IMPROVING THE ADMISSION DEPARTMENT PERFORMANCE UNDER REFORMATION OF THE SECONDARY MEDICAL SERVICE MARKET

Abstract. The healthcare reformation focuses on improving public health since public health is one of the state policy priorities. The systematization of scientific background showed the growing academic interest in the reformation of the secondary medical service market, determining the study's relevance. This study aims to substantiate ways to improve the organization and management of health services in the secondary market of health services. To achieve the research goal, the authors analyzed the theoretical approaches to defining the concept of quality of medical services. They considered the development of the Ukrainian medical services market and determined the quality of medical care. This study examined the functioning of the admission department of the central district hospital. The methodological basis of the study involved the methods of statistical analysis, systematic approach, analysis, and synthesis. The findings showed no fatalities in the analyzed hospital from 2013 to 2015, thanks to an insignificant discrepancy in outpatient and inpatient diagnoses and ambulance diagnoses. The authors emphasized the necessity to transfer the information about the patient's condition for treatment in the outpatient department to improve the quality of medical services. Within the study framework, the authors found that doctors use new treatment methods in their medical activities in the admission department, which allows stating a high percentage of recovery and improvement of the general condition of patients. Much attention is paid to personal, social, and health education to prevent the emergence of difficult medical situations in the admission department. The above is essential for providing quality medical care by doctors and junior medical staff. The authors concluded that the improvement of the current medical care requires the efficient use of material and human resources; improvement of the communication between ambulance, polyclinic, and inpatient facilities to provide the validity and timeliness of hospitalization; improving the interaction between separate medical institution's services and its structural subdivisions to timely examine and hospitalized in inpatient departments, etc. The results of this study could elevate the quality of medical services in the admission department and prevent complex medical cases in the treatment of patients.

Keywords: medical service, social marketing, admission department, the market of services, the market of medical services.

Introduction. The main task of the therapeutic service is to prevent further deterioration of the public health of the population as the future state capital. The medical network should carry out a full range of measures to improve healthcare and reduce mortality and disability.

Indeed, public health remains a priority of public policy. This provision is embodied in the Constitution of Ukraine, «Bases of the legislation of Ukraine on health care», relevant decrees of the President of Ukraine, in particular in the Program of Activities of the Cabinet of Ministers of Ukraine from 2020, which emphasizes approval of healthcare standards, clinical protocols, and guidelines based on best international practices. The main goal of the healthcare reform of the Program of economic reforms for
2010 - 2014 «Wealthy society, competitive economy, efficient state» is to improve public health, ensuring equal and fair access of all citizens to medical services of appropriate quality.

The main problems of health care in Shostka district are:

Unsatisfactory demographics (see Table 1).

| Table 1. Demographic indicators for Shostka district and Sumy region for 20017-2019 |
|----------------------------------|----------|---------|---------|----------|---------|---------|
|                                  | Shostka district | Sumy region |
| Birth rate (per 1 thousand people) | 7.7  | 7.46 | 7.05 | 9.7  | 8.9  | 9.2  |
| Mortality (per 1 thousand people)  | 15.0 | 14.96| 16.05| 16.6 | 16.8 | 17.2 |
| Natural movement                   | -7.3 | -7.5 | -9.0 | -6.9 | -7.9 | -8.0 |

Sources: developed by the authors based on (Main Department, 2022).

High overall mortality rate (see Table 2).

<table>
<thead>
<tr>
<th>Table 2. Dynamics of mortality in Shostka district for 2017-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causes of mortality</td>
</tr>
<tr>
<td>Diseases of the circulatory system</td>
</tr>
<tr>
<td>External causes of death</td>
</tr>
</tbody>
</table>

Sources: developed by the authors based on (Main Department, 2022).

Reduction of the incidence of socially dangerous diseases per 100 thousand population, including HIV infection indicates non-detection of this disease (see table 3).

<table>
<thead>
<tr>
<th>Table 3. Dynamics of incidence of socially dangerous diseases in Shostka district and Sumy region for 2017-2019, persons per 100 thousand population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
</tr>
<tr>
<td>HIV infection</td>
</tr>
<tr>
<td>AIDS</td>
</tr>
</tbody>
</table>

Sources: developed by the authors based on (Main Department, 2022).

Unsatisfactory material and technical base of some hospitals, underfunding of the industry and unsatisfactory overall provision of medical equipment.

This study aims to study the relationship between the organization of work and quality assurance of medical services at the admission stage and search. This investigation justifies ways to improve healthcare services' organization and quality management in the secondary medical market.

