

DOI

DIFFERENCES BETWEEN HEALTH QUALITY SYSTEM AND DIALYSIS QUALITY SYSTEM

Ahmet Cenk DİKMEN

ABSTRACT

What distinguishes health services from other services and makes quality even more important is that they are consumed while being served and that they are high risk processes. This makes it necessary to design, plan and manage the risks well before the provision of health care. Quality in health care is concerned with the content of care, delivery and management of services. In order to be able to talk about a quality health service, many parameters must come together. Dialysis Quality System has been formed considering the needs and priorities of dialysis centers/units in Turkey, taking into account the targets like Effectiveness, Efficiency, Productivity and Healthy Working Life, Patient Safety, Fairness, Patient Centeredness, Compliance, Timeliness, Continuity. It was developed taking into account the World Health Organization targets, international developments, the country needs and priorities, with the goal of setting up targets for all dialysis centers offering services in the health sector in Turkey to set up goals for success to meet the standards and to ensure optimum quality level thereafter. Dialysis treatment processing fee are all funded by SSI in Turkey. 40.5% of the centers where dialysis treatment is applied are private health enterprises. However, 67.5% of all dialysis patients are offered dialysis services. SSI pays the same session fee to the private dialysis center, the dialysis center at the university hospital and the public hospitals. The necessary supplies for the dialysis process, medicine, device, physician, health care personnel etc. Services are paid as a single package price. For those offering services, the cost of dialysis sessions becomes the most important issue when it is a package-type payment. It is inevitable for all health care institutions providing dialysis services to keep session unit costs to a minimum and at the same time meet medical and all administrative obligations. Dialysis Quality System will ensure efficient use of resources in the institutions where dialysis is performed.

Keywords: Health Quality System, Dialysis Quality System, Dialysis center, Hemodialysis

Introduction

The purpose of this paper is to provide effective control and monitoring of health and support services offered in Dialysis Centers in accord with national regulations and to ensure that institutional communication activities are performed in line with the goals and targets of those institutions. The aim is to ensure the establishment of a standard Dialysis Quality System for organizations providing services in Turkey and evaluation of its economic contribution to the system. Standard Health Quality

System-Hospital (HQS-H) was compared and evaluated with the regulations on Dialysis Centers in Turkey, Social Security Institution's Health Practice Communiqué (HPC) and all regulations concerning health institutions in Turkey, in line with WHO targets and international quality criteria.

HQS-Hospital is considered in 5 dimensions

1- Corporate Services

2-Patient and Employee Oriented Services

3-Health Services

4- Support Services

5- Indicator Management

These dimensions are determined to cover all services provided in hospitals and all departments of the hospital based on administrative activities and persons involved in the service process.

1-Corporate Services Dimension; This is the dimension which includes section standards prepared in order to ensure the systematic execution of the activities related to the provision of quality services by creating an effective quality management structure that includes all employees in the hospital.

2-Patient and Employee Oriented Services Dimension; It is the dimension which includes section standards prepared in order to ensure the basic rights, safety and satisfaction of the patients and to ensure that the employees are in a healthy working life and to look at the services provided from the patient and employee perspective.

3-Health Services Dimension; This is the dimension which includes section standards prepared to ensure that all medical service processes given in the hospital are delivered within the scope of SKS-Hospital objectives. The departments in this dimension consist of two categories as Area and Process Based Health Services.

4-Support Services Size; This is the dimension that contains section standards prepared to provide the necessary infrastructure to ensure the safety and continuity of medical service processes.

5-Indicator Management Dimension; It is the dimension containing section standards prepared to ensure the continuous improvement of the quality by monitoring and evaluating the performance for the specified processes.

