 1000 rural inhabitants in the region is taken for 100%.

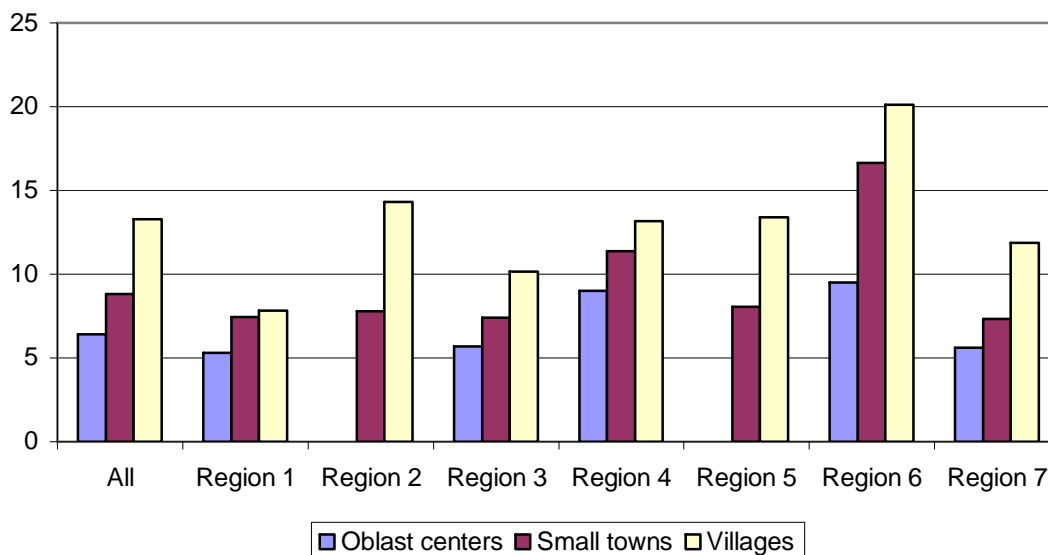
Source: calculations by the information of ROSNO-MS insurance company.

The analysis of differences in the hospitalization indices was continued by calculating the index of “selecting for admission”, which equals the ratio of the number of disease-related

admitted cases to the number of referrals for the outpatient care in relation to the same disease. The value of this indicator for residents of rural inhabited localities in six regions out of seven was higher than for the residents of urban inhabited localities (Figure 19). That result, being correlated with the exposed lower level of use of outpatient care among the inhabitants of rural areas makes an argument in favour of the fact that a more extensive provision of inpatient care to the residents of rural inhabited localities serves as compensation for lower accessibility of outpatient care for them.

Figure 19.

**Selection for hospitalization \* of residents of urban inhabited localities and countrymen in seven regions in 2006.**



\* - Ratio of the number of admission cases to the number of referrals for outpatient care, in, %.

The volumes of inpatient care consumption (the number of average bed/days per one patient) were about the same for the patients that reside in the urban and rural areas (Table 4). The exception was made by regions 2 and 7, where there were fewer bed/days of inpatient care per one resident of rural settlements than for per one patient – the resident of urban built-up areas.

Table 4.

**Average number of bed-days of inpatient care per one patient residing in the urban and rural areas in seven regions, in 2006 .**

	Total	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7
Residents of the oblast center	15,4	14,2	н/д	14,7	13,8	0,0	18,3	14,1
Residents of the urban settlements	14,1	14,4	11,8	14,7	14,5	15,7	17,5	17,1
Residents of the rural inhabited locations	15,4	14,7	9,5	14,7	14,9	16,0	17,1	15,1

Source: calculations by the information of ROSNO-MS insurance company.

The results obtained confirm the trends exposed by the data of sociological surveys: with the shrinking of size of the inhabited localities the use of outpatient care reduces and the share of people treated at the inpatient care facilities increases.

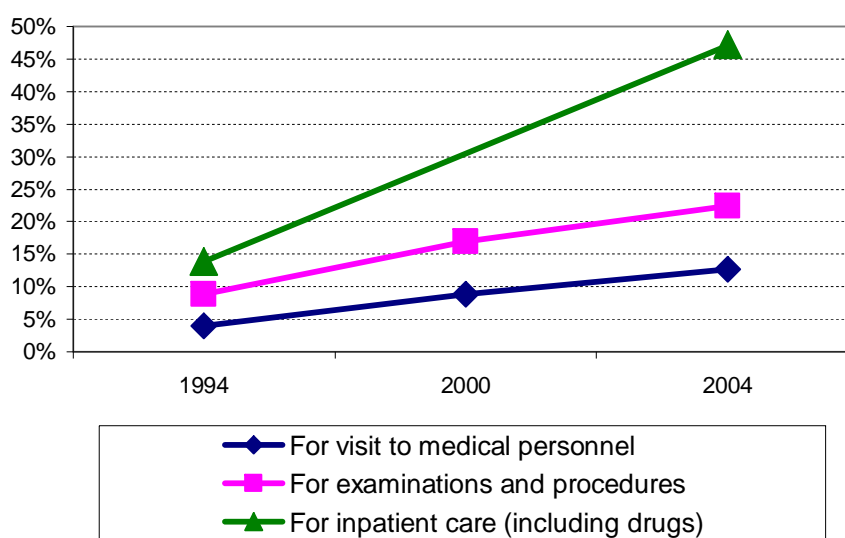
## 6. Differences in the use of chargeable health care services

### 6.1. Differences in the prevalence of health care payment practice for the population with different levels of income.

In Russia free health care services are intensively substituted by the chargeable ones. The speed of that process can be estimated by the data of different rounds of RLMS panel survey (Figure 20). The share of patients that paid for the outpatient care services increased for the period from 1994 through 2004 by 3.1 times; the share of those who paid for additional examinations and procedures – by 2.5 times, and for the inpatient care services – by 3.4 times. More often than not the population pays for the inpatient care services and it is for that kind of services the most significant growth of the share of those who paid can be observed. For the major part of households out of pocket payments for health care services became a condition for getting health care in full scope and of desired quality.

Figure 20.

Share of those who paid for different kinds of healthcare services in 1994, 2000<sup>17</sup> and 2004, in %



Source: calculated by the data of RLMS of rounds five (1994), nine (2000), thirteen (2004)..

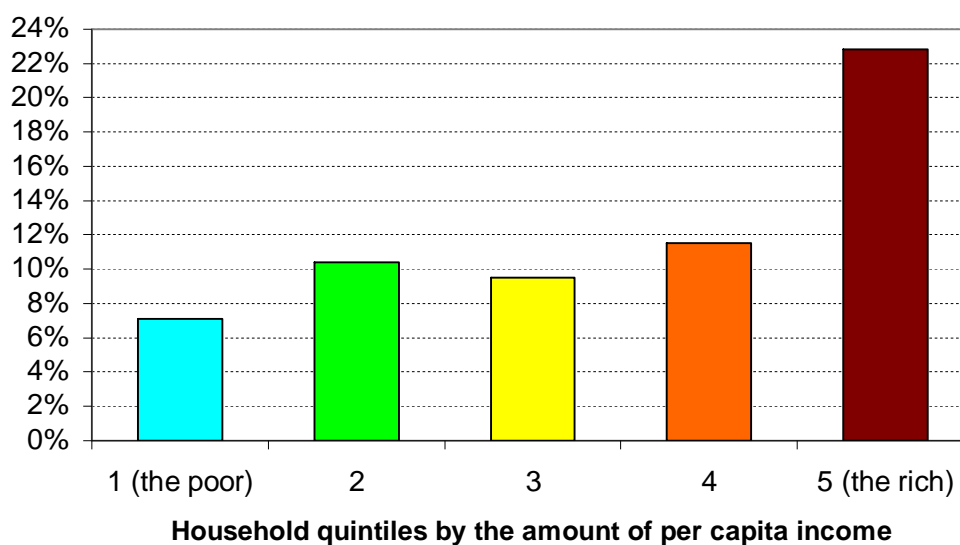
However, groups with different income level have different opportunities to resort to chargeable health care. According to the RLMS information, in 2004 the most well-to-do people paid for their visits to health care personnel by about 2.5 times more frequently than the representatives of populations with lower income (Figure 21). Along with the growth of the level of income, increases the share of patients that pay for inpatient care services (Figure 22). When comparing these results it is worth paying attention to the fact that the share of those who paid for the outpatient care rises in spurts at the transition from the fourth to the fifth income quintile, while the share of those who paid for the inpatient care rises dramatically at the transition from

<sup>17</sup> The data about those who paid for inpatient care services in 2000 have been excluded from the comparison as they do not allow taking into account those who paid for drugs while staying in hospital.

the first quintile to the second. That can be explained as the reflection of greater prevalence of practices of forced payments for inpatient care in hospitals as compared with polyclinics. Chargeable outpatient care services are more frequently sought for by most well-to-do part of the population on their own will.

Figure 21.

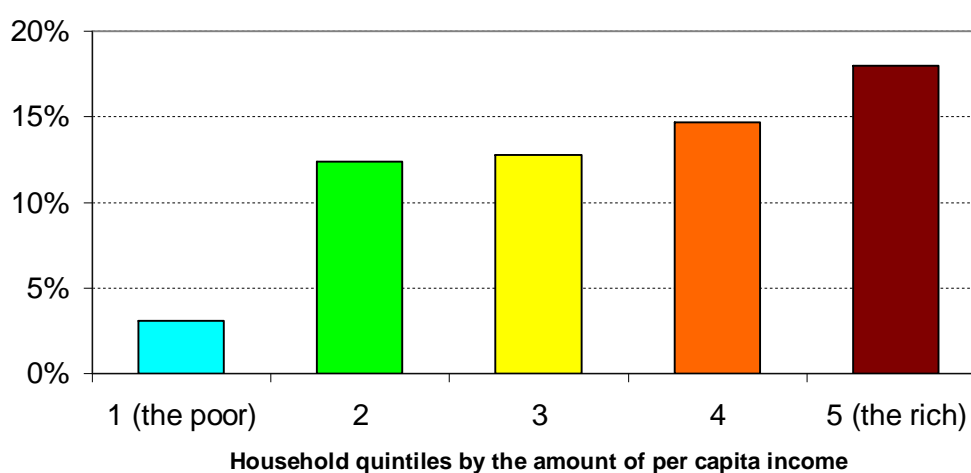
**Share of those who paid for their visit to health care personnel in the population brackets with different income in 2004, in %.**



Source: calculated by the RLMS data, 2004.

