Territorial features of consumer behavior in the medical services market

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Abstract. Expansion of the commercial medical service market in Russia is a risk factor that promotes social inequality. In remote rural areas, social infrastructure, in particular the healthcare system, has been degrading. As a result, patients have widely taken to the use of commercial medical services. In this situation, such behavioral models are demonstrated not only by well-off, but even by needy rural and small-town residents. In this context, research on the formation mechanisms of user practices in the commercial medical service market in remote rural areas and smaller towns gains more relevance. The objective of the study is to assess the behavior of people in the Republic of Karelia (Russia) as users of commercial services. Methodologically, the study employed the household approach and statistical data analysis methods: factor and discriminant analyses. We demonstrate that the active use of commercial medical services by poor population strata is a necessity-driven activity caused by the absence or low availability of free services of this sort, or their low quality at the local level. The findings can help in decision-making on upgrading the social policy in healthcare.

Keywords: differentiation, medical service, smaller towns, availability of medical services, typology of consumer activity.

1 Introduction

One of the modern challenges faced by the governments of all countries of the world, including Europe, is the COVID-19 infection. The governments of the countries were forced to react urgently in order to prevent high infection and mortality of the population [1, 2]. A huge role during the pandemic was played by the system of commercial medical services, providing services for timely examination and counseling of the population. But does the population have any restrictions on the consumption of commercial services? The issues of accessibility of medical services, organization of the health care system, taking into account the development of commercial services, are extremely relevant and are discussed by scientists from different countries [3,4,5].

Expansion of the commercial medical service market in Russia is a risk factor that promotes social inequality. A strong impetus has been given to the advancement of science-

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based medicine and practices backed up by digital technology in Russia's central regions and urban agglomerations. In remote rural areas, social infrastructure, in particular the healthcare system, has been degrading. As a result, rural and small-town residents find themselves in a situation of deprivation. Insurance-based (free) medicine fails to provide the necessary set of medical services, because of the lack of general practitioners, not to mention specialized doctors. As a result, patients have widely taken to the use of commercial medical services. In this situation, such behavioral models are demonstrated not only by well-off, but even by needy rural and small-town residents.

The objective of the study is to assess the behavior of people in the Republic of Karelia (Russia) as users of commercial services.

2 Literature review

Problems in the development of the medical service market and consumer behavior patterns have been studied by Russian scientists at the federal and regional levels. The need to overcome inequality in access to healthcare for all social groups has been recognized internationally. Studies of the effects of the medical service market transformation on individual behaviors are therefore becoming increasingly important.

Members of the Russian economic-sociological school of thought have also widely addressed these issues. E.g., Rimashevskaya Bochkareva. Kislicina empirically proved the detrimental effect of socio-economic inequality on public health aggregates. Poor access to free-of-charge medical services aggravates inequality. Differentiation happens, not in favor of the poorer strata [6,7,8]. Rusinova, Braun and Panova demonstrated individual health differentiation due to socio-economic stratification and unequal distribution of social capital resources in the society. They believe social inequality in income is an important health determinant [9]. Nazarova associates the accessibility of medical help with the self-preservation activity of workers [10]. Artamonova shows in her studies that access to social assets such as health and healthcare is rather unequal for different groups and strata of the society.

People's health status is an objective baseline element for their social activity in building an efficient social structure. Health is a factor for people's positioning and identity in the social inequality system [11]. Belova studied the situation and problems in rural healthcare. She focused on evaluating the process of healthcare reform, its effects on the health of Russian rural residents. The infrastructure, staffing, people's relationships with treatment and prevention institutions were analyzed. The conclusion is that negative processes prevail: hospitals and outpatient facilities are massively made redundant, aggravating the social predicaments of villagers ever further. Statistical data on their health and the demographic situation in rural areas indicate a spread of socially significant diseases and rising levels of disability and mortality [12].

Reviewing current western narratives of justice in health matters, Muharyamova, Kuznecova, Chin, Sachweh, Gakidon and co-authors elaborate on the questions raised in discussions about the proportions of individual responsibility and social factors, and consider them in connection with responsibility and equality issues [13-16]. A study by Vyalyh suggests a new take on current research into the social mechanisms of differentiation among users of medical services. In this methodology, sociological studies of inequality in access to medical help target the social models of people's behavior [17]. Burdyugova and Kuzembaeva throw light upon the functioning of the commercial medical sector and on ways to im-prove the economic relationships [18].

