

**ASSESSMENT OF THE QUALITY OF MEDICAL EXAMINATION SERVICE
AT THE PROTECTION CENTER HEALTH AND ENVIRONMENT OF TRANSPORTATION,
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ABSTRACT

The article aims to further improve the quality of medical examination and treatment services available at the Center for Health Protection & Transport Environment. On the basis of using research methods, the article has selected a model to evaluate the quality of medical examination and treatment services; Systematic analysis and assessment of the current status of medical examination and treatment activities at the center; Finally, the author gives practical recommendations to improve the quality of medical examination and treatment services at the center for health protection & transportation environment.

Keywords:

Service quality, Medical examination and treatment, Medical center

1. INTRODUCTION

The environment is increasingly changing in a bad way, diseases are increasing and developing in a complex way. Besides, due to the improvement of people's living standards, the increasing demand for health care leads to the overload of medical facilities in Vietnam. Center for Health and Environmental Protection Transportation is a medical center with the purpose of taking care of the health of employees of the transport sector, because the transport industry is an industry with a relatively independent working environment. pollution damage due to frequent direct contact with the environment such as roads, waterways, aviation, etc. But the new center can partly meet the medical examination and treatment needs of workers due to many limitations in resource resources. Human resources, facilities are lacking or the medical examination and treatment process is not convenient. Therefore, the author chooses the study "Evaluating the quality of medical examination and treatment services at the Center for Health and Environmental Protection and Transportation" to find out the current situation of the center, the strengths and weaknesses of the center. The center then offers a number of solutions to improve the quality of medical examination and treatment services at the center.

2. GRONROOS SERVICE QUALITY ASSESSMENT MODEL**2.1 The concept of "Quality of service"**

According to the International Organization for Standardization, ISO, in draft DIS 9000:2000, has defined: "Quality is the ability of a set of characteristics of a product, system or process to satisfy requirements of customers and interested parties". Here requirements are stated, implied or customary needs and expectations.

2.2 Quality of medical examination and treatment services is the ability of medical examination and treatment services to meet the needs of patients and related parties. Demand is always fluctuating, so quality always fluctuates according to time, space, conditions of use from patients, legal requirements, and needs of the social community. The quality of medical services is also related to the patient's ability to pay to some extent.

2.3 Gronroos service quality assessment model

Gronroos built a service quality model in 1983 that said that service quality is considered based on two criteria, technical quality and functional quality, which are:

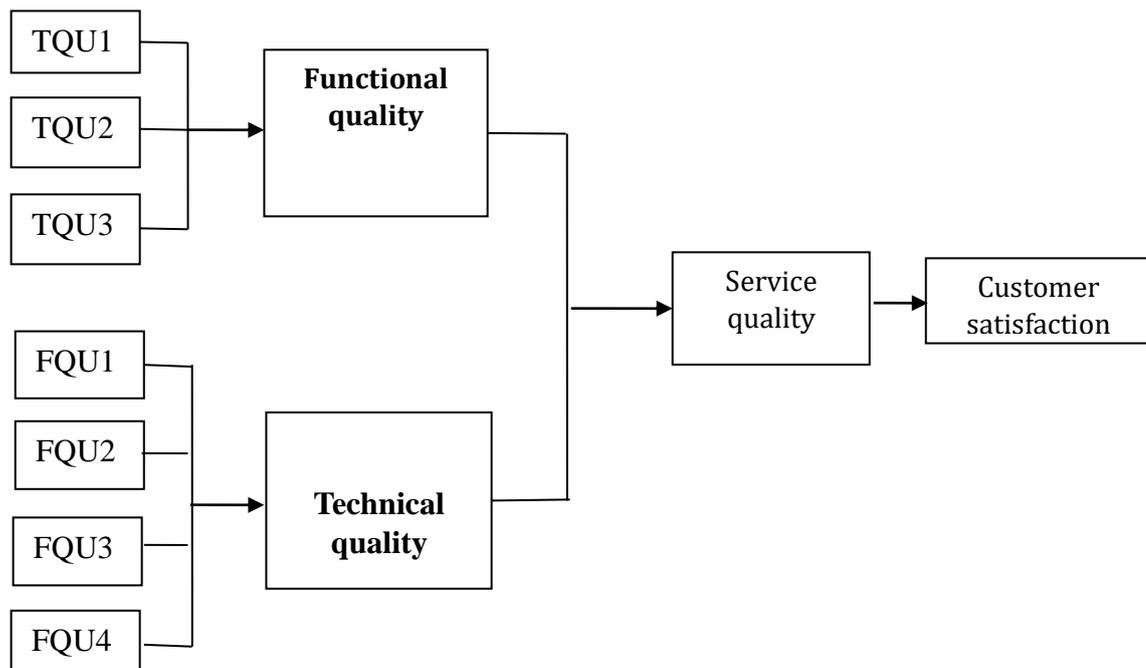
- Technical quality answers the question "What?" expressed in the output of the service product that is the result that the customer receives from the service and the information about the service that the customer is provided.
- Quality of functionality answers the question "How?" are the processes and factors that create products and services.