Figure 22.

**Share of those who paid for inpatient care in the population brackets with different income in 2004, in %.**



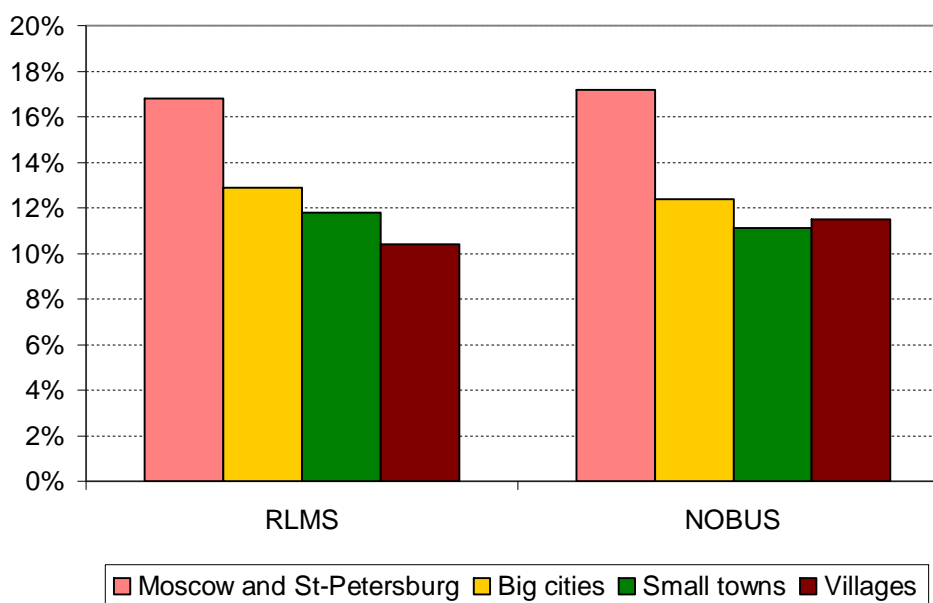
Source: calculated by the RLMS data, 2004.

## 6.2. Differences in the prevalence of practices of payment for health care for the residents of different types of inhabited localities.

The information gained by the RLMS and NOBUS survey are evidence of differences in the opportunities for residents of inhabited localities of different types to get health services for fees. Residents of largest and big cities resort to payment for outpatient care more frequently than the inhabitants of medium-sized and small towns and villages (Figure 23).

Figure 23.

Share of patients among the residents of different types of settlements, who paid for outpatient care in 2004, in %.



Source: calculated by RLMS data, 2004.

## 6.3. Regression analysis of the impact of factors of use of chargeable medical services.

### 6.3.1. Model description

In order to estimate the impact of different factors on use of chargeable medical services a regression analysis was made by the data of RLMS (2004). The binary logistic model was applied of the same kind as the one used for the analysis of use of health care factors (See section 5.4.1.). Three models were estimated in which the dependent variables characterized the odds to use chargeable medical services of the following kinds: a visit to health care personnel, taking additional examinations and procedures, taking treatment in hospital. As independent variables were considered social-demographic and economic characteristics of respondents (sex, age, education, type of settlement, presence of children, per capita household income, amount of alcohol consumed), health status (self appraisal of health, presence of a chronic disease) and the indicators of the level of development of health care system in the region where the respondent resides (availability for the population of physicians, hospital beds, the amount of per capita public financing of the territorial state benefits package).

By the method of step-by-step regression the independent variables were selected, which significantly affect the odds for the respondents who use chargeable medical services in question to spend funds on obtaining them. Regression estimates of the parameters of logistic equations for three dependent variables are given in Table 5.

### ***6.3.2. Factors of use of chargeable outpatient care services.***

The first model – the odds to pay for the outpatient care – was estimated for the totality of respondents that turned to health care personnel. They made 2296 persons in number. Among them the share of those who paid (with money or gifts) amounted to 12.4%.

The factors that turned out to be most strongly affecting the probability of using paid health care services are the type of the settlement, in which the patient resides, and the amount of per capita income in the family.

Residents of Moscow and St-Petersburg have a 4 times higher chance of paying for health care than the persons residing in the country. The odds of use of chargeable health care services for the respondents from big, medium-sized and small towns and cities and for the inhabitants of village settlements do not differ significantly.

The respondents that made the fifth quintile group (most wealthy) paid for the services delivered by health care personnel about 3 times more frequently compared with those respondents who have lower income per capita.

With the rise in the level of education grow the odds of using chargeable health care services. Probably, more educated people have a higher estimation of their health and are ready to pay for the services of health care staff more regularly.

The odds of paying for health care services are thinner when people older than the working age and children apply for care.

The amount of per capita financing of the territorial state benefits package does make a negative, but very slight impact on the patient's odds of paying for the services delivered by health care personnel.

### ***6.3.3. Factors of payment for additional examinations and procedures.***

The second model – the odds to pay for additional examinations and procedures – was constructed for the patients that sought for that kind of health care, The mass made 972 persons; 22,4% of that population used paid services.

According to the data of regression analysis, the odds to pay for examinations and procedures for the residents of Moscow and St-Petersburg are 3 times higher as compared with the inhabitants of rural settlements, small and medium-sized cities and towns.

Using of additional examinations and procedures more often, the probability of women paying for such kind of services is higher in comparison with men.

Patients of middle age, apparently, strive to avoid paid examinations and procedures: the odds of use of such services for them are about 50% lower than for younger people. The risk of payment for such kind of health care is reduced by 50% for children as well in comparison with the able bodied people.

With the increase of per capita financing for the territorial state benefits package the likelihood of use of chargeable examinations and procedures does not practically change, The inverse, though weak dependence is observed.

### ***6.3.4. Factors of payment for inpatient care.***

The third model was estimated for the totality of respondents who paid for inpatient care services. The mass made 636 persons, of which 12% paid for their stay in hospital. For the sake of correctness of the results of regression analysis obtained on the basis of such a small number of observations, we had to include into the model only few variables: the type of inhabited locality, the presence of a chronic disease, the amount of per capita public financing of the territorial state benefits package and the availability of hospital beds in the region.

The impact of the inhabited locality turned out to be significant: for the residents of big and small cities and towns the risk of payment for such kind of care turned out to be about 3 times higher, than for the patients that reside in the rural areas.

Besides, that regression model registered the presence of weak inverse dependence of the risk of use of chargeable inpatient care services of the number of hospital beds per 1000 residents in the region.

Table 5.

**Results of regression analysis: models of payment for the services of health care personnel, additional examinations and procedures, treatment in hospital**

Independent variables	Health care payment odds		Examination payment odds		Inpatient care payment odds	
	B	Exp(B)	B	Exp(B)	B	Exp(B)
<i>Presence of chronic disease (at least one)</i>					0,559	1,749
<i>Sex (1 – female, 0 – male)</i>	0,275*	1,316	0,405*	1,5		
<i>Age (screening group – able bodied people)</i>						
Above the working age	-1,168**	0,311	-0,683**	0,505		
Age: children	-1,043**	0,353	-0,752**	0,472		
<i>Education (screening group – higher completed and incompleted)</i>						
Education: incomplete high and lower (respondents that finished 9 and less forms = children below the age of 14)	-0,659**	0,517				
Education: full high (completed 10 forms and more)	-0,614*	0,541				
Education: high special and vocational-technical (diploma of VTS, FPS, FPE, technical schools, schools)	-0,516**	0,597				
<i>Type of inhabited locality (screening group – village)</i>						
Moscow and St.-Petersburg	1,417**	4,125	1,124	3,077	1,289	3,631
Big cities (over 300 thousand people)	0,033	1,033	-0,419	0,658	1,184**	3,266
Medium-sized and small towns	0,08	1,083	0,078	1,081	0,904*	2,469
<i>Income<sup>18</sup> (screening group –the first quintile)</i>						
quintile	0,391	1,478				
3 quintile	0,182	1,199				
4 quintile	0,279	1,322				
5 quintile	1,028**	2,796				
<i>Amount of public financing of health care in the region<sup>19</sup> in 2004z.</i>	-0,001**	0,999	-0,001**	0,999	-0,001**	0,999
<i>The number of hospital beds per 1000 people in the region in 2004z.</i>					-0,041**	0,96
Constant	-0,544	0,58	0,618	1,855	2,279	9,771
N of respondents	2296		972		636	
Percent of correctly predicted cases	87,60%		77,60%		87,90%	
Log-likelihood	1539,027		981,939		443,016	

<sup>18</sup> Per capita maximum of available resources (by expenses) and receipts of household.

<sup>19</sup> Amount of per capita public financing of the territorial state benefits package (taking into account the regional coefficients of rise in the costs).

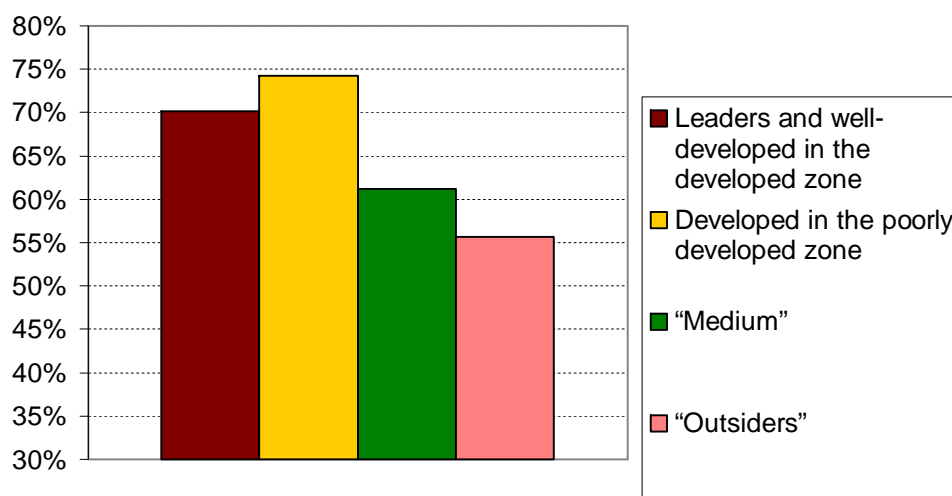
## 7. Differences in free health care accessibility for populations of regions different in their economic development

The analysis of inter-regional differences in the accessibility of free health care services was carried out based on the findings of the NOBUS large scale survey<sup>20</sup>, which refers to 2003. The regions for which such sampling was representative (46 regions) were divided into four groups in accordance with the typology of the regions by their social and economic development put forward in the project of “Social Atlas of Russian Regions”<sup>21</sup>:

1. Leaders and developed in the developed zone;
2. Developed in the poorly developed zone;
3. “Medium”;
4. “Outsiders”.

Figure 24.

