

# Parent appraisal of accessibility and quality of general medical service rendered to children residing in rural area

*Evaluación de los padres sobre la accesibilidad y la calidad del servicio médico general prestado a los niños que residen en zonas rurales*

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## Abstract

In order to evaluate accessibility and quality of general medical services rendered to children an anonymous questionnaire survey was carried out among 312 parents of children receiving medical assistance on an outpatient basis at the Children's Unit of the Polyclinic in Novoe Devyatkiino Village of Vsevolozhskiy District of the Leningrad Region. The main reasons for visiting the Children's Unit of the Polyclinic were established to be preventive examinations, treatment of acute diseases and submission to tests and examinations. The majority of parents spent in average  $24.5 \pm 0.07$  minutes to get to the medical institution. Parents most often preferred to book an appointment through a call center, online and using electronic booking. The majority of parents (73.6%) believed the working schedule of doctors to be convenient and actually visited the doctor in accordance with the appointed time (68.1%). When estimating the performance of the Children's Unit 65.3% of parents were satisfied with the quality of rendered medical services, 28.9% of parents were partially dissatisfied and only 2.3% were completely dissatisfied. The main reasons for parents' dissatisfaction were long lines to the registration office ( $20.5 \pm 0.08$  minutes), to the pediatrician ( $22.7 \pm 0.09$  minutes, in average) and highly specialized doctors ( $23.5 \pm 0.09$  minutes, in average), as well as challenges in obtaining a consultation of a specialized doctor and undergoing examination. Thus, the performed survey demonstrated the necessity to improve accessibility and quality of general medical services rendered to children.

**Keywords:** questionnaire survey, Children's Unit, general medical services, rural healthcare, parents, accessibility and quality of medical services.

## Resumen

Con el fin de evaluar la accesibilidad y la calidad de los servicios médicos generales prestados a los niños, se realizó una encuesta anónima entre 312 padres de niños que reciben asistencia médica de forma ambulatoria en la Unidad de Niños del Policlínico en la aldea de Novoe Devyatkiino de Vsevolozhskiy, distrito de Leningrado. Región. Las principales razones para visitar la Unidad de la Policía de la Infancia se establecieron como exámenes preventivos, tratamiento de enfermedades agudas y sumisión a pruebas y exámenes. La mayoría de los padres gastaron en promedio  $24.5 \pm 0.07$  minutos para llegar a la institución médica. Los padres a menudo preferían reservar una cita a través de un centro de llamadas, en línea y mediante reserva electrónica. La mayoría de los padres (73.6%) creían que el horario de trabajo de los médicos era conveniente y en realidad visitaban al médico de acuerdo con el tiempo designado (68.1%). Al estimar el rendimiento de la Unidad para niños, el 65,3% de los padres estaban satisfechos con la calidad de los servicios médicos prestados, el 28,9% de los padres estaban parcialmente insatisfechos y solo el 2,3% estaba completamente insatisfecho. Las principales razones de la insatisfacción de los padres fueron las largas colas con la oficina de registro ( $20.5 \pm 0.08$  minutos), con el pediatra ( $22.7 \pm 0.09$  minutos, en promedio) y los médicos altamente especializados ( $23.5 \pm 0.09$  minutos, en promedio), así como Desafíos para obtener una consulta de un médico especializado y someterse a un examen. Por lo tanto, la encuesta realizada demostró la necesidad de mejorar la accesibilidad y la calidad de los servicios médicos generales prestados a los niños.

**Palabras clave:** encuesta de cuestionario, Unidad de Niños, servicios médicos generales, sanidad rural, padres, accesibilidad y calidad de los servicios médicos.



One of the national healthcare principles defined by the Federal Law No. 323-FZ "On fundamental healthcare principles in the Russian Federation" is the priority of children's healthcare (Article 7 of the Federal Law). The Government considers children's healthcare to be one of the most important and necessary conditions for their physical and psychological development. At that, children are subject to special care, including their healthcare and proper legal protection in the healthcare field, and have priority rights when being provided with medical services<sup>1</sup>. A plain evidence of special governmental care for children is the Decree of President of the Russian Federation Vladimir Putin (No. 240 dated 29.05.2017) announcing 2018-2027 to be a Childhood Decade in the Russian Federation.

