



## Satisfaction among Outpatients Using Services at the Department of Diagnostic Imaging, National ENT Hospital in 2023

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### ABSTRACT

**Objectives:** Describe the satisfaction among patients using services at the Department of Diagnostic Imaging, National ENT Hospital. **Methods:** Cross-sectional descriptive study was performed among 2085 patients at the Department of Diagnostic Imaging from March 2023 to September 2023, using the satisfaction assessment questionnaire according to the decision No. 3869/QĐ-BYT. **Results:** Patients satisfied with service access was 87.3%; Patients satisfied with information transparency and medical examination procedures were 85%; Regarding facilities and service facilities, overall satisfaction only reached 73%; The satisfaction regarding behavior and communication was 93.4%. As a result of providing services, the overall satisfaction rate reached 89.4%. Level of evaluation compared to patient expectations: The proportion of patients rating the hospital was more than 80% or more compared to their expectations was 70%. **Conclusion:** Patient satisfaction with services at the Department of Diagnostic Imaging, National ENT Hospital was relatively good. It was necessary to further improve materials and service facilities to continue to improve to serve patients.

**Keywords:** Satisfaction, patients, diagnostic imaging department

### INTRODUCTION

Patient satisfaction is an important indicator in evaluating the quality and operational efficiency of medical examination and treatment facilities, and is also a criterion for annual hospital inspections. Patient satisfaction is a measure of the appropriateness of the services provided compared to the needs and expectations of the community. The Ministry of Health has issued many decisions and guiding circulars to increase patient satisfaction through improving medical examination services and reducing waiting times for medical

examination at hospitals nationwide: Decision No. 1313/QĐ-BYT on Guidance on medical examination procedures at the hospital's medical examination department; Decision No. 25/QĐ-BYT on promulgating documents Guiding technical procedures on diagnostic imaging and interventional radiology used for the Imaging Diagnosis block, Decision No. 3869/QĐ-BYT Promulgating forms and instructions for patient and medical staff satisfaction surveys <sup>1, 2, 3</sup>. According to research results of the Ministry of Health on 400 hospitals, the results presented that 94.5% of hospitals

improved procedures, 92.4% of hospitals equipped enough chairs for patients, 75% of hospitals had survey the waiting time process for medical examination <sup>4</sup>.

Since paraclinical techniques in general and imaging diagnostic techniques in particular were born and commonly used, the above disadvantages were more thoroughly overcome. To this day, clinical testing is a mandatory part of the disease diagnosis and treatment process. With the support of modern techniques, technology, and equipment, paraclinical diagnoses with high sensitivity and specificity have been achieved. National ENT Hospital is the leading ENT hospital in Vietnam. Recently, the hospital had many solutions to improve processes in inpatient and outpatient medical examination activities in general and paraclinical examination activities in particular, to meet patients' expectations about medical services that the hospital provides to increase patient satisfaction. However, during the process of professional operations, the department also received comments and suggestions from patients regarding a number of issues such as finding the place for examination is not convenient, having to wait a long time when taking X-rays and receiving results, lack of chairs for patients or a hot waiting area... These factors all affect the quality of patient health care at the hospital. Therefore, we conducted research with the goals to describe the satisfaction of outpatients using services at the Department of Diagnostic Imaging, National ENT Hospital.

## RESEARCH PARTICIPANTS AND METHODS

**Research participants:** Outpatients used services at the Department of Diagnostic Imaging, National ENT Hospital.

*Selection criteria:* Patients undergoing outpatient medical examination with paraclinical indications (X-ray, CT scan, Ultrasound). Patients aged 18 years or older. The patient agrees to participate in answering or completing the survey. The patient does not show signs of mental disorder

*Exclusion criteria:* The patient is in an emergency situation. Patients use full support and administrative services and are escorted by medical staff.

**Research time and location:** From March 2023 to September 2023 at Department of Diagnostic Imaging, National ENT Hospital.

**Research design:** Cross-sectional descriptive study.

$$n = Z_{(1-\frac{\alpha}{2})}^2 \frac{p(1-p)}{e^2}$$

In there:

$n$ : sample size to be studied.

$Z$ : Z distribution table lookup value based on selected reliability. The confidence level used is 95% which corresponds to  $Z = 1.96$ .

$p$ : Estimate patient satisfaction rate, choose  $p = 0.5$ .

$e$ : allowable error  $e = \pm 0.05$ .

$n = 384$  is the minimum sample size for each department.

In the study for 3 departments including CT scan, Ultrasound and X-ray departments. Therefore, the process collected a total of 2085 patients participating in the study.