Table 1: HQS-Hospital Dimensions and Sections Table

Dimensions	Sections
CORPORATE SERVICES	Corporate Structure Quality management Document Management Risk management Security Reporting System Emergency and Disaster Management Education Management Social responsibility
PATIENT AND EMPLOYEE ORIENTED SERVICES	Patient Experience Service Access End of Life Services Healthy Work Life
HEALTH SERVICE	Patient Care Drug Management Infections Prevention Sterilization Services Transfusion Services Radiation Safety Emergency Room Operating Room Intensive Care Unit Newborn intensive care unit Birth Services

	Dialysis Unit Psychiatric Services Biochemist ry Laboratory Microbiolo gy Laboratory Pathology Laboratory Tissue Typing Laboratory
SUPPORT SERVICES	Facility Management Hotel Services Information Management System Materials and Equipment Management Medical Record and Archive Services Waste Management Outsourcing
INDICATOR MANAGEMENT	Monitoring Indicators Section Based Indicators Clinical Indicators

Table 2: HQS-Hospital (version 5) Numerical Distribution (summary)

Dimension	No of Standards	No of Evaluation Criteria
Corporate Services	58	160
Patient and Employee Oriented Services	38	98
Health Services	23 3*	640
Support Services	71	192

Indicator Management	15 7	10
Total	55 7	1100

*Dialysis unit is represented with 14 standarts in HQS-Hospital.

Some health institutions do not content themselves with the quality studies they carry out, but also want to obtain quality approval or certificate from external organizations. This trend first began in private hospitals and then spread to public hospitals. Although the numbers are not high, there are hospitals in Turkey, which were accredited by the Joint Commission International with international accreditation certificate of ISO 9001 Quality Assurance System certification field and / or the EFQM Excellence Model.

The dimensions and sub-sections of the Dialysis Quality System in line with the quality objectives are shown in Table 3.

Table 3: Dialysis Quality System Dimensions and Sections

Dimensions	Sections
CORPORATE SERVICES	Corporate Structure Quality Management Document Management Risk Management Unwanted Event Reporting Emergency and Disaster Management Education Management Social responsibility
PATIENT AND EMPLOYEE ORIENTED SERVICES	Patient Experience Healthy Working Life
DIALYSIS HEALTH SERVICES	Patient Care Drug Management Prevention of Infections Laboratory Services
DIALYSIS SUPPORT SERVICES	Facility Management Hotel Services Materials and Equipment Management Medical Record and Archive Services Waste Management Outsourcing

DIALYSIS INDICATOR MANAGEMENT	Quality Indicators Monitoring Indicators
----------------------------------	-------------------------------------------------

Standards have been established in 5 main dimensions and the sections connected to these dimensions in order to achieve the quality goals of the Dialysis Quality System.

CORPORATE SERVICES

1. Corporate Structure

Eight criteria have been formed for the Dialysis center/unit to ensure: defining the duty, authority, responsibility and communication mechanisms in order to achieve the corporate objectives; conducting and controlling the workflow within a defined organizational structure, that the health services and other support services provided at the Dialysis Center can only be offered by the persons and institutions authorized under the legislation of the country and ensuring effective control and traceability of this issue; defining the principles to guide managers and employees in terms of the organization's activities and strategic decisions by identifying the basic policies and values of the Dialysis Center; conducting corporate communication activities effectively in line with the aims and objectives of the organization. These criteria are:

1. An organizational structure should be established to cover all activities of the organization.
2. The duties, powers and responsibilities of all units and employees should be defined within the scope of the organizational structure.
3. Responsibilities should be determined for the units defined in the organization structure.
4. The mission, vision and values of the organization should be clearly and comprehensibly identified.
5. Corporate goals and objectives should be identified.
6. An action plan including implementation steps for the realization of corporate objectives and objectives should be prepared.
7. Corporate communication strategies should be defined.

8. Work on the representation and promotion of the organization in electronic media should be carried out.

2. Quality management

To define the roles and responsibilities of all personnel from the dialysis center / unit senior management to the department employees in quality improvement studies. Establishment of quality management structure. Planning, conducting and coordination of quality improvement works. 8 basic criteria have been established to ensure continuous improvement of quality. These are;

1. The structure of the quality management system should be defined.
2. There should be a Quality Management Unit.
3. Self-assessment of dialysis KS set
4. Quality assessment meetings should be held.
5. Arrangements should be made for the management of quality assessment meetings.
6. Improvement studies should be carried out for nonconformities identified within the dialysis KS set.
7. The responsibility and authority areas of the personnel regarding the quality studies should be determined.
8. Employees should use identification cards.