Krest'yaninova designed a method for modeling regional-level structural interactions in the medical service market. This approach permits linking government support given to the medical service market with other tools of regional-level government regulation of the

economy [19]. Re-searchers from the Institute of Sociology RAS took data from the "Russia Longitudinal Economic Welfare and Health Monitoring Survey – RLMS-HSE" and analyzed post-Soviet trends in the health self-assessment of Russian people [20]. Statistical analysis demonstrates negative tendencies in how people evaluate their health.

3 Materials and Methods

Methodologically, the study employed the house-hold approach designed by N. Rimashevskaya Russian Socio-Demographic School of Thought [21] and statistical data analysis methods: variation series, cross-tabulation, factor and discriminant analyses. Poverty was assessed by theoretical methodology approaches: absolute and subjective.

Objective: to assess the behavior of people in the Republic of Karelia as users of commercial services-Source data. Source data were derived from the database created in the SPSS sys-tem after population surveys conducted by the Institute of Economics of the Karelian Research Centre RAS in Karelia in 2019 within the research project "Designing a methodology for evaluating social health in a society undergoing transformation" (RFBR project №18-013-01077, 2019, Vologda Research Center RAS, 2019). Surveys were done by the in-home questionnaire method. The sample size was 400 respondents aged 18 and older. To ensure that the sample set is representative, we maintained the proportions between rural and urban population, and the sex and age distribution found in the republic.

The following parameters were used: indexes representing demand for the following types of services: personal services, transportation services, communication services, housing and public utilities, cultural and entertainment services, tourism services, fitness and sports services, medical services, convalescence facility services, veterinary services, legal services, educational services, social services for the elderly and persons with disabilities. Limitations for the use of commercial services: lack of money, lack of companies or persons providing such services, low quality of services.

The study also included indexes for the location of the household (medium-size town, small town, rural community) and the actual mean monthly income per family member (calculated relative to the official subsistence minimum (SM) in the Republic of Karelia at the time of survey). Data were treated by factor analysis (principal component analysis) with Varimax rotation. Factor analysis [22] revealed five factors acting as integrated indexes. Two factors were selected for further analysis: the factor of commercial medical services and the factor of limitations for the use of commercial services. In the space generated by the two factors, F2 and F5, four groups of households were identified in regions with positive and negative values of the factors.

4 Results

Having analyzed the identified groups, we built a typology of consumer activity in the commercial medical service market, grouping consumer activity into four levels in comparison with the average over the Republic of Karelia: much above average, above average, below average, and much below average.

4.1 Group 1

The first group demonstrates the lowest activity of commercial medical service use (43.0% of households). In this group, 55.9% of households have per capita income below 2 SMs, and 44.1% of the families earn 2 SMs per capita or more (Fig. 1). One of the limitations for the use of commercial services indicated by respondents in this group was the lack of

money (93.7%). In terms of settlement size, 93.2% of the families live in a medium-size town, where free-of-charge medical services are more available than in a small town or a rural community.

The respondents thus live in a medium-size town, with quite many companies providing adequate-quality medical services, but they may prove to be rather expensive, if used systematically. This probably explains the low level of commercial service use. The absence of limitations for them to use the services was declared by 2.5% households

The group includes no low-income households (with per capita income below one subsistence minimum), while the share of households with 2 SMs or more per capita is almost 50%.

The budget of 67.5% of the households is sufficient for buying the food and clothes they need. 48.1% of the respondents identify themselves as average-income people. Food expenses are within 40% of the family budget for 19% of the respondents. 58.2% of the households have no under-age children.

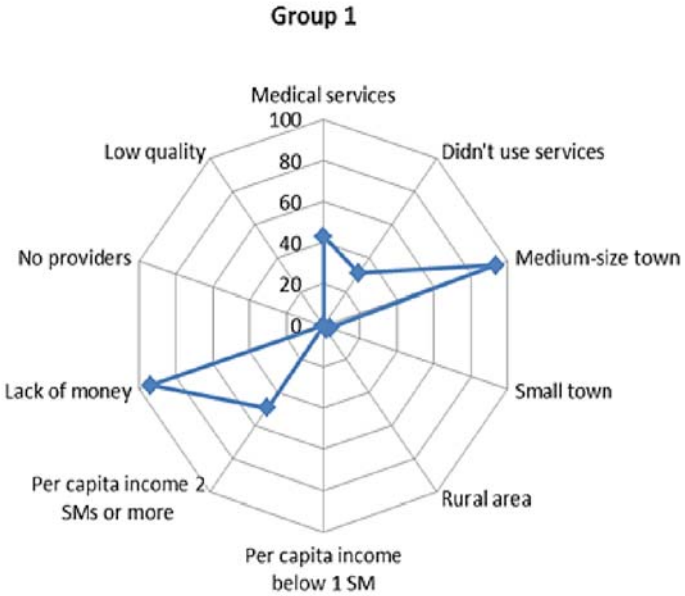

Fig. 1. Group 1 – consumer activity in the commercial medical service market much below the average in Karelia.