**Measurement:** Research measurement (Using the questionnaire is form No. 2 in decision No. 3869/QD-BYT) <sup>5</sup>. The questionnaire includes an administrative

part (demographic characteristics of patients) and 06 parts assessing the level of satisfaction.

**Satisfaction assessment scale:** includes 6 aspects.

- Patients' satisfaction with service access.
- Patients' satisfaction with information transparency and medical examination procedures.
- Patients' satisfaction with facilities and facilities to serve patients.
- Patients' satisfaction with the behavior and communication of medical staff.
- Patients' satisfaction with service delivery results.
- Satisfaction rating compared to patients' expectations.

In the study, a Likert scale was used to evaluate the level of satisfaction.

## RESULT

The total number of patients surveyed was 2085, of which the proportion of male patients was 41%, lower than female (59%), patients were mainly from provinces outside Hanoi (70.1%).

**Table 1. Patient satisfaction with service access (n = 2085)**

Service access characteristics	Rate of patient satisfaction			
	Unsatisfied (%)	Neutral (%)	Satisfied (%)	Medium score (X)
Instructional sign diagram	1.5	10.9	87.5	4.31
Building blocks and stairs are clearly numbered and easy to find	1.7	12.9	85.3	4.28
The paths in the department and corridors are flat and easy to walk	1.4	11.3	87.3	4.33

Scale (points)	Level of satisfaction	General rating
1	Dissatisfied	Unsatisfied
2	Unsatisfied	
3	Neutral	Neutral (not really satisfied)
4	Satisfied	Satisfied
5	Very pleased	

Overall satisfaction score = total score/total number of questions.

Overall satisfaction score for each area = total number of comments 4.5/total number of survey questionnaire.

**Data analysis:** Data collected in the study were entered and processed according to medical statistical methods, using IBM SPSS 20.0 software. Research results are presented by number and percentage of variables.

**Ethical issues:** The study was approved by the Scientific Council of the National ENT Hospital

Service access characteristics	Rate of patient satisfaction			
	Unsatisfied (%)	Neutral (%)	Satisfied (%)	Medium score (X)
Finding the place to sort the ballots is clear, easy to understand, and easy to find	1.0	9.9	89.2	4.38
Overall satisfaction with service access	1.4	11.3	87.3	4.32

The overall satisfaction rate of patients with service access was 87.3%, corresponding to a satisfaction measurement score of 4.32 points. In the content related to service access, patients with the highest satisfaction rate belong to “Going to the ballot place or administrative desk to register for an X-ray, CT scan or Ultrasound was clear and easy to understand.”, “easy to find” (89.2%), however there was not much difference for other content (ranging from 85.3% to 87.5%).

**Table 2. Level of patient satisfaction with information transparency and medical examination procedures (n = 2085 )**

Characteristic	Rate of patient satisfaction			
	Unsatisfied (%)	Neutral (%)	Satisfied (%)	Medium score (X)
Procedures for X-ray, Ultrasound, CT are publicly listed	1.5	10.8	87.7	4.35
The reformed process is simple and convenient	1.5	11.9	86.6	4.34
The medical staff welcomed the guide enthusiastically and warmly	0.9	8.2	90.9	4.4
Lined up in order	1.1	11.0	87.9	4.35
Evaluate turn waiting time	3.7	17.8	78.8	4.17
Evaluate the waiting time to receive results	3.7	18.3	78.0	4.15
General assessment of information transparency and examination procedures	2.0	13.0	85.0	4.29

Information transparency and medical examination procedures were measured by 6 component contents. In which, the overall satisfaction level of patients was 85%, corresponding to a score of 4.29; the overall rate of patient dissatisfaction was 2%, waiting time for X-ray, CT scan or Ultrasound were rated that 78.8% of patients were satisfied, 3.4% of patients were dissatisfied, and waiting time for receiving X-ray results, CT scan or Ultrasound also had a satisfaction rate of 78%, dissatisfied patients account for 3.7% (the highest rate of dissatisfied patients among the components).

**Table 3. Patient satisfaction with facilities and patient service facilities (n = 2085 )**

Characteristic	Rate of patient satisfaction			
	Unsatisfied (%)	Neutral (%)	Satisfied (%)	Medium score (X)
There is a clean, airy examination waiting room/ lounge in the summer; Airtight and warm in winter.	4.4	23.1	72.6	4.05
The waiting room has enough chairs for patients and is good to use.	8.4	23.9	67.7	3.94
The waiting room has a full fan (air conditioner) and operates regularly.	10.2	22.2	67.0	3.93
The waiting room has facilities to help patients feel comfortable such as TV, pictures, leaflets, drinking water.	13.0	25.5	61.5	3.79
Privacy is guaranteed when taking X-rays, CT scans or Ultrasound and performing procedures.	2,1	13.3	84.5	4.26
The toilet is convenient, well-used, and clean.	8.0	25.5	66.6	3.92
The environment within the department's campus is green, clean, and beautiful.	2.7	17.4	79.9	4.14
Waiting area for X-ray, CT scan or Ultrasound, waiting for results to ensure security, order and prevent theft for people.	1.8	14.1	84.0	4.26
Satisfaction with facilities and facilities to serve patients	6.3	20.6	73.0	4.04

For the content of facilities and facilities to serve patients, it is measured by 8 component content: the overall satisfaction level is 73% with a score of 4.04.