As part of implementation of the Federal Law and the Presidential Decree, medical institutions shall have a clear focus on the consumer of medical services that is a child<sup>1</sup>. Respectively, accessibility and quality of medical services rendered to children represent the priorities in operation of any healthcare institution at this stage<sup>2-6</sup>. These priorities shall be achieved by the following means: rendering medical services in accordance with the principle of proximity to the place of residence, study; ensuring the required number of medical staff and their qualification level; providing the possibility to choose a medical institution and a doctor; following the procedure and standards for rendering medical services; ensuring provision by a medical institution of a guaranteed volume of medical services in compliance with the State Guarantee of Free Medical Care to the Citizens of the Russian Federation; ensuring transport accessibility of medical institutions, etc<sup>7</sup>.

The appraisal of accessibility and quality of outpatient medical services can be performed using several methods<sup>8</sup>. The objective appraisal of accessibility is based on calculation and analysis of medical institutions' performance indicators, while the quality of medical services is estimated based on the expert evaluation determining its compliance with the medical standards (protocols). The Federal Compulsory Medical Insurance Fund recommends carrying out sociological polls (questionnaire surveys) to obtain a subjective assessment of public satisfaction with the performance of medical institutions. One of the main objectives of the questionnaire survey is determining the degree of satisfaction with the medical services and appraisal by the insured population of the accessibility and quality of medical services rendered at the expense of the compulsory medical insurance system<sup>9,10</sup>.

Rural areas have their specifics providing an impact on the whole system of medical services rendered to the popula-

tion, including children<sup>11</sup>. Medical departments (poli-clinics, outpatient clinics, medical and obstetric centers) do not operate in all rural settlements, for which reason the accessibility and quality of general medical services are to be improved, including preventive medical services (preventive vaccination, periodic health examination, preventive examinations of children, including irregular ones, etc.). The second aspect resulting in reduced quality and accessibility of medical services is a constant and considerable growth of population caused by occupation of metropolitan boundary territories, where intensive construction takes place. This fact results in impossibility to calculate correctly the public demand for medical services to be provided by Central District and District Hospitals. In addition, the number of population grows seasonally due to people coming for holidays, especially in the summer period, with this fact leading to growth of the number of requests for emergency medical assistance. Hence, low accessibility and quality of medical services often result in late treatment and diagnostics, medical and preventive procedures<sup>12-14</sup>, and generally lead to a reduced level of public health.

Purpose of the study: to assess accessibility and quality of general medical services rendered to children residing in rural area.



On the basis of the state budgetary healthcare institution of the Leningrad Region "Toksovo District Hospital" an anonymous questionnaire survey was carried out among 312 parents, whose children received medical assistance at the Children's Unit of the Polyclinic in Novoe Devyatkinno Village of Vsevolozhskiy District of the Leningrad Region. To establish a statistical aggregate a random sampling technique was applied, which formed the basis for representative sampling. For the purpose of this survey the sampling volume has been taken, which corresponded to mean accuracy surveys with the degree of confidence of 2, which was equivalent to the probability value of 0.954<sup>15</sup>. The representativeness of this sampling has been verified using the method by Professor A.M. Merkov and the accuracy value amounted to 0.045, meaning that the survey error did not exceed 4.5%.

In order to access satisfaction of parents with the quality and accessibility of general medical services rendered to their children, a special form developed for this survey was used, namely "Questionnaire of the Children's Polyclinic Patient". The first part of the questionnaire included general information (gender, age, permanent place of residence). The second part of the questionnaire was comprised of questions aimed at evaluating the accessibil-

1 Federal Law No. 323-FZ dated 21 November 2011 "On fundamental healthcare principles in the Russian Federation". URL: [www.rg.ru/2011/11/23/zdorovie-doc.html](http://www.rg.ru/2011/11/23/zdorovie-doc.html) (reference date: 15.04.2018).

ity of outpatient medical services for children (time spent to get to a medical institution, the appointment booking method and related challenges, waiting time for the doctor, assignment of laboratory tests, the necessity to pay for certain procedures, personnel attitude, etc.). The third part of the questionnaire included questions, which provided for a subjective assessment of the quality of medical services rendered at the Children's Unit of the Polyclinic in Novoe Devyatkinno Village. Work stations (computers) with Intel Core 2 Duo processor were used as a software for this survey. Microsoft Office 2010 and STATISTICA 6.0 packages were used for statistical processing and analysis of the obtained results.