Applying Gronroos's quality assessment model in medical examination and treatment services

According to this study, the quality of medical examination and treatment services according to the model consists of two components: technical quality and functional quality. In addition, according to the analysis of the relationship between service quality and customer satisfaction, the model studies the relationship between service quality and customer satisfaction on

service quality according to the model of Service Quality and Customer Satisfaction. Technical quality and functional quality are expressed as follows:

Figure 1: Proposed model to evaluate the quality of medical examination and treatment



In which, TQU1, TQU2, TQU3, FQU1, FQU2, FQU3, FQU4 are components of technical quality, skill quality with:
TQU1 is diagnostic accuracy

TQU2 is the precision in disease treatment

TQU3 is the information that the patient is provided with

FQU1 is the center's facilities

FQU2 is communication with medical staff

FQU3 is the way to organize the medical examination and treatment process

FQU4 is the way the center takes care of the sick

As we can see, based on Figure 1, patient satisfaction depends on the quality of medical services they are provided with. The quality of medical examination and treatment services depends on two factors: technical quality and functional quality. Technical quality and functional quality again depend on their components. Therefore, in order to increase patient satisfaction with medical examination and treatment services at the center, we must first improve the quality of medical examination and treatment services at the center. In order to do that, we must find out which components of the medical examination and treatment service are weak and then offer solutions to overcome them.

3. RESEARCH METHODS

3.1 Evaluation of the scale by Cronbach alpha coefficient

This method allows the researcher to eliminate inappropriate variables and limit junk variables in the research process and evaluate the reliability of the scale by coefficients through the Cronbach alpha coefficient. Variables with correlation coefficient of total variables (item - total correlation) less than 0.3 will be excluded. Scales with a Cronbach alpha coefficient of 0.6 or more can be used in the case of a new concept under study (Nunnally, 1978; Peterson, 1994; Slater, 1995). Normally, a scale with Cronbach alpha from 0.7 to 0.8 is usable. Many researchers believe that when the scale has a reliability of 0.8 or more to close to 1, it is a good scale.

3.2 Rating by Likert . scale

The 5-point Likert scale is: 1 strongly disagree, 2 disagree, 3 strongly agree, 4 agree, 5 strongly agree, which is great for digging into a specific topic. Learn more about the Customer Satisfaction Study for Medical Services.