2. Document Management

Planning and providing in written format the processes related to the applications. Implementation of the practices in accordance with the written rules. 5 criteria have been established to ensure the efficient management of quality studies. These are;

1. There should be an arrangement for the documents in dialysis QS.
2. Arrangements should be made for external documents.
3. Arrangements should be made for the documents hanging on the panels.
4. All documents approved by the top management must be retained.
5. Documents should be archived appropriately. Rules for disposal of documents should be established.

4. Risk Management

Within the scope of dialysis patients, patient relatives, employees, facilities and environmental safety, 5 criteria are established to prevent or minimize the risks related to the services provided in the Dialysis Center.

1. Duties, authorities and responsibilities related to risk management should be defined.
2. The organization should have a regulation on the management of risks that may occur.
3. Risks within risk management should be identified and analyzed in a plan.
4. Measures should be taken on the basis of unit, occupation and / or process and improvement studies should be carried out according to the risk levels determined.
5. The effectiveness of risk management should be monitored.

5. Unwanted Event Notification System

Ensuring the reporting of undesired events that may threaten the safety of patients and employees, which do not occur at the last minute (near the end) or are about to occur and tracking these events in the dialysis center / unit. 5 criteria have been established to ensure that the necessary measures are taken for the notified events.

1. Unwanted Event Notification System must be installed
2. Dialysis Unwanted Event Notification The system should be designed in such a way that employees feel safe.
3. Employees should be given training on the Unwanted Event Notification System.
4. Notifications made to the Unwanted Event Notification System should be analyzed and improvement studies should be made according to the analysis results.
5. The opinions and suggestions of the employees regarding the notification system should be taken and the employees should be given regular feedback on the use of the system.

6. Emergency and Disaster Management

Natural disasters such as earthquakes, floods or fire, explosion, need for emergency medical intervention etc. in the dialysis center / unit. Identification of the requirements for the fastest and most effective methods. In the presence or risk of violence, or in case of violence, 10 criteria have been established to ensure that the intervention is carried out as soon as possible.

1. Tasks, authorities and responsibilities related to emergency situation and disaster management should be defined.
2. Risk assessment of emergency management should be carried out.
3. Emergency and disaster plan should be prepared.
4. Dialysis center emergency plan sketches should be available.
5. There should be an arrangement for evacuation of facilities in emergencies and disasters.
6. Trainings should be provided for emergency and disaster management.
7. Arrangement should be made for the earthquake.
8. Red code management should be arranged.
9. Fire extinguishers should be arranged.
10. Precautions against fire should be taken on building roofs.

7. Education Management

In line with the quality improvement activities of the Dialysis Center, 6 criteria have been established for the efficient and effective training of the patients, relatives and employees.

1. Dialysis center, patients, relatives and employees should be identified for training needs.
2. Training plans should be prepared in line with the training needs of the employees.
3. Compliance trainings should be organized for employees.
4. In-service trainings for employees should be organized
5. The effectiveness and effectiveness of trainings should be evaluated.
6. There should be an arrangement for the education of patients and relatives.

8. Social Responsibility

Three criteria have been established to ensure that the Dialysis Center provides health promotion and improvement services, within the framework of social responsibility to the community

1. The organization should organize programs for health promotion.
2. Health promoting and improving activities for the target population should be planned and implemented.
3. The effectiveness of the program implemented within the framework of social responsibility and the degree to attaining the planned objectives should be monitored by the organization.

PATIENT AND EMPLOYEE ORIENTED SERVICES

1. Patient Experience

13 criteria have been established in order to ensure that fundamental patient rights and patient satisfaction is guaranteed as well as the patient and her/his relatives are treated respectfully, acquire careful service by considering the services from a patient perspective.