Share of patients who did not pay for their inpatient care, for different region groups, in %



Source: Calculated by the NOBUS data, 2003

The values of index of the share of patients that received free health care (of all types) turned out to be quite close for the said four groups of regions: they are in the range between

<sup>20</sup> <http://siteresources.worldbank.org/INTRUSSIANFEDERATION/Resources/NOBUS.pdf>

<sup>21</sup> [http://atlas.socpol.ru/typology/table\\_types.shtml](http://atlas.socpol.ru/typology/table_types.shtml)

In the analysis the NOBUS data for the following regions were used:

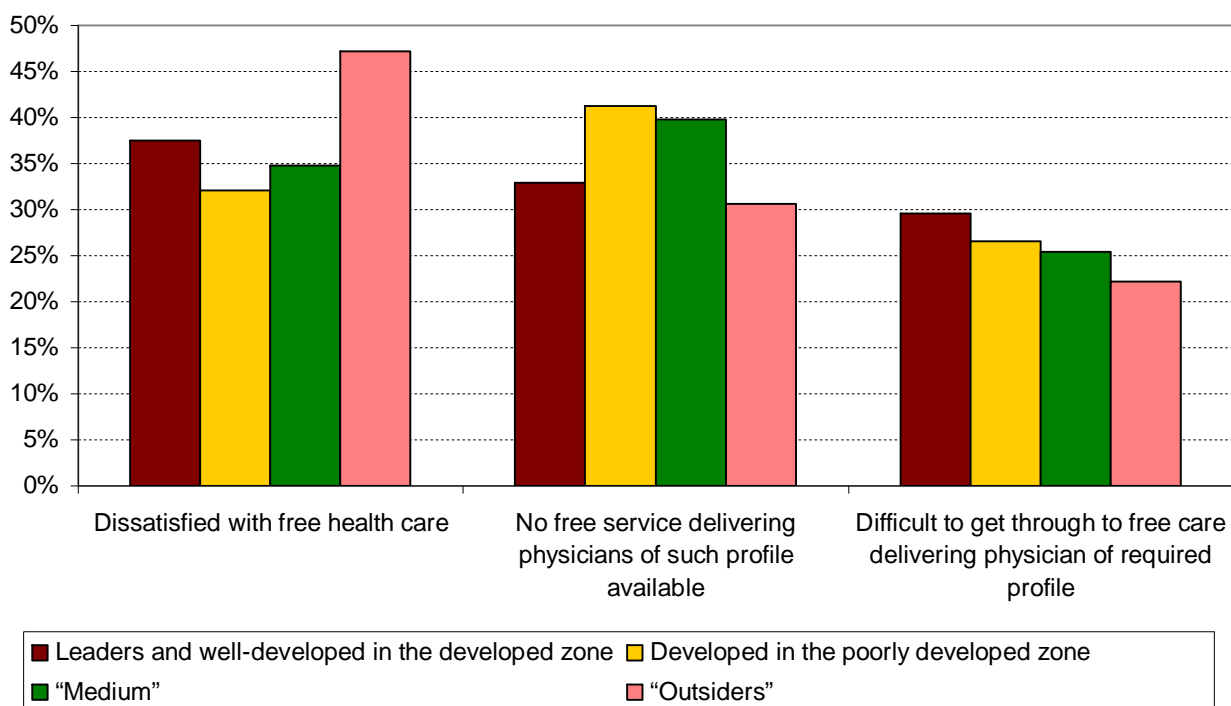
1. Leaders and developed in the developed zone: Moscow, Lipetsk Oblast, Republic of Tatarstan, St.-Petersburg, Samara Oblast, Yaroslavl Oblast, Republic of Bashkortostan, Chelyabinsk Oblast, Sverdlovsk Oblast.
2. Developed in the poorly developed zone: Tyumen Oblast, Republic of Sakha (Yakutia), the Komi Republic, Krasnoyarsk Krai, the Sakhalin Oblast, Kemerovo Oblast, Murmansk Oblast.
3. “Medium”: the Udmurt Republic, Nizhny Novgorod Oblast, Novgorod Oblast, Tver Oblast, Kostroma Oblast, Pskov Oblast, Kirov Oblast, Bryansk Oblast, Omsk Oblast, Novosibirsk Oblast, Orel Oblast, Astrakhan Oblast, Volgograd Oblast, Krasnodar Krai, Tambov Oblast, Rostov Oblast, Voronezh Oblast, Republic of Mordovia, Arkhangelsk Oblast, the Khabarovsk Krai, the Amur Oblast, the Buryat Republic, the Kamchatka Oblast, Primorsky Krai, Chita Oblast.
4. “Outsiders”: Kurgan Oblast, Ivanovo Oblast, Republic of Kabardino-Balkaria, the Adygei Republic, Republic of Dagestan.

87.6% and 90.1%. More explicit are the distinctions in the share of patients that got free inpatient care (See Figure 24). This index amounts to its maximum in the resource producing regions (74.2%), and to the minimum in the regions of the outsider group (55.7%).

Of interest are the distinctions in the reasons that make people appeal to chargeable health care service, as noted by the respondents from different groups of regions (See Figure 25). Their dissatisfaction with the quality of free health care services is more often expressed by the citizens of the least and the most developed regions. The absence of the required specialty physicians, who can provide free care, is more frequently pointed out by the citizens of the second and the third groups of regions. Difficulties of making an appointment with the doctor, who delivers free services, as the reasons for turning to chargeable services, slacken with passing from a more developed group to a less developed group of regions.

Figure 25.

**Reasons for turning to chargeable health care services, distribution of respondents' answers, in %**



Source: Calculated by the NOBUS data, 2003.

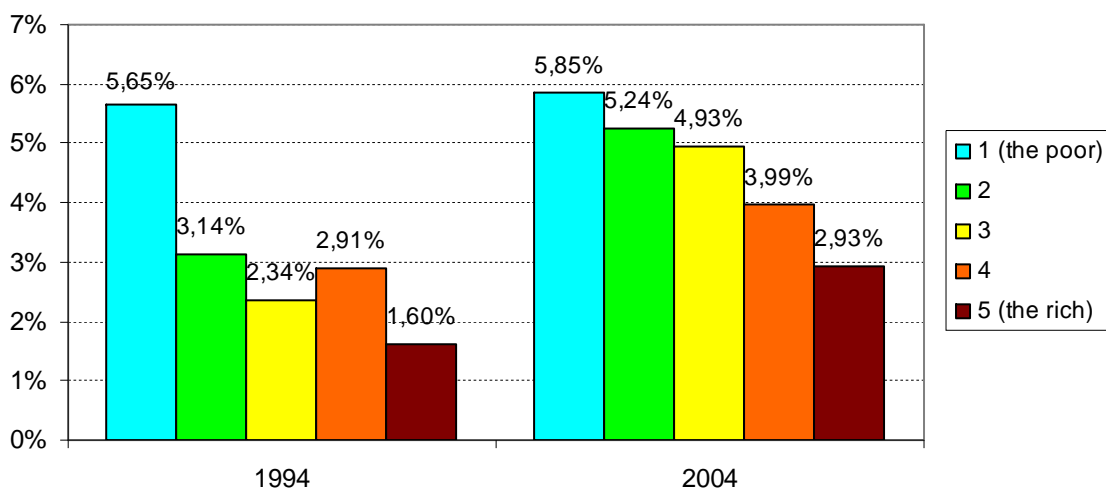
## 8. Inequity in distribution of health expenditure burden

In order to analyze the differences between the population in the burden of health expenditures the calculations were made of the indices of the share of a household average monthly health expenses in their receipts minus the expenditure for food.

The data of RLMS allow for comparison of the burden of household expenditure for outpatient and inpatient health care and drugs prescribed by physician in 1994 and in 2004 (Figure 26). During these ten years the burden of health care expenditure increased for all income groups, but the inequity in its distribution decreased, though still remains to be significant enough: for the poor it is twice bigger.

Figure 26.

**Average shares of health expenditure\* in the household income minus food-related expenditure, per month, by household groups with different levels of per capita resources in 1994 and 2004, in %**

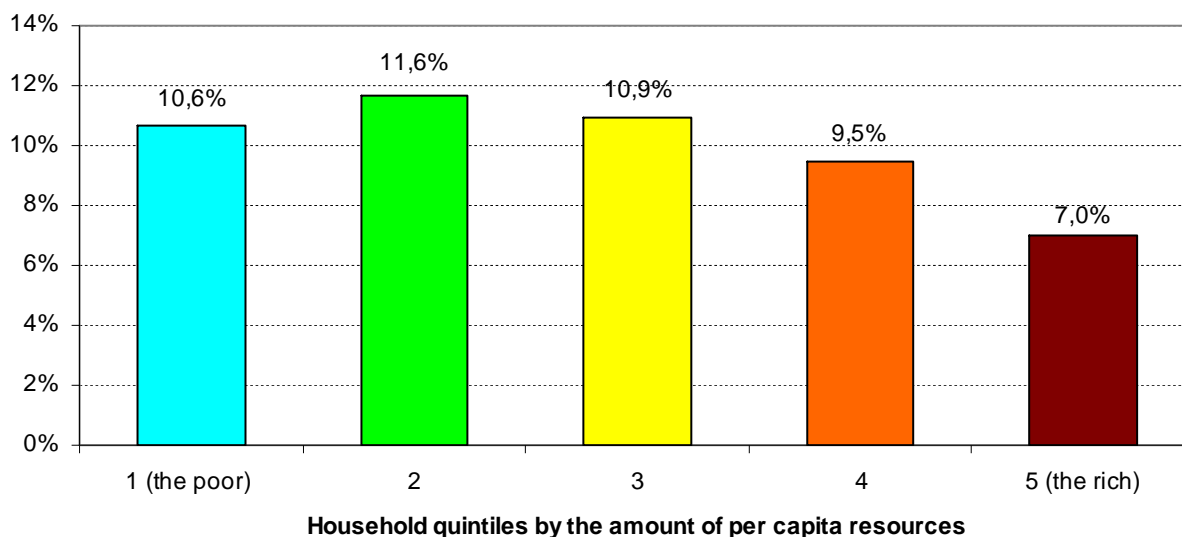


\* - Household expenditure for outpatient and inpatient health care and drugs prescribed by physician.  
 Source: calculated by the RLMS data of 1994 and 2004.