Literature Review. The modern national state regulation system of the medical services provision in Ukraine is based primarily on humanism and social justice principles. It stands to mention that in some countries, the provision of state medical services is very dependent on government regulation. In contrast, in other countries, government intervention is reduced to the regulatory function. Since the Ukrainian population ages, the share of the active working-age population, whose funds form insurance funds, is declining. Besides, the aging population needs pensions and treatment.

In modern society, the provision of medical services is one of the most complex elements of state regulation. There is contentious debate on the problem of market relations. Moreover, there are contradictions between the government’s social mission and personal entrepreneurial motives. Unlike the usual market for consumer goods and services, doctors act in two ways at the same time: as the party
that determines the patient's needs and as the party that provides and implements them. In addition, the potential consumers of medical services are the poorest, elderly, and sick social members.

Recently, there was an attempt to introduce standards for providing medical services in the state regulatory system. However, this work is complicated by the impossibility of developing common standards for all Ukrainian institutions due to differences. The personnel and technological equipment of medical institutions sometimes differ. Thus, the standards used in assessing the quality of medical institutions in one medical field may not be adapted to use in another field.

The fundamental works, most of which are devoted to analyzing modern strategies in healthcare, demonstrate the evolution of views on the development of state regulation in medical services. Bohomaz, Hladun, Shypko et al. (2005, 2006, 2009) studied the transformational changes in the financing model in medical services.

Lekhan, Moroz, Grabovskyi, V. A., & Klymenko, Zdrenyk et al. (2014, 2018, 2019, 2020) investigated ways to improve state regulation and state policy of medical services and the provision of quality medical services.

The presence of many scientific papers on this topic indicates the relevance of the studied issues. However, these works insufficiently cover the impact of healthcare reforms on state regulation of health services. Thus, it indicates the secondary importance of this problem and the medical institutions' inability to cover this issue in the academic community.

**Methodology and research methods.** Since the concept of medical services quality is multifaceted in general, it leads to the lack of a single definition and intensifies the research subject. Noteworthy here, the research process on this issue is more complex for the service sector (including medicine) than for the manufacturing industry. The reason lies in the characteristics and features of quality.

Patients receive medical services, regardless of their wealth, in full. The peculiarity of the healthcare industry is the significance of the final effect. Therefore, the effect is achieved even without a material basis. The criteria for achieving the effect is the patient's recovery. The effect degree depends on the complexity of the disease and the timeliness of the patient's treatment.

The main direction of current medicine is preventive care. If people monitor their health, lead a healthy lifestyle, and regularly undergo medical examinations, they significantly reduce disease risk. It affects a person's ability to work and increases their material well-being.

The state derives an advantage from preventive medicine since more people in the nation will work for their good and have good health. As a result, more contributions go to the budget. Therefore, the state's well-being depends primarily on public health.

Every medical service provided is special-purpose. The doctor prescribes different drugs to different patients with the same diagnosis because of the possible existence of an allergic reaction to some components of the drug and concomitant pathology in patients (Nikonov, 2012).

Medical service must be provided at the specified place and time. Therefore, medical institutions organize the day-and-night shifts.

In admitting patients for examination or treatment, an approximate diagnosis of the disease is first established. Then a plan is made to examine the patient for diagnosis clarification. Ignorance or lack of Medical knowledge is unacceptable. Unfortunately, some cases of «medical error» directly impact the final effect of treatment and the quality of services provided (Kolliakova, 2012).

The provision of medical services is directly related to uncertainty and risk. They are closely related to the chosen treatment method, its duration, and the patient's adherence to the doctor's recommendations.

Besides, the quality of medical care includes accessibility (unimpeded access to medical care, despite the existing financial, organizational, and other difficulties); full awareness (health status, treatment options, medication effects); health education (opportunity for patients to acquire self-help skills and recognize symptoms that need outside help); doctors and nurses communication, respect for the client,
coordination of actions throughout the treatment period; the patient satisfaction (higher or almost equal degree of acceptance of the received medical care in confrontation with expectations).

From the patient's point of view, the quality measure is the availability of services. It includes (Tolstanov, 2011; Fedoseev, 2012):
- the ability to register by phone at a convenient time and a few days in advance, as well as a short waiting time for registration and reception;
- the ability to choose a doctor and call him home;
- a wide range of laboratory tests and special services;
- friendly atmosphere and cleanliness in the reception department and in all other departments of the medical institution;
- phone access;
- the convenient location of the reception office and the availability of parking;
- proper treatment of their patients by medical staff.