1. Information should be provided to ensure compliance of the patient with dialysis and dialysis center
2. An effective communication environment should be established between the patient and health care workers.
3. The patient should be informed about diagnosis, treatment and care services.
4. Patient consent must be obtained before any medical intervention.
5. The patient should be given the necessary training about the care process.
6. The patient should be informed about applying to organ and tissue transplant centers.
7. Patient consent should be obtained in case of participation in research and experimental studies or use of patient's data, information and materials for any reason
8. Patient should have access to medical records related to the care process
9. Patient privacy should be ensured in all health care processes.

10. Hasta of; cultural and spiritual values.
11. Arrangements should be made for the patients' companions.
12. The opinions, suggestions and complaints of patients and their relatives should be taken and evaluated.
13. Patient feedback surveys should be conducted.

2.Healthy Working Life

11 criteria were established for Dialysis Centers from the employee perspective, in order to provide an ideal and safe working environment and infrastructure for healthcare employees.

1. Arrangements should be made for the management of human resources.
2. Processes for personnel employment should be defined.
3. Performance criteria for employees should be determined.
4. Annual targets should be determined to ensure a healthy working life.
5. Improvement efforts should be carried out for risks that threaten the health and safety of employees.
6. Employees should be screened for health.
7. Personal protective equipment should be used by employees.
8. The necessary physical and social opportunities should be provided for the development of working life and the individual needs of the employee related to the business life should be met.
9. Arrangements should be made for employees with disabled and chronic diseases.
10. Employees' opinions, suggestions, complaints should be taken and evaluated.
11. Employee feedback surveys should be implemented.

DIALYSIS HEALTH SERVICES

Dialysis Patient Care

10 criteria have been established to ensure that all patients receiving services from the Dialysis Center receive the same standard of care in a manner that ensures

patient safety and satisfaction at every stage of the patient care process and within the framework of scientific rules.

1. Processes for patient care should be defined.
2. Patients' specific medical conditions should be evaluated.
3. The care needs of patients should be evaluated with a holistic approach.
4. Effective medical follow-up of patients should be ensured.
5. The patient identity must be verified in all procedures to be performed for diagnosis and treatment
6. Studies should be carried out to prevent falls.
7. Safe transfer of the patient should be ensured.
8. There should be a regulation to monitor the nutritional status of patients
9. Processes should be defined for situations in which consultation is required.
10. There should be an arrangement for situations requiring urgent intervention.

Drug Management

In the Dialysis Center, 5 criteria have been established in order to ensure the effective management of the drugs in all processes and to minimize the risks to the patient and the employee.

1. All processes related to drug administration and the rules for these processes should be defined.
2. Rules regarding drug requests should be determined
3. Arrangements should be made for the safe administration of drugs.
4. Arrangements should be made for routine evaluation of drug stocks and mandatory drugs.
5. Traceability of drug management processes should be ensured.

Prevention of Infections

In the Dialysis Center, 13 criteria have been established to ensure effective management of the drug in all processes and to minimize the risks to the patient and the employee.

1. Arrangements should be made to prevent infections
2. There should be a program to prevent infections covering all parts of the dialysis unit.
3. Employees should be informed and encouraged about hand hygiene.
4. Hand hygiene material should be available.
5. Employees' compliance with hand hygiene rules should be evaluated.
6. Regulation regarding insulation measures should be made.
7. Rules for cleaning, disinfection, sterilization and antiseptics processes should be determined.
8. Disinfection procedures should be made.
9. Arrangements for disinfection of dialysis machines
10. Arrangements should be made to protect employees against infections caused by the working environment.
11. Health professionals should be trained on the prevention of infections.
12. Practices for prevention of infections should be monitored and necessary activities should be carried out for continuous improvement.
13. Responsibilities for the prevention of infections should be defined.

Laboratory Services

In all processes related to the laboratory services provided in the organization, 12 criteria were established to ensure patient safety and a healthy laboratory working environment for employees.