The cited RLMS data about household expenditure for health care do not include the costs of purchasing the drugs, which were not recommended by physician. In order to analyze the distribution of the full burden of household expenditure for health services we shall use the data of the NOBUS survey. They are also evidence of the presence of inequity by that indicator among the groups of households with different levels of per capita income (See Figure 27). The value of that index for households of the first two quintile groups (that is for the poor) is by 1.5 times higher than for the households of the fifth group (the rich).

Figure 27.

**Average shares of health expenditure\* in household income minus food-related expenses, per month, by household groups with different levels of per capita resources, in 2003, in %**



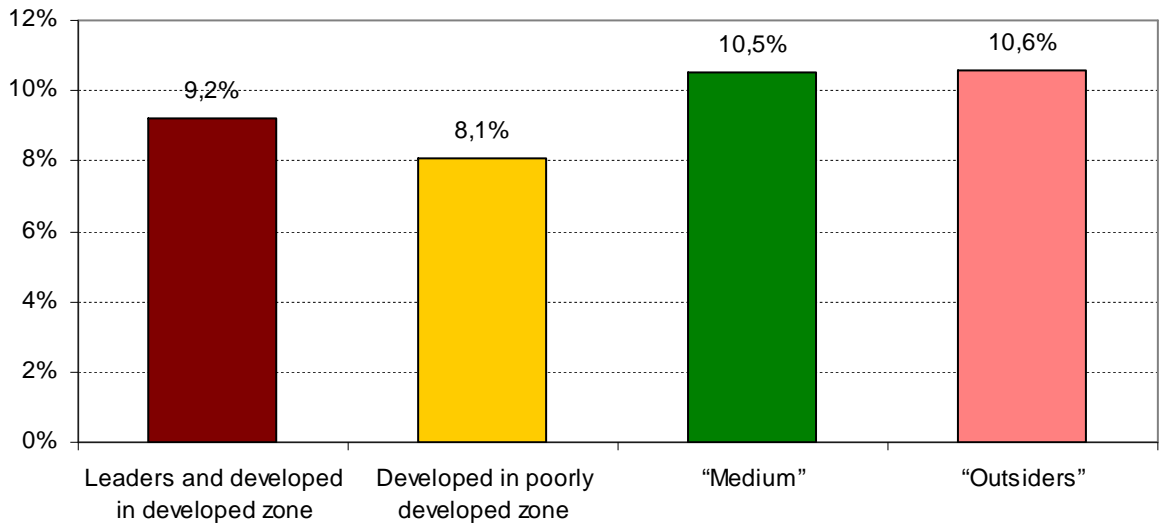
\* - Household expenditure on outpatient and inpatient health care and drugs.

Source: Calculated by the NOBUS data, 2003.

A similar calculation was made for households that live in the regions with different levels of economic development (See Section 7). According to the data obtained the burden of health care contribution is higher for the households that live in the regions with a lower level of economic development (See Figure 28).

Figure 28.

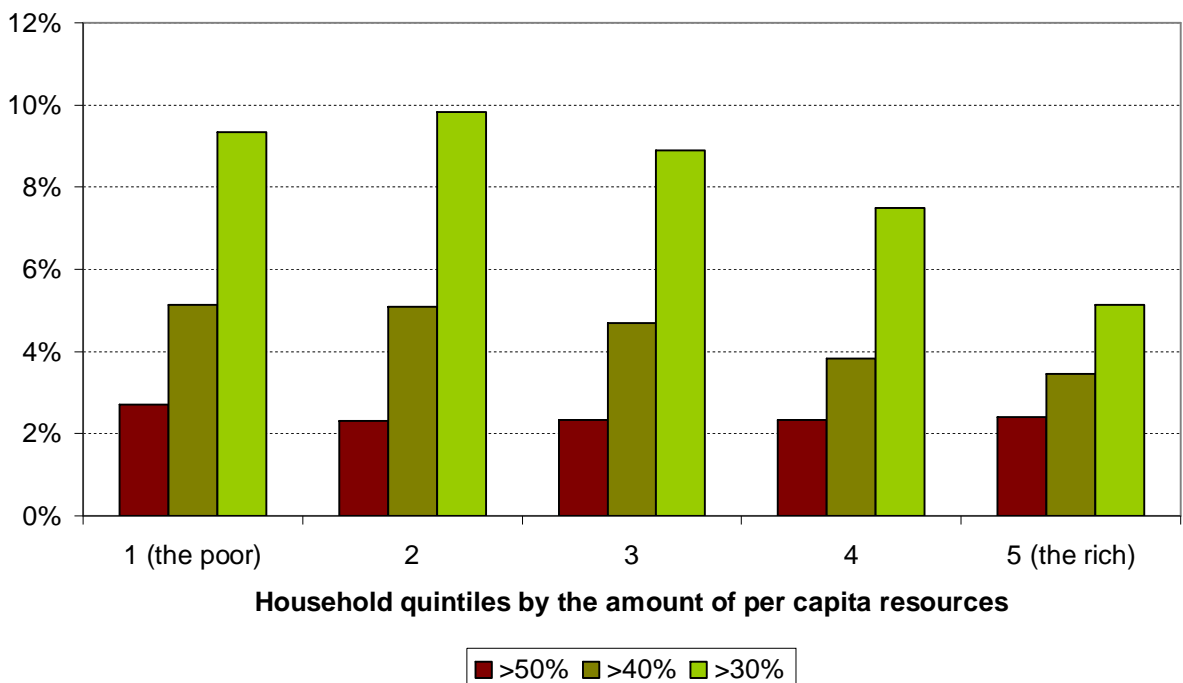
**Average shares of health expenditure\* in household income minus food-related expenses, per month, for regions with different levels of economic development, in 2003, in%**



\* - Household expenditure on outpatient and inpatient health care and drugs.  
 Source: Calculated by the NOBUS data, 2003.

Figure 29.

**Share of households whose health contributions exceeded 50%, 40%, and 30% of monthly income minus food-related expenses, for households with different levels of per capita resources, in %**



Source: Calculated by the NOBUS data, 2003

Most difficult for households becomes the necessity to bear very high costs in case of serious diseases of household members. To analyze the distribution of such catastrophic expenditures the index was calculated for the share of households whose average monthly per capita expenditure on health care exceeded 50%, 40%, and 30% of the value of average annual income minus food-related expenses. The share of those who spent on health care over 50% of their yearly income is approximately the same for the three middle-income household groups – 2.3%; it is somewhat higher for the wealthiest – 2.4% and amounts to the maximum for the poorest group – 2.7% (Figure 29). The households that spent over 30% of their yearly income on care are already scattered by their income groups unevenly: in the two poor groups their share makes 9.5%, while in the category of the wealthy it is only 5.1%.

## **9. Public ideas about the equity in access to health care services**

To have a full picture of the analysis of the current inequity of access to health care it is important to know for certain what the ideas of the population are about the equity in getting health care services. Today in Russia most acute are the problems of inequity of access to health care connected with the replacement of the free health care with paid services. In order to find out about the attitudes of population to these problems a set of issues was developed, which was included in the survey held in July 2007 under “The Consumer Sentiment Index” (CSI) project. Let us look at the basic findings of the conducted survey.

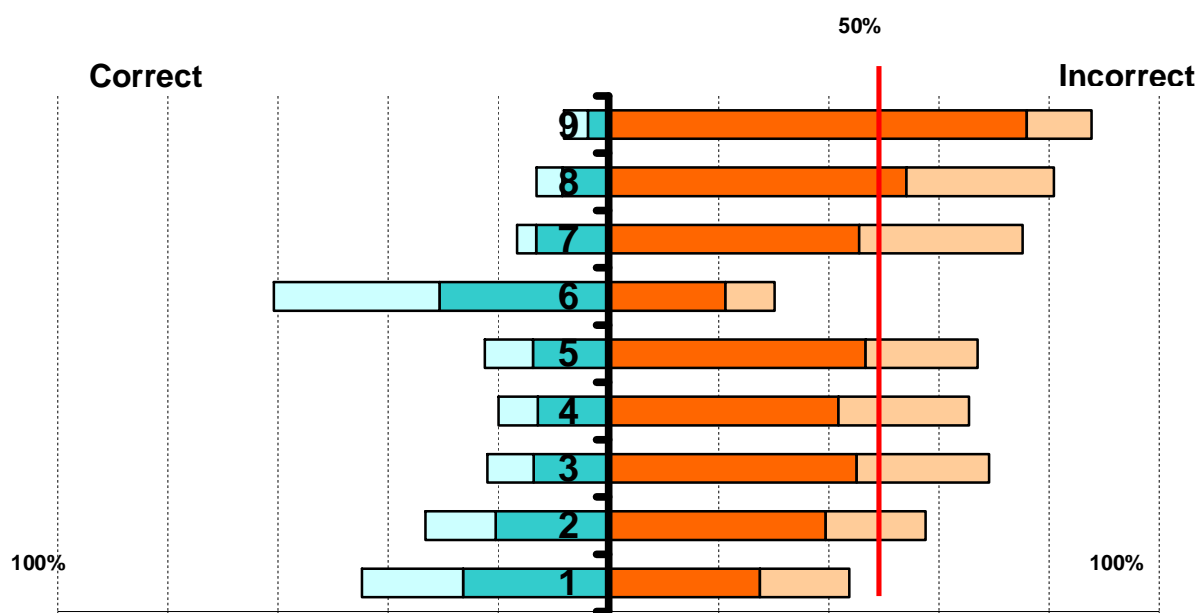
The data obtained are evidence of the fact that on the part of the population the requirements to the state benefits package remain to be fairly extensive and unconditional (see Figure 30): the majority of the surveyed believe that the rights should be preserved of free access to the basic kinds of outpatient and inpatient health care services. They include making general analyses and diagnostic procedures, annual clinical examinations and vaccinations (including those for the flue, ARVI), the services of health personnel at patient’s home to carry out treatment procedures. Even more unanimous is the demand of the population for free inpatient care. Population is only ready to take more or less tolerably the introduction of payments for the possibility to choose conditions of comfort while staying in hospital, as well as a free choice of an attending physician.