4.2 Group 2

The second group of households demonstrates a higher activity (57.8%) in the market of commercial medical services than the first group, at a level below the average in the Republic of Karelia (Fig. 2).

The limitations for the use of commercial services are the absence of providers and low quality of services (11.2%).These reasons were mainly mentioned by residents of smaller towns. 6.9% of the respondents said they had no limitations for the use of such services. 74.1% of the respondents feel no need for commercial services. It is likely that the percentage of respondents who do not need commercial services is so high because households in this group have a substantial share of young and employable-age members. Another possible reason is the financial wellbeing. Over 90% of households in this group have enough money to buy the food and clothes they need. Well-situated families can

maintain better health and avoid advanced untreated diseases. Well-off families can plan their medical service use in advance, so that even if there is no access to free medical help locally, they can visit a doctor in the district or regional center. Hence, it is not often that such families require urgent consultations with a doctor or expensive tests and treatments. The bulk of this group is medium-size-town residents (83.6%), and the share of small-town residents is 12.9%. No families with income below 1 SM were detected in this group.

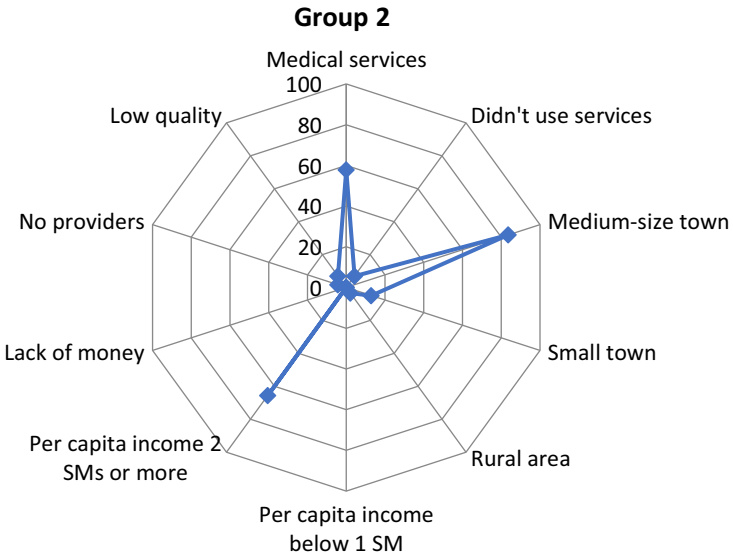

Fig. 2. Group 2 – consumer activity in the commercial medical service market below the average in Karelia.

The per capita income of 65.5% of the households is 2 SMs or more, and 34.5% earn less than 2 SMs per capita. The median age of respondents in this group is 48 years. The share of households with minor children is 37.1%.

4.3 Group 3

The activity of the third group in the commercial medical service market is much above average – 92.7%. Almost all the households have used commercial medical services (Fig. 3).

The use of commercial services was constrained by lack of money for 13.4% of the respondents. Absence of medical service providers was mentioned by 35.4% of the households. Low quality of services was mentioned by 26.8%. Another 18.3% of the households declared they had no limitations for the use of commercial medical services. Nearly 16% feel no need for such services. Only 11.0% of households in this group live in a medium-size town, 46.3% reside in a small town, and 42.7% in a rural area. In this case, the place of residence (small town and rural area) correlates with the main reasons for using commercial medical services. People also have to go to medium-size towns for medical services because free services in small towns are in deficit or absent.