1. In order to manage the laboratory services effectively and reliably in non-laboratory processes, relevant health professionals should be informed.
2. Pre-analysis processes related to laboratory tests should be defined.
3. Processes for sample acceptance and preparation for analysis should be defined.
4. Test-based work processes should be defined
5. Control and safe use of materials, devices and equipment in the laboratory should be ensured.

6. Internal quality control studies of laboratory tests should be performed.
7. External quality assessment studies should be conducted for laboratory tests.
8. Arrangement should be made for test result reports.
9. Test results should be determined.
10. Timely and effective reporting of panic values should be ensured.
11. The rules for archiving the samples, test data and results should be determined.
12. The traceability of processes related to laboratory tests should be ensured.

DIALYSIS SUPPORT SERVICES

Facility Management

18 basic criteria are formed for providing the physical conditions and technical infrastructure of the dialysis center which are continuous, safe and easily accessible for the patients, their relatives and employees.

1. Physical adjustment should be made for the dialysis center.
2. Rutin Building tours should be done.
3. Precautions should be taken to prevent falls from the plant.
4. Arrangements should be made to facilitate access to the organization and the units within the organization.
5. Emergency outputs should be ensured to be effective and functional.
6. Functional arrangements should be in place for older and severely disabled people.
7. Transportation service should be provided for dialysis patients
8. There should be parking for the use of employees and patients.
9. Water, electrical energy and medical gas services should be provided continuously.
10. Arrangements should be made for the safe use of elevators.
11. Arrangement for the control and maintenance of the ventilation system
12. Arrangements should be made for the safety of electrical systems.

13. Arrangements should be made for the safe use of water tanks.
14. Regulation should be made for medical gas systems.
15. Arrangements shall be made for compressed gas containers.
16. Maintenance of pressure vessels such as autoclaves, steam boilers, compressors, steam turbines, heating boilers should be done at regular intervals and annual inspections should be performed.
17. Arrangements should be made to control the pure water produced in the dialysis unit.
18. Precision weighing system should be available.

Hospitality Services

Increasing the safety and satisfaction of patients, relatives and employees by ensuring the continuity and effectiveness of cleaning in all areas of the dialysis center / unit. To keep the morale and motivation of the patient / patient's relatives in a safe and comfortable environment during their stay. 9 criteria have been established in the dialysis center / unit to ensure the protection of the life and property of patients / relatives and employees effectively.

1. The rules for cleaning the establishment should be defined.
2. The organization should be cleaned
3. Appropriate physical conditions for kitchen services should be provided.
4. Processes for the provision of laundry services should be defined.
5. Physical arrangements should be made for the laundry.
6. Adjustment should be made for the physical areas used by the patient and relatives.
7. During the medical care process, patients should be provided with easy access to health personnel when necessary.
8. Arrangements should be made for personal cleaning areas.
9. Waiting areas should be clean and comfortable.

Materials and Equipment Management

In the Dialysis Center, 8 basic criteria were established to ensure the provision of materials and devices required for health services and the safe, efficient and effective use of these materials and devices.

1. The effective management of devices and all kinds of materials should be ensured.
2. Arrangements shall be provided for the provision of devices and all kinds of materials.
3. Arrangements shall be made for the storage and transfer of materials.
4. Traceability of medical devices should be ensured.
5. Maintenance, adjustment and calibration of medical devices should be done for safe use.
6. Device failure notification and repair processes should be defined.
7. The people who will be using equipments that require special technical expertise, like dialysis machine, autoclave, generator, etc., should be given relevant training.
8. Safe Use of Bedside Testers should be ensured.

Medical Records and Archive Procedures

4 basic criteria are established for the efficient, accurate and timely creation of the medical records of the patients, their safe storage with a systematic archiving system, and the timely access to all kinds of information and documents related to the patient care process.

1. Medical records and archives should be regulated.
2. Information privacy and security should be ensured in accessing medical records
3. Patient files must have a standard file content with a fixed file number.
4. Arrangements should be made for the functioning of archive services.