Therefore, the quality of medical services depends on many factors. In addition to external factors over which the medical institution has a limited influence, internal factors play a significant role in this process. However, not only internal and external factors have a decisive influence on the quality of medical services (Fig. 1).

![Figure 1. Factors affecting the quality of medical services](http://armgpublishing.sumdu.edu.ua/journals/hem)
Figure 1 demonstrates the factors affecting the quality of medical services. The internal and external factors indicate the medical staff qualifications.

Future medical professionals obtain the qualification in the higher education institutions. The state provides the graduates with medical diplomas to guarantee their qualification level and takes responsibility for their authenticity.

In turn, medical employees are obliged to monitor the continuous improvement of their skills during their work at medical institutions. They should attend training courses and psychological training, participate in seminars and conferences to better communicate with patients, and develop the ability to convey information properly to a particular patient without causing psychological trauma.

External factors include institutional and technical support and standardization of medicine. Nowadays, the technical support of the medical industry is one of the limiting factors in healthcare development. No system can meet all needs or finance all medical technologies, but the lack of sound provision threatens the effective functioning of the entire health sector.

As a part of the quality of the healthcare system, a medical technology assessment should be provided. Medical technology should be used in defining public health policy. The technologies that bring the most significant medical benefits are most in-demand among patients. Therefore, they should be funded by the state. On the contrary, ineffective or harmful medical technologies to health should be banned at the state level. An example of such technologies could be medical equipment without relevant technical documentation or certification of quality and safety.

Figure 1 divides the internal factors by individual factors and technical quality.

Individual factors are directly related to the patient. There is a significant difference between assessing the patient's condition and obtaining the final effect. The diagnosis, for example, acute respiratory disease, gives grounds to argue about the possibility of a complete cure with the proper treatment regimen and following doctors' recommendations. However, a patient diagnosed with acquired immune deficiency syndrome cannot count on full recovery but only maximum improvement. In this case, the great responsibility rests with the doctors, who are obliged to provide the patient with comprehensive information about his condition and outline the probable course of treatment and the final results.

Specific ethical standards emphasize informing patients about cureless conditions. However, whatever the patient's condition at the time of arrival at the hospital, the medical staff significantly contributes to its improvement through the completeness and speed of care provided. In Ukraine, one of the objective reasons for not providing the necessary care is the lack of appropriate medical equipment (Tolstanov, 2011).

The concept of "quality" in health care is closely linked to the issues such as standards, indicators, structure, process, and outcome. The abovementioned standards can apply to all areas of activity in the medical field, including direct patient care, organization and management, and treatment.

Quality indicators are a quantitative measure of implemented standards. The development of certain indicators involves data collection and the ability to present them. Noteworthy here, the indicators could be positive and negative.

Quality indicators used in a particular medical institution can be universal and individual. The former is developed through companies or other organizations involved in quality. The only condition of the above process is the possibility of use in any medical institution.

A separate medical institution develops individual indicators for internal use.

The structural construction of the medical institution, for which standards and indicators are developed from the local database, provides for the availability of medical equipment, medicine, medical materials, and staff.

The main component of the structural construction of a medical institution is the staff, including medical, with some professional training and practical experience.
The structural construction process is determined by the patient's actions from the moment he/she crosses the hospital's threshold until the moment of his discharge. In the context of this process, there are the following standards and indicators that may apply (Churkin, 2012):

- hospital-acquired infection;
- postoperative complications;
- rehospitalization;
- skills to respond to health and life emergencies.

The ultimate goal of quality is to achieve results during treatment. The amount of directly obtained treatment results indicate the quality of medical services provided. Indicators of treatment effectiveness can be considered as (Vertkin, 2011):

- general (time of hospitalization);
- specific (percentage of disability).

It should be noted that the results depend equally on the structure and the process. The basis of the above results should be patient safety. The latter is defined as the patient's freedom from unnecessary or potential harm from the health care system (Kniazevych, 2013).

In competition in the medical services market, there will naturally be a need to meet the client's expectations, know them, or fulfill them. To understand the patient's needs, systematically study his needs in the present and the future.

The study was conducted at the Shostka Central District Hospital. It is an independent treatment and prevention facility that provides highly qualified inpatient and outpatient care to the district's population, a base for specialization and training of paramedics and interns.

Shostka Central District Hospital is an inter-district medical institution providing highly qualified, specialized medical care to the population of Shostka, Seredino-Bud, and Yampil districts. This institution has the highest accreditation category.

The hospital has sufficient personnel and material and technical base to organize and provide a significant amount of medical services to the district's population. Shostka Central District Hospital employs 1033 specialists, including 206 doctors. 96.3% of doctors and 98.8% of nurses were certified.