4. SITUATION OF MEDICAL EXAMINATION AND TREATMENT AT THE CENTER FOR OCCUPATIONAL HEALTH PROTECTION & ENVIRONMENT**4.1 Introduction to the Center for Occupational Health & Environmental Protection Transport**

The Center for Occupational Health Protection & Transport Environment was established on August 2, 1994, under the Department of Health and Transport, Ministry of Transport. The Center has the following responsibilities and obligations:

- Carrying out medical examination and treatment, nursing and rehabilitation for officials, public employees and employees of the Ministry of Transport and other subjects according to the provisions of law.
- Detect and handle epidemics in the transportation industry according to the general regulations of the Department of Health and Transport.
- Implement disease prevention, epidemic prevention, accident and injury prevention, worker health care, environmental sanitation, food safety and hygiene for units under the Ministry of Transport.
- Carrying out assessment and appeal for cases of fatal diseases, injuries, loss of working capacity for officials and employees of the Ministry of Transport.

4.2 Medical examination and treatment at the Center for Health Care and Environment Transport

The year 2022 is a difficult year for many industries due to the impact of the Covid pandemic, but the organization of annual health check-ups in accordance with the 2012 Labor Code, the 2015 Law on Occupational Safety and Health and other relevant laws and regulations. The Circular of the Ministry of Health to ensure the health care benefits for employees is still followed by the majority of agencies and businesses. For the Transport Medical Center, 2022 is also a difficult year with many challenges to overcome. However, the leadership team and all medical staff of the medical center have made every effort to bring the best medical examination and treatment services to patients.

Marking the first step of the economic recovery after a long time because of the Covid pandemic, with high reputation and good quality, periodic health check-up services for agencies and businesses of the medical center Transport in 2022 has served more than 30 agencies and organizations in the industry. In recent years, the number of patients coming to the center for medical examination and treatment has continuously increased, the total number of visits performed by the center in the period of 2020 - 2022 are respectively shown in the table below:

Table 1: Number of medical examination and treatment at the Center in the period of 2020 - 2022

Unit: Person

Year	2020	2021	2022	2021/2020		2022/2021	
Number of patients	6,541	4,995	8,173	-1,546	-23.6%	3,178	63.6%
Average number of patients/day	26	20	33	-6	-23%	13	65%

Source: Report on operations at the center in the period of 2020 - 2022

In 2021, the number of patients coming to the clinic will decrease due to the impact of the epidemic, limit going to crowded places, so only those who are really not in good health will use the service, the rest will self-treat at home. Therefore, the number of patients decreased to 23.6% compared to 2020. In 2022, the number of patients spiked to 63.6% compared to 2021 because a part of patients in 2021 who did not go to the doctor were transferred to 2022, resulting in an average number of patients. Average medical examination in 1 day also increased to 33 people.

4.3 Evaluation of the quality of medical examination and treatment services at the Center**4.3.1 Evaluation of scale by Cronbach alpha . reliability coefficient**

Of the three factors affecting service quality, all of them contain observed factors, so the reliability of these factors must be tested. After processing data using SPSS software, we can see that the scales of functional quality, technical quality and satisfaction scale are satisfactory, showing:

- Cronbach alpha coefficient of functional quality component**Reliability Statistics**

Cronbach's Alpha	N of Items
.946	11

Components of functional quality all have a total correlation coefficient greater than 0.3, so they are accepted. Besides, the Cronbach alpha coefficient is quite high 0.946 (greater than 0.6), so the functional quality component scale is satisfactory.

- Cronbach alpha coefficient of technical quality component

Reliability Statistics

Cronbach's Alpha	N of Items
.880	4

Components of technical quality all have correlation coefficients of the total variable greater than 0.3 should be accepted. In addition, the Cronbach alpha coefficient is quite high 0.88 (greater than 0.6) (these parameters are shown in the appendix) so the technical quality components are satisfactory.

Reliability Statistics

Cronbach's Alpha	N of Items
.974	3

Components of the satisfaction scale with a total correlation coefficient greater than 0.3 should be accepted. In addition, the Cronbach alpha coefficient is relatively high 0.974 (greater than 0.6) (parameters are shown in the appendix), so the component scale satisfies the requirements and is a pretty good scale (greater than 0). ,8).