At the same time, notwithstanding general adherence to the system of free health care on the whole, the attitude towards the development of some kinds of paid health care services is differentiated by major social groups. The bearers of most tolerant attitude towards the development of paid medical services are well-to-do people, residents of capital cities, the youth. In the listed groups the majority of consider it rather correct (“quite normal”) that the person should pay not only for his/her additional services (the choice of a physician or the level of comfort), but also such “usual” health care services as:

- Home visit by health care staff to carry out some procedures for the patient (47% of very wealthy, and 43% of Muscovites agree with that ),
- Making general analyses, standard diagnostic procedures (43% of very wealthy, and 42% of Muscovites agree with that ),
- Doing vaccinations for the flue or ARVI (40% of very wealthy, and 40% of Muscovites agree with that ).

Figure 30.

**Distribution of respondents' answers to the question "Is it correct that people should pay themselves for ..."**



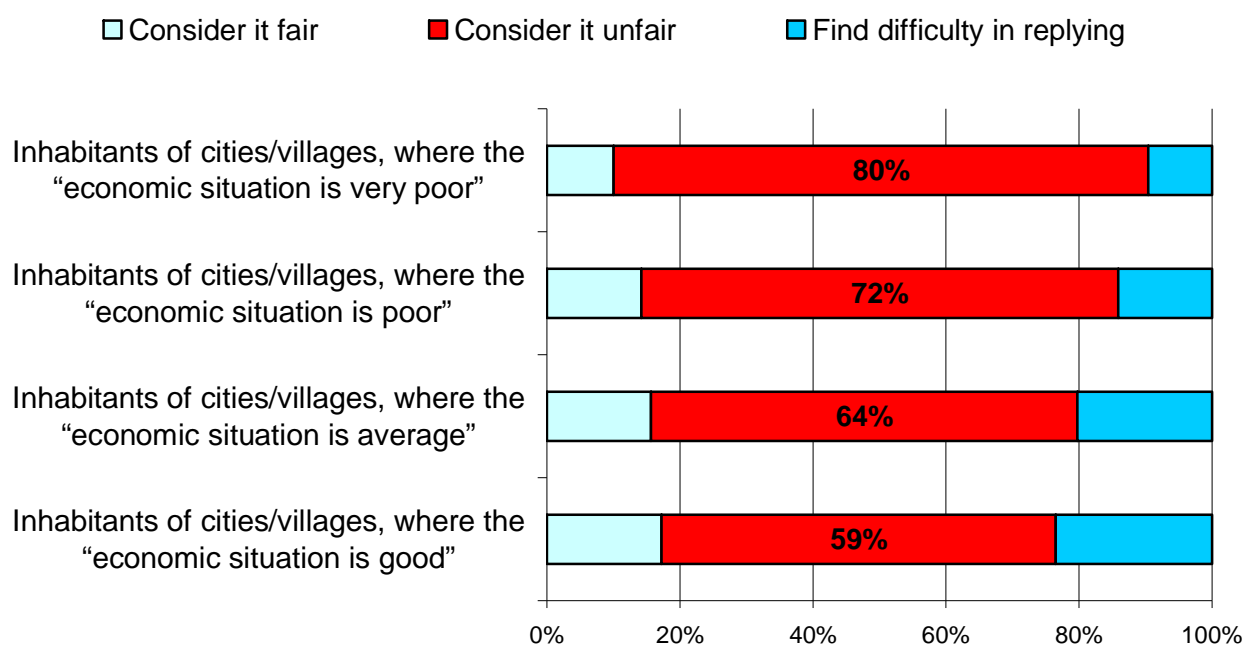
<u>Typical kind of inpatient care (delivered in hospital):</u>		<u>Typical kinds of outpatient care (delivered in polyclinics):</u>	
9	Emergency (urgent) hospitalization required for saving patient's life	5	Vaccination for the flu (ARVI), and other infectious diseases
8	Drugs, therapeutic procedures, clinical nutrition prescribed by physician during staying in the hospital	4	Annual clinical examinations
7	Non-urgent hospitalization (therapy or making planned surgery)	3	General analyses, standard x-ray and ultrasound and other diagnostic procedures
6	Living conditions of better comfort during staying in hospital (individual ward, individual nutrition)	2	Regular visits of health care staff to bed-ridden patient to measure blood pressure, to give injections, to get patient on a drip, and other medical procedure
		1	Possibility to take treatment at the physician chosen by the patient

Source: the data of CSI survey in July 2007.

The analysis of public attitude to the regional differentiation of accessibility to health care services in relation to the financial capacity and efforts of the regional authorities showed that population has a negative opinion about such state of things (Figure 31). The perception of such differentiation as unfair dominates even in relatively problem-free regions, in which people can enjoy the benefits of better organization of free public health care. In less successful regions the negative attitude towards regional differences in the access to health care services are felt still more acutely.

Figure 31.

**Distribution of respondents' answers to the question "Is it fair that residents of wealthier regions have better opportunities of getting health care than residents of poor regions?"**



Source: data of CSI survey in July 2007.

According to the information of the held survey health care is considered by the major part of population as such aspect of human life in which any factors of access differentiation are unfair. That is not the field of human existence where principles of "rewarding somebody according to his deserts" would be acceptable in any form. The preferential right of socially unprotected sectors of population (low-income, handicapped persons) to health services is not directly denied by people, however it is not absolutely supported either.

The level of material prosperity is not recognized by the population as a socially acceptable factor of accessibility to health care, which is confirmed by distribution of opinions in relation to fair ways of health care organization in the resources deficiency environment. That aspect was tested on the example of delivery of high-technology medical care (Table 6). According to the unanimous opinion of major part of those interviewed a person's material status should not affect the possibility to get such care. Equally unacceptable is to give advantages to those who are able to pay extra for the services provided, as well as to those who could lay a claim to them due to low income. The employment status or the place of residence are also estimated as unfair factors of differentiation in getting health care services.

On the average, the population is rather not in favor of supporting the idea of ensuring the preferential right to health care services even for those who can pay for that right at the expense of "fairly made" personal earnings (Figure 32). However the attitudes of representatives of different property strata of the population here are different in principle. Among the wealthiest part of the population social benefits conditioned by higher financial income are taken rather positively, but, as a rule, with a constraint that is hard to implement in the resource deficit environment – "not to the prejudice of others". Low-income population brackets that are not able to use such capabilities of paid medicine would under no circumstances recognize privileges of other more successful persons.

Table 6.

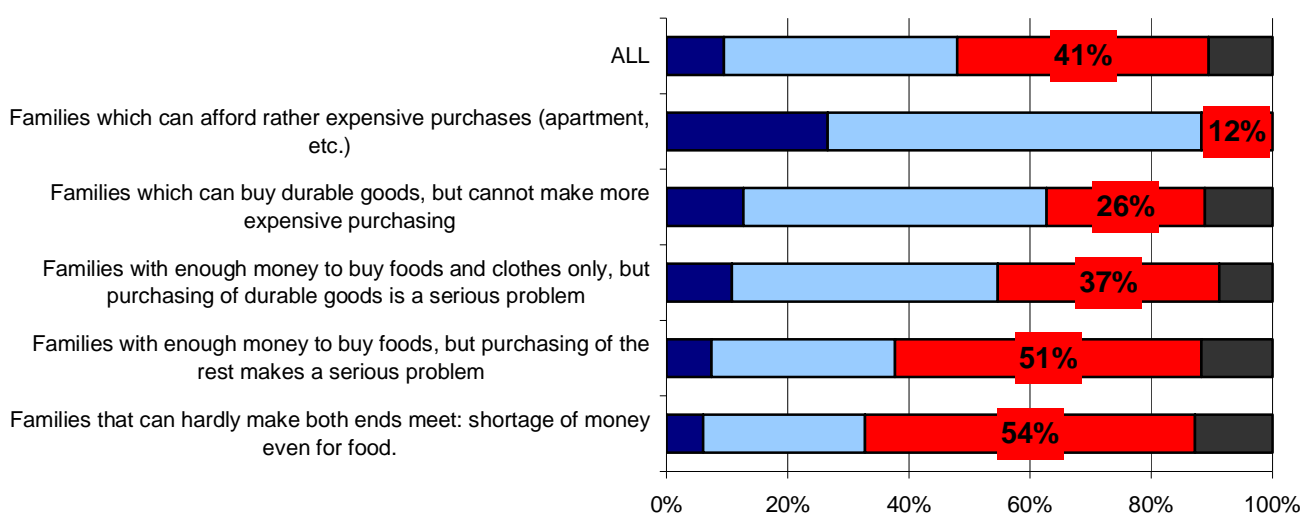
**Distribution of estimates by respondents of most preferable ways of organizing the queue for getting free high quality health care (% per column of the number of the interviewed)**

	Best way	Second best way
Heavier cases first, the other later	71	21
By the time of patient's coming – "first come, first served"	23	49
Inhabitants of the city where the health care facility is located – first, then the others	1	7
Working people first, non-working – later	1	6
For additional pay – first, the others – later	1	8
Low-income – first, well-t-do – later	2	7
No answer	1	3

Source: the data of CSI survey in July 2007.