There are 12 specialized inpatient departments with a total bed capacity of 410 beds. The hospital is constantly working on introducing new medical and diagnostic techniques and the latest technologies. Modern diagnostic and therapeutic equipment is purchased annually.

Quantitative and qualitative statistical indicators determine the activity of the institution.

The adult population of the Shostka district receives specialized inpatient care on 410 beds, of which 235 (57.3%) are of surgical profile. Bed occupancy was 321.3 days in 2019. The average duration of hospital stay was 9.8. The mortality rate remains at the same level of 0.50-0.52 for three years. The planned hospitalization rate was 32.2% in 2019, urgent – 67.8%. In turn, the rural patients consist 20.4% of the treated.

The planned capacity of the polyclinic is 488 doctor's appointments per shift. Admission of patients is carried out in 29 medical specialties. The number of doctor's appointments per capita in the hospital is 7.6 per 100 appointments, and at home – 71.6. The share of doctor's appointments for prophylactic purposes is 38.4

Results. This study conducted a statistical analysis of providing medical services in the reception department of Shostka Central District Hospital to identify the ways to improve them. The admission department deals with the reception and hospitalization of patients from prevention and treatment facilities of the city and district under the direction of doctors, ambulance, and referrals of conscription commissions, medical advisory committees, at the request, etc. In the hospitalization of patients, the main economic indicator is bed capacity attainments in the admission department (Table 1).
Table 1. The admission department bed capacity of Shostka Central District Hospital (2013-2015)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real number of inpatient days</td>
<td>415</td>
<td>410</td>
<td>395</td>
</tr>
<tr>
<td>Real number of inpatient days</td>
<td>136719</td>
<td>131752</td>
<td>124923</td>
</tr>
<tr>
<td>Patients discharged from hospital</td>
<td>13662</td>
<td>13264</td>
<td>12408</td>
</tr>
<tr>
<td>The average duration of hospital stay</td>
<td>9.9</td>
<td>9.8</td>
<td>9.9</td>
</tr>
<tr>
<td>Number of died</td>
<td>193</td>
<td>201</td>
<td>182</td>
</tr>
<tr>
<td>Total mortality</td>
<td>1.39</td>
<td>1.49</td>
<td>1.45</td>
</tr>
</tbody>
</table>

Sources: developed by the authors.

Under the low bed capacity in the hospitalization of patients, preference is given to patients with more severe pathology, which requires longer treatment and stronger follow-up after a certain period. Table 2 shows that the average length of stay in bed is at the same level for the analyzed period.

Table 2. Share of treated patients from rural and urban areas in the admission department of Shostka Central Regional Hospital (2013-2015)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of treated patients from rural areas, %</td>
<td>18.1</td>
<td>18.08</td>
<td>18.24</td>
</tr>
<tr>
<td>Share of treated patients from urban areas, %</td>
<td>81.9</td>
<td>81.92</td>
<td>81.76</td>
</tr>
</tbody>
</table>

Sources: developed by the authors.

It stands to note that the proportion of treated urban residents exceeds the rural ones. Hospitalization of patients without referral has a negative tendency. This contingent needs immediate hospitalization and is applied to the admission department independently.

Table 3 shows the cases of rehospitalization for the same disease remain almost at the same level.

Table 3. Dynamics of rehospitalization in the admission department of the Shostka Central Regional Hospital (2013-2015)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehospitalization</td>
<td>692</td>
<td>5.07</td>
<td>732</td>
</tr>
</tbody>
</table>

Sources: developed by the authors.

The need for rehospitalization is caused by chronic pathology patients' schemes and treatment stages. All cases of rehospitalization are analyzed (Table 4).

Table 4. Planned and urgent hospitalization (2013-2015)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urgent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planned and urgent</td>
<td>31.1</td>
<td>68.9</td>
<td>32.2</td>
</tr>
</tbody>
</table>

Sources: developed by the authors.

Table 5 shows that the percentage of urgent patients was almost at the same level from 2013 to 2015.

Table 5. Urgent hospitalization considering the incursion of disease (2013-2015)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 6 hours, %</td>
<td>30.2</td>
<td>30.3</td>
<td>31.6</td>
</tr>
<tr>
<td>from 6 to 24 hours, %</td>
<td>14.5</td>
<td>16.3</td>
<td>14.7</td>
</tr>
</tbody>
</table>
Continued Table 5

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above 24 hours, %</td>
<td>55.3</td>
<td>53.5</td>
<td>53.7</td>
</tr>
</tbody>
</table>

Sources: developed by the authors.