The performed survey revealed that 25.4% of respondents out of all parents (legal representatives), who have participated in the anonymous questionnaire survey, were men and 74.6% - women. Most respondents were at the age of 30-39 (49.3%), 28.7% of parents were under 30, 17.5% - at the age of 40-49, and 4.5% - more than 50 years old. The average age of respondents was  $33.5 \pm 0.09$  years old.

In compliance with the effective law, no citizen of the country shall face obstacles when applying to a medical institution providing general medical services, both at the place of residence and at the territory of his/her current place of residence. In accordance with the survey results, patients of the Children's Unit of the Polyclinic in Novoe Devyatkinno Village were distributed by their place of residence as follows: 11.4% were residents of St. Petersburg, 86.2% - residents of the Leningrad Region, 2.4% - visitors from other regions.

One of the crucial aspects ensuring accessibility of medical services is location of the medical institution close to the place of residence of a patient or good transport communication. In accordance with the estimation of the polyclinic's location made by parents, 78.2% of respondents believed that it was easy to get to the medical institution, while 22.8% of parents did not think so. In average, time spent to get to the polyclinic amounted to  $24.5 \pm 0.07$  minutes, at that, 9.2% spent less than 5 minutes, 15.4% - 5-9 minutes, 28.7% - 10-19 minutes, 14.8% - 20-29 minutes, 5.9% - 30-39 minutes, 10.1% - 40-49 minutes, and 15.9% - 1 hour and more.

The polyclinic shall operate under a shift schedule providing for rendering of medical services throughout the day, both in the morning and evening hours, as well as rendering emergency medical services on weekends and holidays. The performed questionnaire survey revealed that the majority of parents (73.6%) believed the working

schedule of doctors of the children's polyclinic department to be convenient, while more than quarter (26.4%) of respondents considered it to be inconvenient.

Proper arrangement of the patient reception procedure provides for reduced waiting time for the doctor, smooth work of medical departments, and optimal distribution of the patient flow. The registration office being a structural unit of the Information and Analytical Department of the Polyclinic is in charge of booking doctor appointments, regulating the flow intensity of visitors in order to maintain an even load on doctors, and distributing patients by types of medical services. Operation of the registration office shall be based on a centralized system and a district and territorial public service principle. Today, there are several ways to book an appointment: a traditional method by applying directly to the registration office (appointment card system), self-appointment, combined method, by telephone. In addition, relatively new progressive forms of operation of the registration office were implemented in many medical institutions in order to optimize the patient flow management, i.e.: appointment through electronic terminals ("informants") mounted in the hall of the polyclinic, online appointment at one of the websites (official doctor appointment portal, portal of state services of the Russian Federation, website of the medical institution), booking an appointment using a mobile application, through the Doctor Appointment Center, etc. The majority of parents, who participated in the questionnaire, made an appointment by telephone through a call center (52.1%). 28.9% of parents received appointment cards in the registration office and made an electronic booking, 25.3% of parents made online appointment for their children, and 13.7% made an appointment when visiting a doctor. If they had a possibility to choose a method to make an appointment, the majority of parents would like to make online appointment (38.5%) or electronic booking (35.9%), while 27.4% of parents would opt for booking by telephone, and 23.3% - for receiving an appointment card in the registration office of the polyclinic or making an appointment when visiting a doctor, each.

When estimating the difficulty of getting an appointment card to a district pediatrician, 41.2% of parents believed that it was easy to receive an appointment card and visit the doctor, 35.1% - that it was sometimes difficult; 9.2% - that it was always difficult; and 14.5% - that it was nearly impossible to receive an appointment card and visit the district doctor. When estimating the difficulty of getting an appointment card to highly specialized doctors, the majority of parents believed that it was sometimes difficult to receive an appointment card (33.3%); 25.2% - that it was easy; 23.7% - that it was always difficult; and 17.8% - that it was nearly impossible to receive an appointment card. 68.1% of respondents stated that the doctor accepted their children at the appointed time, while 31.9% - that the doctor accepted their children late.