**Table 4. Patients' satisfaction with the behavior and communication of medical staff (n = 2085)**

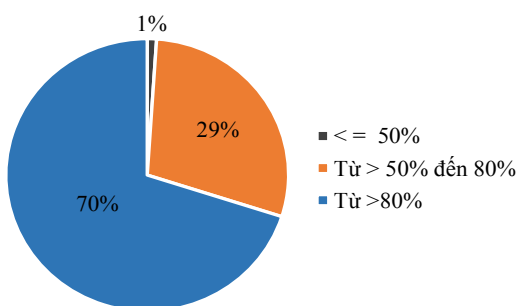
Characteristic	Rate of patient satisfaction			
	Unsatisfied (%)	Neutral (%)	Satisfied (%)	Medium score (X)
Health workers have correct speech and attitude	0.8	6.1	93.1	4.44
Health workers respect, treat fairly, and care to help	0.6	7.3	92.1	4.43
Overall satisfaction with the medical staff's behavior and communication	0.7	6.7	92.5	4.43

The content of medical staff’s behavioral and communication attitudes was measured by 2 component content. In which, the overall satisfaction level of patients was 92.5% (4.43). At the same time, the component contents also had similar satisfaction ratings (92% to 93.1%). The overall rate of patient dissatisfaction was only 0.7%.

**Table 5. Patient satisfaction with service delivery results (n = 2085)**

Characteristic	Rate of patient satisfaction			
	Unsatisfied (%)	Neutral (%)	Satisfied (%)	Medium score (X)
The results of the scan and ultrasound met your wishes	0.8	9.5	89.7	4.36
The resulting invoices are provided in full	0.7	9.5	89.8	4.38
Assess the level of trust in medical services	0.8	10.4	88.8	4.35
Patients’ overall satisfaction with service delivery results	0.8	9.8	89.4	4.36

The overall satisfaction rating of the content was 89.4%, equivalent to a score of 4.36. At the same time, the component contents also had similar satisfaction ratings (88.8%-89.8%). The overall rate of unsatisfied patients was 0.8%.



**Figure 1. Evaluate response compared to patient expectations (n = 2085)**

The proportion of patients who rated the hospital as having met higher than 80% or more compared to their expectations was 70%. The lowest rate of patients’ expectations less or = 50% being met was 1.06% (22 participants).

## DISCUSSION

The overall rate of satisfaction with service accessibility reached 87.3% (corresponding to a satisfaction measurement score of 4.32 points), the overall rate of dissatisfaction accounted for 1.4%. This result is higher than Nguyen Le

Hong Van’s study at CDC Thanh Hoa in 2020 of 54% <sup>6</sup>, at the same research location, it is lower than Do Thi Oanh’s study with the satisfaction rate of overall 97.7% <sup>7</sup> and the quality management department’s first quarter customer satisfaction report was 94.34% <sup>8</sup>. Among the measurement areas

on service access, two areas are number 1 (Diagrams and signs showing directions to Department of Diagnostic Imaging are clear, easy to understand, easy to find) and number 2 (Blocks Houses, stairs, and patient rooms that are clearly numbered and easy to find) have the lowest satisfaction ratings (1.5% and 1.7%, respectively). The hospital arranges the CT scanning area on the 1st floor of building C; X-ray area on the first floor of building C, old building B (room B101) and Ultrasound room on the first floor of new building B (room B118) but not within the premises of building B. It may be due to the diagram and direction sign leading to the rooms in the department not being detailed; There are no painted lines pointing the way from the examination area of the clinical departments, medical examination departments and required medical examination and treatment departments; Although the patient guidance station at the intersections and junctions between buildings has been strengthened, it has not fully met the wishes and needs of a number of patients, so it partly affects approaching to perform services under the Department of Diagnostic Imaging.