Most patients seek medical attention 24 hours after the onset of the disease. The dynamics of the treatment results of patients are shown in Table 6.

Table 6. The treatment result of retired patients in the admission department of Shostka Central Regional Hospital (2013-2015)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recovery</td>
<td>47.8</td>
<td>45.9</td>
<td>46.5</td>
</tr>
<tr>
<td>Gain in health</td>
<td>47.4</td>
<td>47.5</td>
<td>46.1</td>
</tr>
<tr>
<td>No changes</td>
<td>4.8</td>
<td>6.6</td>
<td>7.4</td>
</tr>
</tbody>
</table>

Sources: developed by the authors.

Five hundred seventy-five patients died in inpatient departments from 2013 to 2015. There is a decrease in mortality by 7.7%. There was no mortality in the admission department for three years.

Most people died from circulatory illnesses, in second place - digestive system diseases, and in third place - tumors.

The department is working to reduce mortality by improving the quality of medical care, involving specialists in related specialties, and providing opportunities for anesthesiology.

The above indicates the necessity to improve the sanitary-educational work, the quality of medical examination, rehabilitation, and rehabilitation of patients.

Table 7. Differences in diagnosis between the polyclinic, ambulance, and inpatient facility (2013-2015)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between the polyclinic and inpatient facility</td>
<td>18</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>Between the polyclinic and ambulance</td>
<td>8</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>

Sources: developed by the authors.

Table 7 shows that the diagnosis is slightly different (0.01%) between the polyclinic and inpatient facilities and between the polyclinic and ambulance. The improvement of these indicators is seen in establishing consistency in the work of inpatient and outpatient services.

Conclusions. Thus, the analysis of the work of the reception department of Shostka Central Regional Hospital allows stating the following:

- the most significant number of hospitalizes is from polyclinics;
- the percentage of urgent hospitalization is high;
- there has been no lethality in the department for three years;
- there is a slight difference in diagnosis established by polyclinic and inpatient facilities, ambulance, and polyclinic;
- new methods of treatment, prevention, and diagnosis are introduced, which positively affect the treatment process and reduce the duration of treatment;
- much attention is paid to sanitary and educational work.

Therefore, the improvement of the quality of medical services provided by the reception department of the Shostka Central Regional Hospital requires the following:
effectively use material and human resources, constantly enhance and staff the material base of the department;

− carefully and fundamentally consider the differences between clinical and pathological diagnoses, take measures to prevent them;

− constantly provide urgent aid and emergency care to the patients, systematically analyze the causes of mortality within one day, and develop and implement measures to reduce it;

− to improve the network between the polyclinic, ambulance, and inpatient facility to provide the timely referral for hospitalization;

− to improve the issues of subordination and interaction between individual services and structural units of the hospital for timely examination and hospitalization in inpatient departments;

− to work on the quality of sanitary and educational work among the population, pay special attention to the younger generation and youth, and promote healthy lifestyles;

− constantly work on improving the culture of medical care;

− raising the professional level of the medical staff.

**Funding:** This research received no external funding.

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Основною здійснюються будь-якої терапевтичної служби — це недопустимої наприomitок державної політики, згідно з метою медичної реформи є поліпшення здоров'я населення у період реформування вторинного ринку медичних послуг.

Основна мета дослідження є обґрунтування шляхів удосконалення організації роботи та управління якістю медичних послуг на вторинному ринку медичних послуг. Досягнення мети відбувається за допомогою вивчення теоретичних підходів до визначення поняття якості медичної послуги поряд з дослідженням особливостей розвитку ринку медичних послуг в Україні та проведением аналізу якості надання медичної допомоги, а також дослідження особливостей функціонування приймального відділення центральної районної лікарні. Методологічною основою дослідження є статистичний аналіз, системний підхід, аналіз та синтез. Проведене дослідження дозволяє констатувати, що протягом останніх трьох років діяльності медичної установи відсутні летальні випадки. Це стало можливим завдяки ефективному використанню матеріальних і кадрових ресурсів.

Результатом дослідження показано, що покращення існуючої ситуації з медичної допомоги можна досягти завдяки ефективному використанню матеріальних і кадрових ресурсів, наданні покращення наступності між амбулаторно-поліклінічною сіткою, станцією швидкої допомоги та структурними підрозділами лікарні по своєчасному обстеженню та госпіталізації в стаціонарні відділення.

Ключові слова: Медична послуга, соціальний маркетинг, приймальне відділення, ринок послуг, ринок медичних послуг.