Long waiting time provides a negative impact on the satisfaction level of parents with the quality of medical servic-

es, makes them worry, makes children worry, breaks their sleeping, feeding schedule and leads to other negative consequences (worsens the diseased condition, prolongs contact with other patients, etc.). Thus, waiting time for the doctor, examinations, medical procedures, tests shall be minimized. Estimation of time spent in the line to the registration office of the policlinic revealed that 13.1% of parents, who participated in the questionnaire, did not have to wait in the line; 51.5% of respondents waited up to 15 minutes; 21.3% - up to 30 minutes; 10.3% - up to 1 hour; and 3.8% of parents spent more than 1 hour in the line to the registration office. In average, parents spent  $20.5 \pm 0.08$  minutes in the line to the registration office. As for the main reasons of long waiting time (15 minutes and more); 57.7% of parents named a long line; 31.6% - absence of the medical staff at their workplace; 7.9% - long search of medical documents; and 2.8% - long processing time of medical documents.

The study of time spent by parents waiting for their district doctor in the children's policlinic revealed that 17.1% of parents did not wait at all; 30.8% of respondents waited less than 15 minutes; 23.2% of parents of small patients waited from 15 to 30 minutes; 24.8% - from 30 minutes to 1 hour; and 4.1% of parents waited for their district doctor for 1 hour and more. The average time of waiting for a district pediatrician amounted to  $22.7 \pm 0.09$  minutes. Estimation of time spent by parents waiting for highly specialized doctors demonstrated that only 13.2% of respondents visited to the doctor without waiting; 34.6% of parents waited for less than 15 minutes; 29.8% - from 15 to 30 minutes; 16.7% - from 30 minutes to 1 hour; and 5.7% - for 1 hour and more. The average time of waiting for highly specialized doctors amounted to  $23.5 \pm 0.1$  minutes.

When evaluating challenges related to calling a district pediatrician to visit a child at home; 10.5% of parents stated that they always faced challenges; 17.8% faced challenges rather often; 33.4% - rarely and 26.1% - never faced any challenges, while 12.2% of respondents did not call a pediatrician.

The respondents most often visited highly specialized doctors using a referral (56.6%); on their own, when suspecting a disease of their child (30.5%); on their own, as a preventive measure (10.7%); to control the health condition of their child, who was under regular medical check-up (2.2%). 36.6% of parents, who participated in the questionnaire, believed that it was easier to visit a specialized doctor free of charge; 38.1% of respondents believed that it was easier to visit a specialized doctor on a fee basis; and 25.3% of parents thought that it was easier to visit a specialized doctor upon agreement.

The majority of parents believed that it was most difficult to visit an ophthalmologist at this children's policlinic department (51.3%). 37.8% of parents faced challenges when trying to visit an otorhinolaryngologist; 35.3% - a surgeon; 25.9% - an allergologist; 21.3% - an ortho-

pedist; 20.4% - a cardiologist; 16.8% - a neurologist; 12.4% - an endocrinologist; 6.5% - a dentist; and 1.1% - a pediatrician.

More than half of parents (53.6%) believed that specialized doctors of the profile, which they required, were not available in the children's policlinic department; 24.2% of parents thought that all specialized doctors were available at the policlinic, while 22.2% of respondents were undecided. At that, those who believed that the required specialized doctor was not available at this children's policlinic department, most often stated that there was no gastroenterologist (15.3%).

When studying the frequency of requests for medical assistance made to this children's policlinic department, it was determined that 51.3% of parents made such requests once a month and more often; 41.6% - several times a year; 2.2% - once a year and less; and 4.9% had just started visiting this policlinic department. The main reasons for making requests were as follows: preventive examinations (48.7%), treatment of acute diseases (31.4%), submission to tests and examinations (29.8%), preventive vaccination (27.2%) and medical certificates for child educational institutions, swimming pools, etc. (22.2%).

As part of their lifestyle, medical activity of parents depends largely on their general level of culture, education, psychological patterns, and living conditions and provides a significant impact on health of their children. The survey revealed that out of all parents, who participated in the questionnaire, only 66.4% of respondents were seeking a medical advice by a pediatrician if their child was sick, while more than one thirds demonstrated very low medical activity with regards to their child (29.3% visited a doctor only in severe cases, while 4.3% almost did not visit doctors at all).