For the content of information transparency and medical examination procedures, the overall patient satisfaction rate was 85%, corresponding to a score of 4.29. This result is 97% lower than Nguyen Thanh Phu's research at Vimec hospital <sup>9</sup>. This difference may be due to the location and research participants. At the hospital, the level of satisfaction with some areas is still not high, specifically in the area of assessing waiting time for X-ray, CT scan or Ultrasound, only 78.8% of patients are satisfied, assessing waiting time for X-ray, CT scan or Ultrasound, waiting time to receive results of X-ray, CT scan

or Ultrasound also has a satisfaction rate of only 78%. To explain this, the Department's current equipment can only use 1 CT scanner, 2 X-ray machines and 1 Ultrasound machine, and the human resources of the Diagnostic Imaging Department are limited to only 2 specialists; The work of welcoming and guiding patients in taking x-rays, ultrasounds and waiting for results is carried out by a team of nurses and technicians. Partly, the number of patients increases during the summer season, the peak season of the year in terms of the number of patients coming for medical examination and treatment, combined with limitations in equipment and human resources, which greatly affects patient services. To meet that legitimate need, hospital leaders and staff in the department have agreed on a number of solutions: Do not make medical appointments for the next day, at all locations except for CT and MRI scans require patient preparation; Doctors read the results of CT, XQ, and MRI scans during lunch breaks, helping to return results to patients as early as early afternoon every day, deploying an additional X-ray room at the old B building.

The overall rate of satisfaction with facilities and service facilities is 73% (corresponding to a score of 4.04), with 6.3% of respondents being dissatisfied. This is a area with the lowest overall satisfaction rate among research areas, lower than Nguyen Le Hong Van's research at CDC Thanh Hoa in 2020 which is 84.3% <sup>6</sup>. This difference may be due to the time of the study and the sample size selected. In which, the component content that patients rate low in satisfaction is number 4 (Waiting room has facilities to help patients feel comfortable such as TV, pictures, leaflets, drinking water) reached 61.5%, content 6

(Toilet is convenient, good to use, clean) satisfaction rate is 66.6%. It can be seen that these contents are related to two main issues: restroom conditions and patient service facilities in the waiting room and waiting room for patients and their families. The hospital is currently in the process of building and perfecting its infrastructure, so there are still many limitations: Space for patients is still limited, the number of seats, cooling facilities, and service facilities to help patients psychological comfort, though the equipment has been completed, there is still a lack of even, and toilet cleaning is not yet guaranteed to be clean and convenient.

The rate of satisfaction of patients with the behavior of medical staff reached 92.6%, corresponding to a score of 4.43, which is a relatively high rate. At the same time, the component contents also have similar satisfaction ratings (92%-93.1%). This overall satisfaction rate is lower than the study by author Nguyen Bich Huong (98.7%), author Nguyen Le Hong Van (100%) and higher than the study by author Pham Ngoc Hieu, Department of Throat and Laryngology Central Hospital. is 73%<sup>6, 10, 11</sup>. In fact, the hospital has organized many training sessions and competitions for all hospital staff on candidacy and communication between medical staff and patients. This is truly a great effort of all the hospital's medical staff. This shows that the hospital has paid great attention to changing and perfecting the behavioral style of medical staff.

Patients' overall satisfaction level is 89.4% with component content also having a satisfaction rating of 88.8% - 89.7%. This result is lower than the research of authors Nguyen Le Hong Van (94.8%), Nguyen Thanh Phuc (99%, average score: 4.6-4.9);

higher than the research of author Pham Ngoc Hieu (3.59)<sup>6, 9, 11</sup>. The overall rate of customers who are dissatisfied is 0.8%, the rate of customers who rate it as average (not really satisfied) is 9.8%. In this content, the patient's assessment may require comparison through the medical examination process between other medical facilities or after a medical examination and treatment period. The good news is that when the patient comes to perform services at the department and after receiving the diagnosis results, the patient's overall satisfaction with the service delivery results is at a high level as well as the dissatisfaction rate. The average rate of patients in this content also has the 2nd lowest rate in all survey contents.

The proportion of patients who rated the hospital as having met 80% or more compared to their expectations was 70%. The lowest proportion of patients' expectations that were met was less than 50% at 1.05% (22 people). This research result is lower than Nguyen Thanh Phu's research at Vinmec Hospital, which met expectations of 99%<sup>9</sup>. Patients have various comments, in which the content about the results of patient service provision is "Praise the hospital for good, professional service, very satisfied with medical services" with 77 participants.

## CONCLUSION

Assessing patient satisfaction indicated that the rate of patients satisfied with service access is 87.3% (4.32); The percentage of patients satisfied with information transparency and medical examination procedures is 85% (4.29); Regarding facilities and service facilities, overall satisfaction only reached 73% (4.04); The satisfaction rate regarding behavior and communication is 93.4% (4.44);

Regarding service delivery results, the overall satisfaction rate reached 89.4%. Level of evaluation compared to patients' expectations: Percentage of patients who rated the hospital as meeting > 80% or more compared to their expectations of 70%.

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