Waste Management

5 basic criteria have been established to prevent harm to human and environmental health, from the formation of the wastes at the dialysis center to the final disposal of the wastes to the competent organization.

1. Arrangements for waste management should be made.

2. Waste should be separated at the source.
3. Wastes should be collected and transported in a way that does not harm the safety of patients and employees.
4. Waste should be stored in temporary storage areas until delivery.
5. Training on waste management should be provided to the health employees.

Outsourcing

In order to increase the quality and effectiveness of the services provided by the dialysis center / unit, 2 general criteria have been established in order to ensure that the services provided through outsourcing are provided in compliance with the basic policies and values of the organization and in line with the targets determined in the Health Quality Standards.

1. The scope and processes of services provided using external resources should be defined.
2. Arrangements should be made to control the services received through the use of external resources.

Dialysis Indicator Management

Examination of Indicators

7 criteria have been established to contribute to the continuous improvement of quality by monitoring the performance of the service offered within dialysis services.

1. Arrangements for measurement through indicators, evaluation and improvement should be made.
2. Quality indicators to be monitored at the dialysis center should be determined.
3. Processes should be defined for each indicator to be monitored at the dialysis center.
4. The data collection process for indicators should be regulated.
5. Data should be analyzed at intervals determined according to the characteristic of the indicator.
6. Necessary improvement activities should be planned and implemented as a result of the analysis of indicators.

7. The results of the indicators should be sent to the electronic database created by the relevant ministry.

Quality Indicators

Necessary criteria have been established to monitor and improve the service processes and the outputs obtained as a result of these services with concrete data through quality indicators for HQS sections.

These consist of 8 criteria for Service Quality Indicators and 21 criteria for Dialysis Clinical Quality Indicators.

Dialysis Service Quality Indicator Criteria

1. Corrective / Preventive Activity Completion Rates
2. Falling Patient Rate
3. Cutting / Piercing Tools Injury Rate
4. Personal Training Participation Rate
5. Realization Rate of Planned Trainings
6. Number of Drug Errors
7. Hand Hygiene Compliance
8. Blood and Body Fluid Exposure Rate

Dialysis Clinical Quality Indicator Criteria

1. The rates of hemodialysis patients with Kt / V less than 1.2 or URR less than 65%
2. Patient Ratio with Serum Phosphorus Level Above 5.5 mg / dl
3. Patient Ratio with Serum Adjusted Calcium Level Between 8.4-9.5 mg / dl
4. Patient Ratio with Albumin Levels Below 3.5 g / dl
5. Ratio of patients with $Ca \times P$ levels below 55
6. Mean Hemodialysis Time
7. Ratio of Patients with Mean Hb Levels Between 10-13 mg / dl
8. Vitamin D usage rate.

9. Erythropoietin Usage Rate
10. Patient Ratio with Serum Ferritin Level Between 100-800 ng / ml
11. Arterio-Venous Fistula (AVF) Rate
12. Arterio-Venous Graft (SVG) Ratio
13. Patient Rate with Permanent Catheter
14. Patient Rate with Temporary Catheter
15. Proportion of Catheter Infection in Patients with Permanent Catheter
16. Proportion of Catheter Infection in Patients with Temporary Catheter
17. HBsAg (+) Patient Ratio
18. Anti-HCV (+) Patient Rate
19. Ratio of Completed Laboratory Tests
20. Rate of Water System Microbiological and Biochemical Analysis
21. Mortality Rate

Result

While there are 16 standards in the HQS-Hospital Set (Version 3) used in dialysis units since 2008, the number of dialysis services in the revised HQS-Hospital Set (Version 5), 14 criteria has been made compulsory in all private and public hospitals contracted with SSI.

In the proposed Dialysis QS, 40 standards related to Dialysis Health Services have been determined for all dialysis centers / units, and this has become able to cover the dialysis regulations of the Ministry of Health and SSI agree