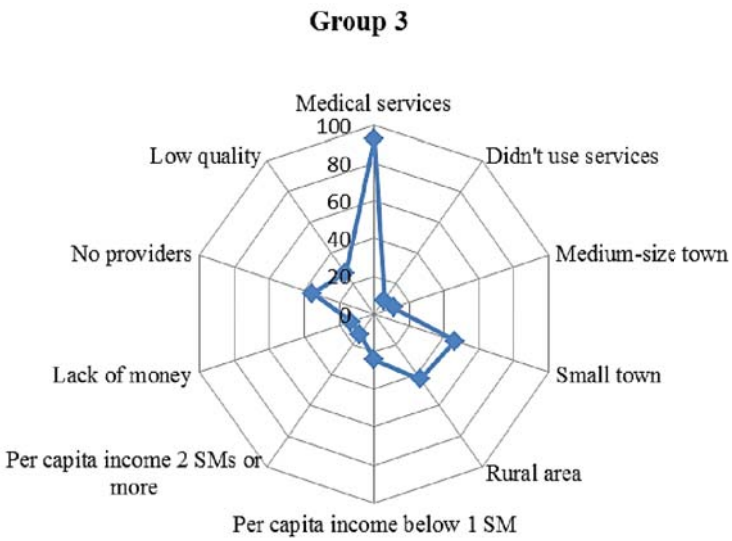

Fig. 3. Group 3 – consumer activity in the commercial medical service market much above the average in Karelia.

The poverty level in the group is high (24.4%), exceeding the Republic of Karelia average by 7%. Noteworthy is a high share of households with per capita income below 3 SMs (86.6%). 64.6% of the households identify themselves as average-income people. 68.3% of the households have no minor children.

4.4 Group 4

The activity of commercial service use in group 4 is 84.0%. Among the households, 20.8% live in Petrozavodsk, 47.2% in a small town, and 32.1% in a rural community (Fig. 4). The poverty level is very high – 42.4% of households in this group earn less than 1 SM per capita. Almost all households in this group (99.1%) have per capita in-come below 2 SMs. Although they have high demand for medical help, almost all users of commercial medical services (98.1%) cannot afford to fully satisfy this demand.

This is the poorest group of the four. Only a half of the households earn enough to buy the food and clothes they need. Only 35.2% of the respondents have enough money for buying food. 23.6% of the respondents identify themselves as average-income people. Food expenses are within 40% of the family budget for 19.8%. 65.1% of the households have no under-age children. The reason for the high percentage of those using commercial medical services in the fourth group is poor access to free medical services in small towns and rural areas. Apparently, people from low-income strata are compelled to resort to commercial medical services.

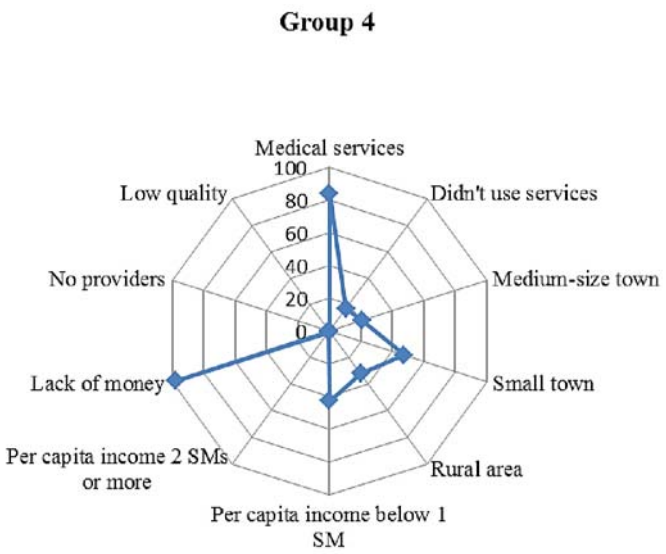

Fig. 4. Group 4 – consumer activity in the commercial medical service market above the average in Karelia.

This necessity-driven use of commercial medical services is probably associated with the demographic distribution of the households. Groups 3 and 4, which actively use commercial medical services, include greater shares of people older than employable age (30.3% and 31.4%, respectively) compared to groups 1 and 2. Their shares in groups with low activity of commercial medical service use (first and second groups) are lower – 13.6% and 25.6%, respectively.

4 Conclusions

Having analyzed data from a sociological survey of residents of Republic of Karelia rural areas and small towns, we produced a typology of people's behavior in the commercial service market, with four types of consumer activity: much below average, below average, above average, and much above average.

We demonstrate that the active use of commercial medical services by poor and extremely poor population strata is a necessity-driven activity caused by the absence or low availability of free services of this sort, or their low quality at the local level.

As the results of the study have shown at the moment commercial medical services are important for the population. And they are important in many respects because the existing health care system cannot provide guaranteed high-quality free ones. Thus when pursuing a policy in the field of health care it is necessary to improve the system of free medical services, preserving and developing commercial ones, seeking to make them available to the poor. Further research is required to find and justify social instruments aimed at improving the accessibility of residents of peripheral territories (villages and small towns) with quality medical services, including for the poor.

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