Figure 32.

**Distribution of respondents' answers to the question "Do you agree that people who work much and make good money should have an opportunity to get health care services for their money sooner than the others ?»**



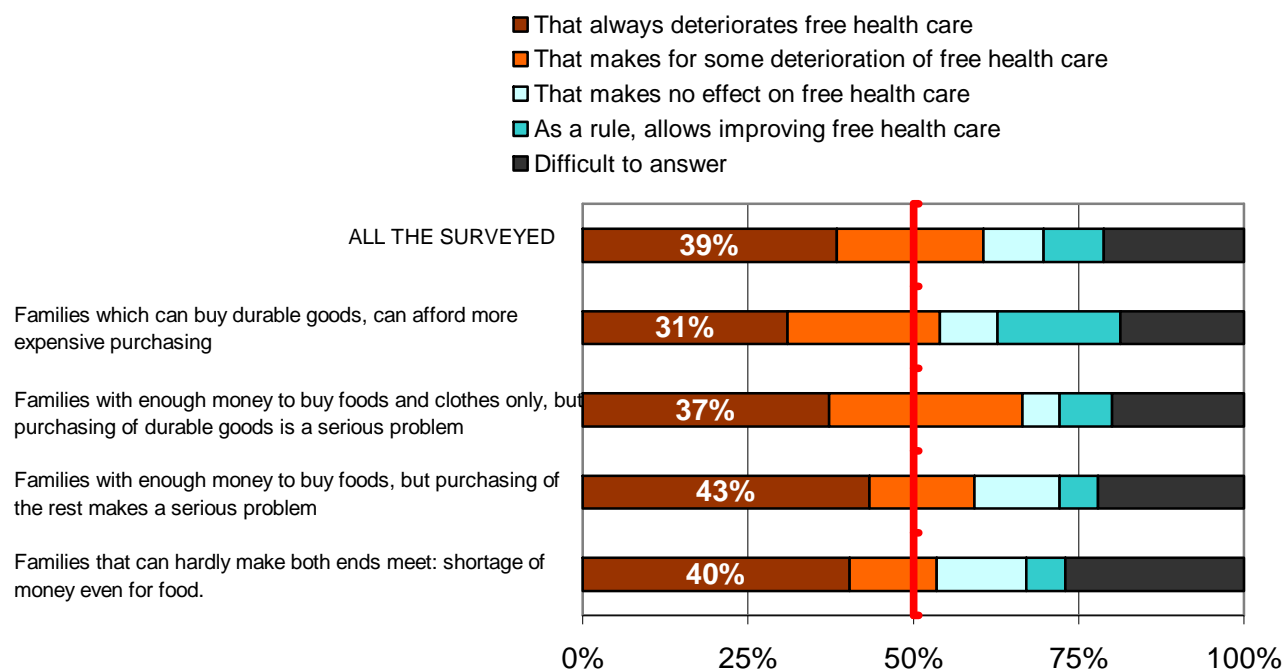
Source: the data of CSI survey in July 2007

The analysis of people's attitudes to a concrete practice of implementing the idea of paid medical services, as supplementary to free health care services, demonstrated much better unanimity of the population. Developed in the 90-ies, the practice of solving financial problems in health care by way of combining free and paid health care services on the basis of public medical institutions is taken negatively by the majority of the population (Figure 33). Irrespectively of their material capabilities, people more often than not (about 40% of the interviewed) would estimate such practice negatively, believing that the development of supplementary paid health care in public polyclinics and hospitals causes deterioration of functioning of the free health care system. And about twice smaller part of the population is ready to agree that such combination of paid and not paid delivery of medical services can

contribute to the improvement or, at least, in no way affect the efficiency of provision of free health care services.

Figure 33.

**Distribution of respondents' estimates of the effect of supplementary chargeable health care offered to patients at public polyclinics and hospitals, on the quality of free health care services.**

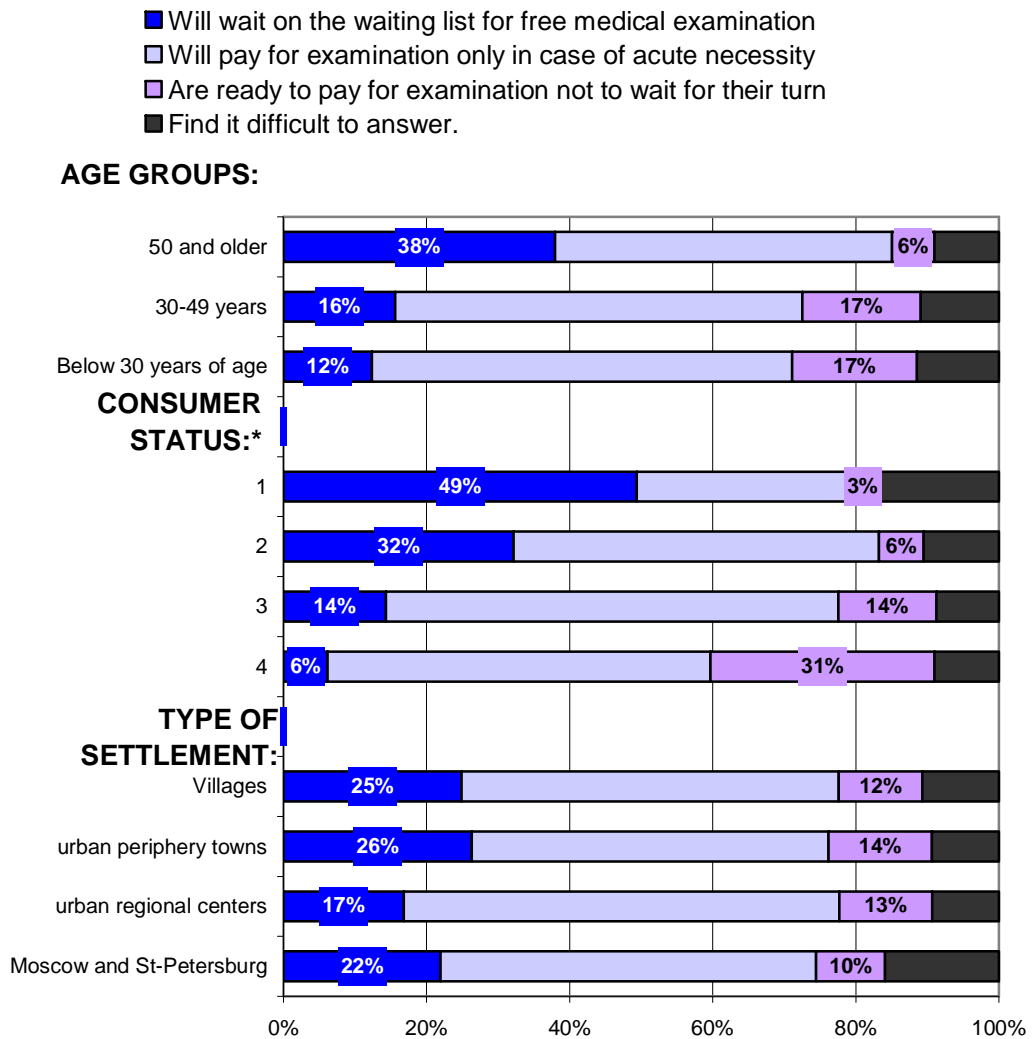


Source: the data of CSI survey in July 2007

More tolerant attitude of the better provided for part of community to the development of paid forms of health care is based, as it could be expected, on the material abilities to pay for health care services. The materially provided strata of population noticeably more frequently express their readiness in individual cases to transfer to paid forms of health care services even when there is a formal possibility to get such services free (Figure 34). However, even these strata of population are not ready yet to transfer to the model of health care financing on the basis of co-participation in the insurance of health costs. That can be seen from the hypothetical alternative, suggested under the survey, between the individual model of payment for undergoing prophylactic clinical examinations and then having free care later and the model of individual payment for health care services when applying for health care (knowingly dooming some part of the patients to catastrophic expenses to their budgets) (Figure 35). That hypothetical choice turned out to be rather difficult for all respondents (on the average 37% of the interviewed found it difficult to answer), but in particular for elderly persons and low-income inhabitants of Russia that failed to make that choice in half the cases. That confirms once again the absence of alternative in the attitude of population towards the need to preserve free health care. Even among the best provided for strata of population and youth only in one third of cases can be met the approval of insurance model of participation in the financing of health care.

Figure 34.

**Preferences in different social-demographic groups in relation to readiness to wait for the turn for free medical examination or to make a medical examination for payment ahead of queue**



\* - Consumer status:

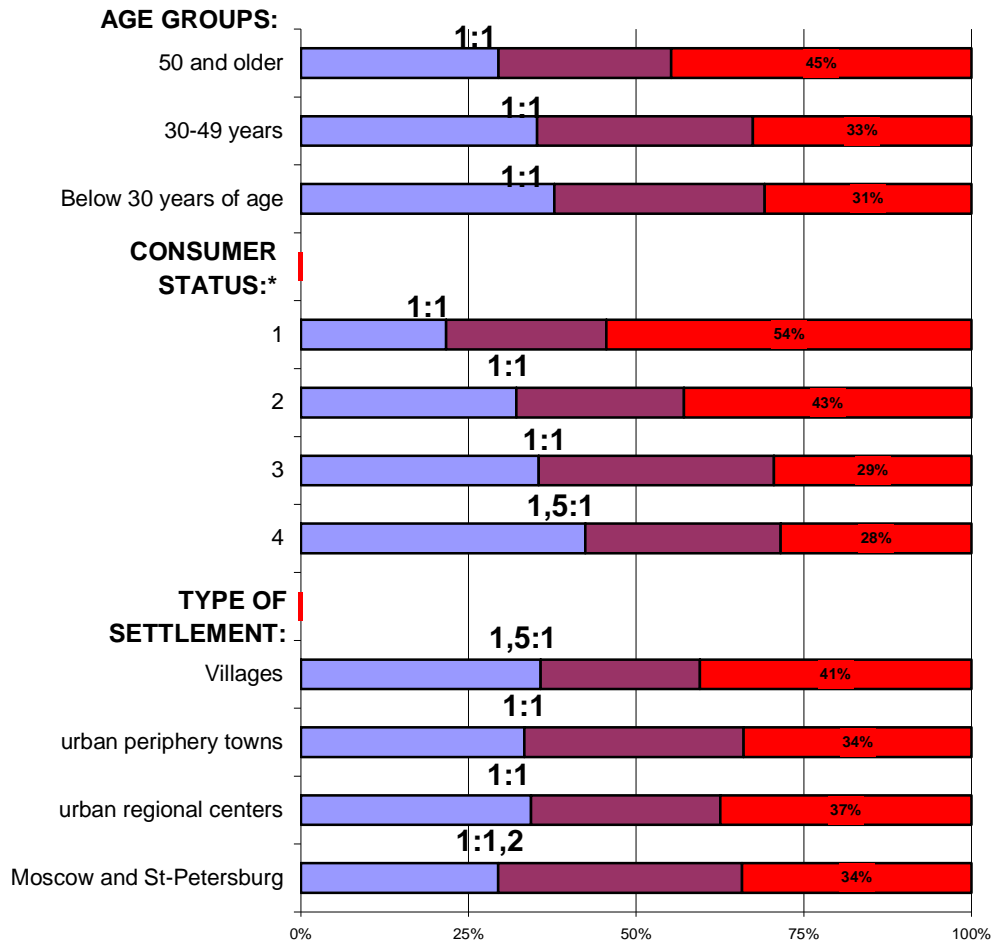
- 1 Families that can hardly make both ends meet: shortage of money even for food.
- 2 Families with enough money to buy foods, but purchasing of the rest makes a serious problem
- 3 Families with enough money to buy foods and clothes only, but purchasing of durable goods is a serious problem
- 4 Families which can buy durable goods, can afford more expensive purchasing

Source: the data of CSI survey in July 2007

Figure 35.

**Distribution of respondents' answers to the question "If you had to choose what would you prefer: (1) on your initiative to undergo paid prophylactic clinical examinations and to have free therapy of detected diseases, or (2) not to spend money on prophylactic examinations, to apply to physicians in case of need only and to pay for treatment on your own".**

- Agree on their initiative to undergo paid prophylactic examination annually and to have treatment free
- Agree not to spend their money on annual prophylactic examination, turn to physicians in case of need and to pay for therapy on their own
- Find it difficult to answer.



\* - Consumer status:

- 1 Families that can hardly make both ends meet: shortage of money even for food.
- 2 Families with enough money to buy foods, but purchasing of the rest makes a serious problem
- 3 Families with enough money to buy foods and clothes only, but purchasing of durable goods is a serious problem
- 4 Families which can buy durable goods, can afford more expensive purchasing

Over one third of Russian citizens (37%) reported in the course of the survey that if they had an opportunity to choose they would prefer to have enough money to pay for health care, but not to have an opportunity to get it free in case of need (the latter was chosen by 56% of respondents). Higher tolerance to other forms of organization of health care in the more well-to-do strata of population should not be estimated as the manifestation of principally different value orientations. It is rather some readiness for compromise under the conditions when the desired norm (free public health care services) is not practically attainable. Tolerant attitude towards the unattainable ideal pattern is based on the relatively high material capabilities, which the major

part of country population dispossesses. But even among best provided for and liberally oriented populations there is no readiness to fully reject the paternalistic model of health care organization.

To sum it up. The concepts of the overwhelming majority of population in Russia about the ways to ensure access to health care reflect the values of total equality and paternalism. Free provision of public health services, highly costly in particular, as well as “by life-saving indications”, is an absolute requirement the failure to fulfill which is taken very painfully. Access to health services should be equal to all. The development of its paid forms of delivery is taken rather negatively. The majority of population takes the provision of paid health services as unbearable violation of rights, as injustice, besides, even the possibility in principle to establish dependence between material capabilities of some persons and their right to privileges in obtaining services of the health care system.

Results of the held survey induce a conclusion that maintaining the system of free health care financed by the state is as a public imperative. Public expectations of that system are for ensuring of equal access to health care services. The development of paid forms of health service delivery is deemed as bearable only as long as it poses no danger to the principle of equal opportunities in getting free care.

## **10. Recommendations about priorities in state policy in relation to inequity of access to health care**

### **10.1 Priority of solving inequity problems in access to health care**

In terms of improving the equity of health care system the revealed manifestations of inequity are not uniform by two most important criteria. The first is the acuteness of inequity: to what extent certain inequity can be bearable taking into account evident resource limiting factors, first of all the public capability of health care financing. The second is the degree of impact of health care system on inequity indicators, that is the relation between inequity and health system organization, the historic system of sector management and financing. Based on these criteria two groups of inequity manifestations can be specified:

*Inequality of first order* – most unbearable differences in health care accessibility. They reflect the weakness of government policy of supporting most vulnerable populations, deficiencies of health care system. Their preservation and, even more so, intensification can bring about the aggravation of poverty problem, further polarization of society, increment of sector structural disproshares. That disparity can be controlled by available and expected government resources with the decisive role of health care.

*Inequality of second order* – less acute manifestations of inequity as well as such differences that can hardly be controlled at present and in the foreseeable future. Basic part of these differences reflect the effect of general social-economic and behavioral factors, which can be eliminated only in the course of continuous social evolution.

#### **10.1.1 Inequality of first order**

*Discrimination of persons older than the working age.* As ensues from the findings of the held survey elderly people have to wait for admission longer than persons of working age. Whereas the needs of the first in the inpatient care are 2-3 times higher. It is much more difficult for elderly people to compensate for the shortage of free health care by obtaining shargeable services. Taking into account the expected tendency to noticeably crease their share in the total population, to overcome this discrimination should become a priority task in the government policy.

***Much higher risk level of “catastrophic” expenditure on health care for poor households*** conditioned by a low level of their financial protection from such kind of expenditures for health care in case of particularly heavy diseases. Having no possibility to get free health care for particularly complicated diseases they have to spend intolerably high share of their available income on chargeable services or refuse from treatment. Their priority support is the moral imperative of society progress.

***Difficulties with getting free health care services for patients with chronic diseases.*** The evidence to that is a higher rate of incidence of chargeable health care services for people with chronic diseases, which, no doubt, limits their capacities of getting all the required services. Low orientation of health care towards control of complications of chronic diseases, presence of financial barriers determine significant lag of Russia from western countries in some indices of life expectancy from the time of diagnosing of a chronic disease. The Government sets the task to improve this index from 10 years in 2005 up to 14.5 years in 2010.<sup>22</sup> That is not feasible without essential improvement in the financial provision and organization of free health care services for chronic cases.

***Lower level of accessibility of specialized outpatient care for inhabitants of small settlements as compared with the residents of big cities.*** As has been stated above, the inhabitants of villages, small and medium sized towns apply for primary and specialized outpatient care relatively less regularly, while they would apply more regularly for inpatient care. Whereas the inhabitants of small settlements consume fewer services of specialists not only for diseases the treatment of which requires certain resource concentration (surgery, urology, oncology, and etc.), but also for more common diseases the treatment of which should be implemented locally (obstetric and gynecology care, otolaryngology, traumatology, neurology, Dentistry).

All that is evidence of irrational organization of health care and discrimination of inhabitants of small residential areas. To preserve such disproportion is inadmissible not only in terms of equity insurance, but also for some economy motives. The weakness of primary care and specialized outpatient care in small settlements are the expense growing factors in health care at large: the shortage of physician-specialists has to be compensated for by the increase of volumes of inpatient care.

The fact that the residents of large cities relatively more frequently face difficulties with making appointments with the catchment area physicians and specialists and are no longer satisfied with their activities does not refute the said conclusion. We may suppose that such result reflects, on the one hand, a more active urban life style, which to a smaller extent allows delay in satisfying the needs, and, on the other, a relatively higher educational level of inhabitants of large cities, which allows more critical assessment of health care organization and quality.

The development of health care in small inhabited localities, in our opinion, should make a priority in the Government policy. Without that it is not possible to change social and psychological climate of living in the rural areas and small towns, it is difficult to provide for the growing requirements to the quality of work force engaged in agriculture.

At the same time, when realizing this priority the impact should not be omitted of factors that increase the need in health care in big cities. Firstly, in the nearest years intensification can be expected of people moving to big cities many of which are centers of economic growth and so in need of significant improving the status of health care. Secondly, there will start an active formation of middle class in the cities with a higher level of education and life aspirations, and, consequently, of needs in health care services. Thirdly, the effect will begin of technologic and economic factors that dictate the need to concentrate expensive resources in large health care centers.

---

<sup>22</sup> Report about the results and major activities of the Ministry of Health and Social Development of the Russian Federation as the subject of budget planning for Y2008 and for the period up to 2010.

The effect of these alternate factors demands for implementing a flexible policy of regional health care system restructuring based on the strengthening of specialized health care for the inhabitants of small settlements within the framework of a wider strategy of establishing multi-level systems of service delivery driven by the needs of the regional population at large (See below).

### ***10.1.2. Inequality of second order.***

***Differences in the level of education.*** Persons with lower education apply for outpatient care less frequently (for examinations in particular) and go to hospitals more regularly. On the one hand that is evidence of less rational attitude towards own health (less conscious interest to prevention and treatment of diseases at different stages), and, on the other, it is evidence of relatively limited capabilities (material and informational) of turning to physicians. These differences cannot be recognized as justifiable. The system of health care should be orientated towards the formation of healthy life style and rational forms of health care consumption with an emphasis on less educated population categories – first of all by way of stirring the sanitary and educational activities for that population bracket.

However, smoothing of differences in the level of education is, to a great extent, derived from the first order priorities realization – antidiscrimination of the unable to work, improving the level of financial protection for poor families, improving the status of specialized care for the inhabitants of small settlements. It is these categories of population whose level of education is lower. Solving of their problems will make for increasing the access to health care services for the less educated share of population.

***Interregional differences.*** Such differences are considerably significant and determined by different conditions of financial provision. The gap between the poorest and the richest regions by the level of public per capita financing in health care makes 10-to 12-fold (taking into account objectively conditioned differences in salaries of health care personnel and the cost of utility expenses – 4 to 5-fold). This gap has increased during last decade. The inequality of per capita budget spending on health care measured by the Gini coefficient, raised from 0.195 in 1996 to 0.225 in 2006.