4.3.2 Research results on quality of medical examination and treatment services at the Center**a. Result of functional quality scale**

Through questionnaires with Likert scales, the results of functional quality research are shown in the following table:

Table 4: Results of the functional quality scale of medical examination and treatment services

FQU (Functional Quality)	Interpretation	Average value
FQU1.1	The center's clinic, laboratory, ultrasound room, and toilet are very clean and bright	3,1098
FQU1.2	Facilities at the center are very good	3,0610
FQU2.1	The medical staff at the reception desk, the medical examination and treatment fee collection counter, and the pharmacy counter have a polite and courteous attitude when welcoming you	3,0610
FQU2.2	Staff at the laboratory and ultrasound have a considerate, polite and courteous attitude when welcoming	3,1707
FQU2.3	Staff serving you attentively even during peak hours, holidays	3,0610
FQU3.1	The time you wait for your turn to examine at the center is very quick	3,1098
FQU3.2	The time you wait to do the tests (microbiology, blood and urine biochemistry, hematology), ultrasound is very fast	2,7927
FQU3.3	The procedure at the center is simple, easy to carry out, creating favorable conditions for you to do the procedure	2,8659
FQU3.4	The center's clinics, tests, and ultrasounds are scientifically arranged, creating favorable conditions for you to examine and treat patients	2,7195
FQU4.1	Medical staff at the center monitoring daily care for inpatients is very good	3,2430
FQU4.2	Caring doctors when examining patients	3,4527

Source: Author's survey

The table above shows that functional quality components have an average score of about 3 points, which is the normal level of satisfaction, in which there are some results with a value lower than 3, which are:

The waiting time to perform tests at the center was only 2.7927 points, showing that the patient waiting time for medical examination and treatment at the center is relatively long because the center's characteristics are examination and treatment of specialized diseases. Therefore, the number of patients who need to perform hematological tests, biochemical tests and fungal tests is relatively large. Meanwhile, the center currently only has a hematology analyzer for 1 sample/test and a semi-automatic biochemical machine for 1 sample/test.

- Procedures at the center reached 2,8659 points, showing the cumbersomeness in carrying out the procedures at the center because the center has not applied hospital management software in the management process, so it has not been able to shorten some of the procedures. procedures during medical examination and treatment for patients with Health Insurance.

- The arrangement of the center's departments is not really scientific, as shown in the fact that the patients give the scientific arrangement of the departments at the center at 2,7195 points because the usable area of the center is very

limited, so The medical examination and treatment departments cannot be arranged adjacently or systematically, but must be separated at the floors of different buildings.

In addition, the attitude of the doctors at the clinic was rated relatively well by the patients, as shown by the patients giving the attitude of the doctors at the clinic as 3,4527 points. This is because most of the doctors and nurses are young people who are enthusiastic in their work and they are constantly learning and the center agrees with the staff that they must be dedicated to serving their patients wholeheartedly. under any circumstances.

Although this is the highest score that patients give in the functional outcome section, it is just as average as the other components of the functional quality component of the quality of medical examination and treatment services at the center.

b. Result of technical quality scale

Through questionnaires with Likert scales, the results of technical quality research are shown in the following table:

Table 2: Results of technical quality scale

TQU (technical quality)	Interpretation	Average value
TQU1.1	The way to visit and consult a doctor at the clinic is very good	3,5488
TQU2.1	Skill of paraclinical medical staff - pharmacy and treatment is very good	3,3171
TQU2.2	The skill of the medical staff in the Laser room is very good	3,3049
TQU3.1	Patients are provided with accurate, clear and timely information	3,1029

Nguồn: Khảo sát của tác giả

Through the above table, we can see that the technical components of the center's medical examination and treatment quality are assessed by patients as relatively satisfied with the patient's score, most of which is above 3 points, which is normal. a score of 4 points is the level of satisfaction, reflected in the fact that the patient gives the doctor's examination and advice at the clinic as 3.5488 while the follow-up time for each visit is very short, often under 15 minutes. In addition, the patient also gave 3,3171 points for the skill of medical staff in paraclinical - pharmacy and treatment; for 3,3049 points for the skill of the medical staff at the Laser room; give 3,1029 points for patient information provided by:

The doctors at the center are very active in learning new knowledge about medicine as well as new treatment methods to be able to apply to the medical examination and treatment process at the center.