As the laboratory and instrumental examinations help the doctor to make a correct diagnosis, their quick performance allows starting an adequate treatment on time. When evaluating the accessibility of instrumental examinations (ultrasound, X-ray, ECG, etc.) at the children's policlinic department, 32.3% of parents believed that it was sometimes difficult to receive a referral; 29.8% - that it was always difficult; 18.1% - that it was easy; 2.9% - that it was almost impossible, while 16.9% of parents were undecided as they did not require such examinations. Out of all respondents 87.4% of parents received referrals for blood count; 83.8% - for urine test; 36.2% - for ultrasound examination; 38.7% - for X-ray; 33.5% - for ECG.

When estimating the time period in days from the date when an examination was assigned by the doctor until its actual performance, it was found out that this period amounted to  $2.9 \pm 0.1$  days for blood count;  $2.3 \pm 0.1$  days for urine test;  $33.8 \pm 0.1$  days for ultrasound;  $6.7 \pm 0.09$  days for X-ray;  $7.1 \pm 0.1$  days for ECG.

One of the main rights of all Russian citizens is the right for free medical care to be provided as part of the State

Guarantee of Free Medical Care to the Citizens of the Russian Federation. At the same time, in compliance with Article 84 of the Federal Law "On fundamental health-care principles in the Russian Federation" and Article 39 of the Law of the Russian Federation "On Protection of Consumers' Rights", when receiving medical assistance citizens of the Russian Federation have the right to receive medical services on a fee basis to be rendered at their will. The procedure and conditions of rendering paid medical services by medical institutions are determined in the Decree of the Government of the Russian Federation dated 2012 "On Approval of the Rules for Rendering Paid Medical Services to Population by Medical Institutions", which was enacted on 1 January 2013.

Out of all parents, who participated in the questionnaire, 67.4% of respondents have never paid for any medical services in this children's polyclinic department using their personal funds. Those, who paid for medical assistance using their own funds, most often paid for a consultation of a highly specialized doctor (73.3%) and for a consultation of a district pediatrician (47.2%). 20.0% of parents paid by themselves for medical procedures (massage, physical therapy, injections, etc.); 13.4% - for laboratory tests (blood count, urine tests, etc.); 15.6% - for instrumental examinations (ultrasound, ECG, X-ray, etc.). All 100% of respondents, who paid for medical assistance using their personal funds, named absence of vacant appointments for these medical services in this children's polyclinic department as the reason for payment.

In the course of study, the medical services, for which parents had to pay out of this medical institution, were determined. Only 43.6% of parents, who participated in the questionnaire, did not pay for any medical services out of this children's polyclinic department. Out of those, who had to pay for medical services out of this medical institution, 20.0% paid for a consultation by a pediatrician; 41.4% - for a consultation by a highly specialized doctor; 27.6% - for medical procedures (massage, physical therapy, injections, etc.); 27.6% - for laboratory tests (blood count, urine tests, etc.); 34.5% - for instrumental examinations (ultrasound, ECG, X-ray, etc.).

In order to evaluate the accessibility of medical services it is important to analyze the main reasons for failure by patients to request medical assistance in state and municipal healthcare institutions at their place of residence. When studying the parents' opinion on main reasons of requesting medical assistance out of this children's polyclinic department, it was found out that the main reason was absence of lines and convenient working schedule of doctors in other medical institutions, with this reason having been named by 45.7% of respondents. Proximity to the place of residence represented a winning argument for 40.5% of parents. Availability of highly specialized doctors with higher qualification, according to their opinion, in other medical institutions was named as a reason by 37.1% of parents; more advanced equipment and wider range of examinations – by 31.4%; individual approach to

patients – by 25.7%; higher service level and more comfortable conditions – by 20.0%; credibility to the results of examinations and treatment – by 11.5%.

One of the patient's rights when receiving medical assistance is the right for respect and humane attitude to be demonstrated by the medical staff, their compliance with ethical and moral standards. Observance of this right has a special importance when providing medical assistance to a child, as tactful, attentive attitude of the medical staff improves credibility of parents, calms down the child, reduces the anxiety level, establishes trust relationships, and, as a result, improves the level of satisfaction with the received medical assistance.