That demands from the government for carrying out an active reallocation policy with utilizing the resources of the federal center. But the possibility of realization of such policy will be limited by the specifics of economic growth in Russia. In the visible future it will be accompanied with the growth of differentiation of the regions by the levels of their economic development and the amount of primary revenues. On the one hand there will appear a group of regions that are “locomotives” of economic growth, where the need for high quality health care will grow particularly fast (first of all, the needs of the expanding middle class). On the other hand, the group of regions- the outsiders will expand. The gap between the richest and the poorest regions in their capability to ensure health care needs will increase, which will objectively complicate the task of eliminating the regional differences at the expense of the federal center resources.

The problem of interregional differences is not so much in the fact of differences as such, but primarily in the fact that the majority of inhabitants of the regions-the economic outsiders are not provided with the minimum required level (in term of present day concepts) of health care. That is why the increase in the general level of economic development of the country at large, even with the inevitable preserving of interregional differences, should, at least, make for reducing the acuteness of interregional inequality in the access to health care services.

## **10.2. Measures for inequity smoothing**

### ***10.2.1. Priority tasks***

It is reasonable to make a stronger emphasis in the Government policy on reducing the inequity in health care. To achieve the objective declared by the Government in improving the accessibility and quality of health care calls for providing for priority satisfaction of needs of socially vulnerable categories of population. Besides, here the following most important lines of required activities should be pointed out:

- To overcome the discrimination of persons older than the working age;
- To increase the level of financial protection of patients with “catastrophic” expenditure for health care;
- To expand the range of control measures for chronic diseases and prevention of complications;
- To improve the organization of specialized care for inhabitants of small settlements;
- To increase the level of public awareness on health care matters;
- To mitigate the interregional differences in health care.

Each of these objectives should be correlated with specific indices. They should be included in the budget reports of the subjects of budgetary planning and evaluated in their achievements based on the adopted procedures.

An integral part of the new strategy should be concrete measures on reducing that inequality.

### ***10.2.2. Inequity smoothing measures of first order***

***To overcome the discrimination of persons over the working age.*** The minimum condition is to keep the current single system of mandatory health insurance (MHI). The probable dividing of that system into two, which is under the discussion today, for the working and non-working persons should, in our opinion, be excluded. That will lead to intensifying the inequity in the terms of getting health care services, will aggravate the problems for the disable to work part of population.

To improve the financial provision of health care for the elderly persons it is reasonable to insert corrections into the currently effective tariff policy in the system of MHI, and in particular:

- To lay a stronger emphasis on differentiating the norms of financing of health insurance organizations under the MHI system – to make mandatory the use of sex and age coefficients (some of the regions do not use them), to supply them with coefficients, which reflect the optimized previous expenditures on expensive kinds of care (inpatient care first and foremost). That will make it possible to take into account most essential risks peculiar to the non-working part of population, and on that basis to provide for better equity in distribution of resources.
- In payment for the outpatient care to adjust the per capita norms of financing of policlinics and general practitioners by the age structure of the registered population. Delivery of services to the unable to work part of the population should be provided for with a higher financial resources.

***To improve the level of financial protection from catastrophic expenditure.*** Besides the explicit strengthening of public control over observing the state benefits package, it is expedient to provide for the following:

- To improve the efficiency of the current system of supplementary drug supply (SDS) for selected categories of people on state social welfare from the federal budget, first priority satisfaction of needs in drugs for people with diseases the treatment of which is related with particularly high expenses.
- Including in the SDS program of people with cumulative personal spending on health care above the established limit, on an annual basis.
- Mandatory introduction in every hospital of waiting lists for expensive kinds of planned medical care. Besides, explicit rules should be formulated for keeping them and the participation should be ensured of representatives of insuring and social security bodies in observing these rules.
- Gradual increase of the range of expensive drugs financed from the federal budget (in 2008 it is planned to finance the supply of drugs by seven groups of heavy diseases).
- When making expert examinations by the insurance staff of the quality and appropriateness of health care delivery in hospitals the emphasis should be made on the control over the conditions of delivery of free health care to persons with particularly complex diseases on the basis of the latter
- To create more favorable conditions for voluntary health insurance, in particular, to ensure for the employers in the branches with harmful for health conditions of labor the right to ascribe a greater part of expenses on MHI to the cost price (currently it is the uniform limit of 3% for all).

***Expanding the range of measures for chronic disease management, prevention of their complications.***

First and foremost that is the above stated measures to improve the financial protection, since an essential part of particularly high financial risks is related to chronic diseases. Besides, at the level of individual institutions in the MHI system it is reasonable to adopt programs for management of chronic diseases, using here the experience of their implementation in western countries (first of all in Germany and Great Britain).

It is necessary to finance these programs under the MHI by specific rules with the view to improve the incentive for participation of health organizations and individual physicians in their implementation. In particular, to use per capita norms for a complex medical service of treatment for a specific disease with the right to use the savings on the inpatient care for that disease. For example to form groups of physicians of primary care and endocrinologists to manage diabetes cases and to pay for their work by the per capita norm of expected costs of care for that disease.

For more significant financial provision of programs for chronic disease management it is reasonable to provide for a fixed personal payment of people that were attached to such groups (registration fee – once per year). At the same time to make them free from income tax to an amount of such payment.

***Improving the specialized health care services delivery for inhabitants of small settlements.*** It is necessary to eliminate the historic gap in the level of availability of narrow specialists for the residents of large cities and small settlements. To that end economic and organizational environment should be created for the specialists to move to small and medium-sized towns as well as large rural settlements. At the same time the availability of specialists for small settlements should be carried out on a selective bases taking into account evidence-based needs in specific kinds of care services and capability of narrow specialists of full range functioning and at a sufficiently high medical-technological level. It is not implied that every municipal entity should have a self-contained system of health care capable of meeting all the needs of the local community, but that controlled multi-level system should be formed in every region for the delivery of health care. To that end medical territories should be established

consolidating the neighboring municipal entities. On the basis of central rayon hospitals to establish departments for specialized care that would provide services to the population of several municipal entities. And here the procedure should be reestablished for referring patients from one level of care to the other.

Such process will accelerate with the transfer to the one channel system of financing in the municipal health care at the expense of MHI funds.

The use of uniform evidence based clinical guidelines of care should be provided for within the boundaries of one region. They set the requirements under every disease to the volumes of specific care and medicines as well as the level of care delivery (at the district, central rayon, city, oblast clinical hospital). These standards should make the basis for building up a multi-level system of health care delivery to the regional population.

Taking into account the deficit of financial resources in every region it is deemed expedient to specify the group of most frequently accounted diseases the treatment of which will be of priority within the coming 2-3 years. Besides, the orientation should be towards the treatment of these diseases strictly in accordance with the clinical standards with similar results irrespective of the patient's place of residence. The sphere of using the standards will gradually expand in accordance with the established priorities for medium-range and long-range prospects.

Improving the access to primary and specialized care for the inhabitants of small settlements provides for the development of a strategic plan of health network restructuring in every RF subject. It should reflect the planned actions at the level of the oblast center and individual municipal entities and their groups. Some of the activities may be implemented within the coming 2-3 years, for example, establishing of medical territories; others - in later years (as the financial provision of municipal health care improves).

***Improving of public awareness about health care matters*** – stirring of sanitary and educational activities (individual, group and mass) aimed at forming healthy life styles and rational forms of health care consumption, improving the level of legal culture of population on the issues of health care with the use of modern mass media.

### ***10.2.3. Inequity smoothing measures of second order***

***Smoothing of interregional differences.*** A long-term objective federal program is required for smoothing the inequity in financial provision for health care of some regions estimated for about 20 years (in Great Britain such a program operated for 15 years and resulted in significant reduction of the regional differences). The financing of such program should be one-channel (only through the Federal MHI Fund) and target-oriented (provision of federal subsidies strictly to cover the needs of health care).

An important element of that program is a concrete plan for the development and implementation of the system of standards (standards of care for diseases, standards of equipment of health care facilities, registers of drugs, the provision of which is financed by the state, and etc.). The system of standards includes federal standards and the appropriate regional standards. Besides, some regions can set higher requirements to medical technologies, equipping of health care facilities, the guaranteed drugs. The Program should specify the list of most common and socially significant diseases the treatment of which is provided for by the use of the system of federal and regional standards. Federal subsidies should be provided for the regions on condition of priority resource provision towards the implementation of these standards in the regions.

A more transparent system should be established for regional quotas for high-tech care services at the federal health care facilitates. Besides, the regional quotas should be established taking into account the region economic capacity. Regions of low economic capacity that have no clinical base for the delivery of such care should get higher quotas.

## **11. Areas for continuation of the analysis of inequity of access to health care**

The results of the survey held testify to the importance of continuing the analysis of differences in the access to health care services for Russian people. There should be an in-depth study of the already exposed differences.

The following prospective areas can be specified for the such work.

1. Analysis of the impact of factors of differences in the mode of living and attitudes towards health and the factors of organization of health care delivery and public awareness on the differences in the use of various kinds of health care for the population of settlements of different types and for people of different level of education.

2. Study of the impact of regional differences in organizing secondary care delivery including spatial differences in the location of health facility network and the differences in organizing the flows of patients, on the differences in the access to the services of physician-specialists and diagnostic examinations for the population of different types of settlements in different regions.

3. In-depth analysis of the reasons for the present differences in the levels of hospitalization of residents of different types of settlements.

4. In-depth analysis of the reasons for the exposed inequity in the access to secondary care services for the people of working age and above the working age.

5. Analysis of the differences in the pattern of health services, in the level of meeting the standards of care by the care provided, in the clinical effectiveness of the care delivered to the population categories that differ by place of residence, age, level of education and level of income.

6. Exposure of inequity in the access to free health care services and in the burden of health care expenses for patients suffering from various diseases.

7. The system of monitoring of inequity in the access to health care for different categories of population should be created. A system of indicators should be designed and methodology of assessment of changes in the access to health care services taking into account the capacity of available information systems and their development.