Because the number of patients visiting the center is quite large, doctors can only advise patients on the main and necessary issues, so there are issues the doctor wants to advise the patient carefully or ask. More about the patient's situation, but there are many other patients waiting for their turn, so the doctor can't ask about the patient's situation in detail.

The center has not built a hotline for patients to ask their questions about the center's services as well as contribute to the limitations and mistakes of the center's medical staff. so that the center can improve itself more and more thereby improving the quality of medical examination and treatment services at the center.

c. Satisfaction scale results

Through questionnaires with Likert scales, the results of the survey on the satisfaction scale are shown in the following table:

Table 3: Results of the satisfaction scale with the quality of medical examination and treatment services

SAS (Satisfaction Scale)	Interpretation	Average value
SAS1	You are completely satisfied with the quality of medical examination and treatment services at Transportation Health Care Center	3,1463
SAS2	Would you recommend the center's medical examination and treatment services to others	3,1220
SAS3	In the future, if you have health problems, you will continue to come to the center for medical examination and treatment	3,0854

Nguồn: Khảo sát của tác giả

The table shows that, the overall level of satisfaction with the quality of medical examination and treatment services at the new center is at an average level, shown in all three satisfaction scales at 3, which is satisfaction, not yet satisfied. there is complete satisfaction when patients come to the center for medical examination and treatment.

5. SOLUTION

5.1 Recruiting and training human resources for the center

Recruit more, train to improve skills for nurses and nurses to assist doctors in the medical examination and treatment process. Currently, at the center, the number of nurses and nursing assistants for doctors is very small, specifically the number of doctors in the center is 15 doctors, but the number of nurses and nurses is only 16, so it's a lot. the work of nurses, nursing doctors have to manually reduce the work productivity of doctors.

Regarding the selection of more medical staff, the center still has to recruit qualified and talented medical staff, which is a very important issue because of the problem of medical examination and treatment in medical facilities today. is a very sensitive issue, health workers need to have virtue to avoid being tempted by material things... Health workers need to have talent to be able to examine the right disease and prescribe the right medicine for the patient.

5.2 Remuneration to attract employees

In addition, the center must also have appropriate policies to keep skilled staff or keep doctors and nurses who are sent to school so that after they graduate, they will return to serve the center. rather than after being educated to improve their skills, they will move to another job with a higher salary through their commitment to the center that they will return to serve the center, if they violate the contract, they will have to pay a fine. for the center. And the center must carefully select the doctors who can attend. But those are only temporary solutions, the center must create a professional and friendly working environment among the staff at the center, the center must create a comfortable feeling when working at the center so that the doctors can feel comfortable working at the center. doctors they voluntarily stay with the center without having to go through any other form of compulsion.

5.3 Strengthening facilities and purchasing medical equipment

Currently, the center only has one semi-automatic blood test machine, while the number of patients who have to conduct blood tests is very large, so when a patient has to take a blood test, the patient has to wait a long time. It's only my turn to test and it takes a long time to get test results, so the immediate job of the center is to invest in buying a new blood testing machine and adding a new one. automatic biochemical testing machine 50 more samples so that patients can reduce waiting time during medical examination and treatment.

CONCLUSION

Through this report, the author really hopes that the proposed solutions will bring into play practical effects, overcome the limitations, contribute to improving the quality of medical examination and treatment services at the Center for Health and Environmental Protection. Transport., promoting the improvement of the quality of medical examination and treatment services at the center in particular and at medical facilities in general.

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