In the course of this survey parents were offered to estimate, how often employees of the polyclinic were inattentive and rude to them. Evaluation of personal skills of the registration office staff showed that 5.1% of parents sometimes faced inattentive and rude attitude, while 94.9% of respondents stated that they have never faced such attitude. In accordance with 13.2% of parents, district pediatricians were sometimes inattentive and rude, while 86.8% of parents believed they were absolutely not. The questionnaire revealed that 8.8% of parents believed nurses to be sometimes inattentive and rude, while 91.2% of respondents believed that there were no such cases. 10.9% of specialized doctors were sometimes rude and inattentive, while 89.1% were absolutely not.

In general, 65.3% of parents were satisfied with the quality of medical services provided to their children at this children's polyclinic department, 28.9% were partially dissatisfied, and 2.3% - completely dissatisfied (3.5% were undecided).

As for the main reasons of dissatisfaction with the quality of medical services, respondents named long lines to the district pediatrician (35.3%), challenges in receiving a consultation of a highly specialized doctor (37.8%), challenges when undergoing examinations (20.0%), poor operation of the registration office (9.1%), absence of effect from treatment (6.7%). No parents named attitude of the medical staff and poor sanitary and hygienic conditions in this medical institution among main reasons of dissatisfaction with the medical assistance results.

The survey determined that 52.3% of parents were satisfied with the volume of performed examinations of their children; 11.9% were dissatisfied, while 35.8% of parents were undecided. The treatment volume of the child was sufficient for 64.5% of parents, insufficient for 5.1%, and 30.4% of parents were undecided.

The questionnaire revealed main measures, which the parents believe to be necessary to improve the quality of medical services rendered in this medical institution. According to the parents, in order to improve operation of the children's polyclinic department it is reasonable to: increase the number of doctors (59.3% of parents), improve qualification of doctors (31.1%), increase the child

examination time (35.8%), install modern equipment (ultrasound, ECG, MRT, etc.) (31.7%), ensure information accessibility (improve the website, electronic booking, SMS notifications, etc.) (43.4%).

Appraisal by the parents of the most serious problems of the children's unit showed that 48.2% of respondents believed that the problem of a line to the doctor was serious at the children's polyclinic, 21.3% of parents believed it not to be that serious, 19.6% thought that there was no problem with the line, while 10.9% of respondents were undecided. The problem related to calling a doctor for home visit was considered to be serious at the polyclinic by 30.5%, not very serious – for 15.9%, the problem did not exist for 29.7%, while 23.9% were undecided. No parents, who participated in the questionnaire, believed that the problem of inattentive and rude attitude of doctors was serious, 11.7% considered it to be not very serious, 84.2% did not see this problem, and 4.1% were undecided. In addition, no parents considered the problem of inattentive and rude attitude of nurses to be serious, 7.8% of respondents believed it to be not very serious, 86.6% thought that this problem did not exist, and 5.6% were undecided. 68.9% of respondents did not see the problem of money, gift extortion, while 31.1% were undecided. Absence of medicines prescribed by the doctor in pharmacies was a serious problem only for 2.1% of parents, not very serious problem for 4.6%, while 91.2% did not face any challenges with medicines, and 2.1% were undecided.

## Conclusions

1. The majority of parents spend from 5 to 30 minutes ( $24.5 \pm 0.07$  minutes in average) to get to the medical institution, most often make an appointment through a call center, online or using an electronic booking. The main reasons for making requests to this children's polyclinic department are preventive examinations, treatment of acute diseases and submission to tests, examinations.
2. About one thirds of parents paid for medical services in this children's polyclinic department and about half of respondents – in other medical institutions. Parents most often paid for a consultation of a highly specialized doctor, district pediatrician, medical procedures and instrumental examinations, mainly due to absence of vacant appointments for these medical services.

Although the parents have generally given a high rating to operation of the children's polyclinic department, there is a necessity to improve accessibility and quality of general medical services rendered to children. About 30% of parents were partially dissatisfied with the quality of medical assistance, with the main reasons of dissatisfaction being long lines to the registration office ( $20.5 \pm 0.08$  minutes), to the district pediatrician ( $22.7 \pm 0.09$  minutes, in average) and highly specialized doctors ( $23.5 \pm 0.09$  minutes, in average).

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