DOI: 10.34108/eujhs.1332514

SAĞLIK BİLİMLERİ DERGİSİ
JOURNAL OF HEALTH SCIENCES
Erciyes Üniversitesi Sağlık Bilimleri Enstitüsü Yayın Organıdır

Derleme 2024; 33(1): .145-153

A REVIEW ON HEALTHCARE QUALITY INDICATORS AND UNEXPECTED EVENTS APPROACHES IN GERMANY AND TÜRKİYE
ALMANYA VE TÜRKİYE'DE SAĞLIKTA KALİTE İNDİKATÖRLERİ VE BEKLENMEYEN OLAY YAKLAŞIMLARI ÜZERİNE BİR DERLEME

Oğuzhan ÖZMEN[1], Hatice Semrin TİMLİOĞLU İPER[2]

[1]*Istanbul Okan University, Graduate School, Health Management Doctoral Program, Istanbul*
[2] *Istanbul Okan University Hospital, Department of Ophthalmology, Istanbul*

ABSTRACT

Evaluation of quality studies in order to ensure patient safety is possible by measuring quality. "Quality Indicators" are used for this. In order to determine indicators and for realistic measurements, detecting and reporting unexpected events that have arisen on the basis of these indicators reveal invaluable results for the development of health systems. Germany, which is a developed country and a member of the European Union, and Türkiye, which is a developing country on the way to the European Union, were compared in the focus of quality indicators and unexpected events in focus of "Quality Practices in Healthcare" in study. It is aimed to recognize the Quality of Health Care as a result of comparative evaluation, to discuss the positive and negative aspects of the two countries' quality indicators and their approaches to unexpected events, and to suggest alternative methods for application updates. In conclusion; In Germany, the Quality Program can be defined as a "Data-Based Quality Program with Wide Participation". Hospitals are encouraged for Unexpected Event Notifications in Germany, they are directed towards quality, and quality competition which created in healthcare services. However, when the payments and financial concerns are taken into consideration, it is felt that this competition cannot be achieved only by publishing the quality indicators to the public. Although a very good level has been achieved in the system that will enable the use of quality indicators in Türkiye, there are problems in unexpected event notification, use of quality indicators and sharing of results.

Keywords: Health care quality, health care quality indicators, unexpected event

ÖZ

Hasta güvenliğini sağlamak amacıyla kalite çalışmalarının değerlendirilmesi kalitenin ölçülmesi ile mümkün olmaktadır. Kalitenin ölçülmesi için "Kalite İndikatörleri" kullanılmaktadır. Kalite indikatörlerinin belirlenmesi ve gerçekçi ölçümlerin yapılabilmesi için ise bu indikatörler temelinde ortaya çıkmış olan beklenmeyen olayların tespit edilmesi ve bildirilmesi neticesinde kalitenin ölçülmesinin mümkün hale gelmesi sağlık sistemlerinin geliştirilmesi için çok değerli sonuçlar ortaya koymaktadır. Bu çalışmada "Sağlıkta Kalite Uygulamaları" kalite indikatörleri ve beklenmeyen olaylar odağında, Avrupa Birliği üyesi ve gelişmiş ülke konumundaki Almanya ile Avrupa Birliği yolunda ilerleyen ve gelişmekte olan bir ülke konumundaki Türkiye karşılaştırılmıştır. Çalışmada Sağlıkta Kalite Uygulamalarının karşılaştırmalı değerlendirme neticesinde tanınması, iki ülkenin kalite indikatörleri ve beklenmeyen olaylara yaklaşımlarının olumlu ve olumsuz yönlerinin tartışılması ve uygulama güncellemeleri için alternatif olabilecek yöntemler önerilmesi amaçlanmıştır. Sonuç olarak; Almanya'da Kalite Programı "Geniş Katılımlı Veri Temelli Kalite Programı" olarak tanımlanabilir. Almanya'da Beklenmeyen Olay Bildirimleri için hastaneler özendirilmekte, kaliteye yöneltilmekte, sağlık hizmetinde kalite rekabeti oluşturulmaktadır. Ancak ödemeler ve finansal kaygılar göz önüne alındığında bu rekabetin sadece kalite göstergelerinin halka ulaştırılmasıyla sağlanamayacağı hissedilmektedir. Türkiye'de kalite indikatörlerinin kullanılmasını sağlayacak sistemde çok iyi bir seviye yakalanmış olmasına rağmen beklenmeyen olay bildirimi, kalite indikatörlerinin işletilmesi ve sonuçların paylaşılması hususlarında aksaklıklar hissedilmektedir.

Anahtar kelimeler: Sağlıkta kalite, sağlıkta kalite indikatörleri, beklenmeyen olay

Corresponding Author: Dr. Oğuzhan ÖZMEN, ogozmen @stu.okan.edu.tr, 0000-0001-6635-2285, Istanbul Okan University, Graduate School, Health Management Doctoral Program, Istanbul

Authors: Assistant Professor, Hatice Semrin TİMLİOĞLU İPER, semrin.iper@okan.edu.tr, 0000-0003-2112-0602

Makale Geliş Tarihi : 25.07.2023
Makale Kabul Tarihi: 11.02.2024

INTRODUCTION

One of the most important focuses of quality management in health services is patient safety and medical errors. In order to ensure safety, it is necessary to prevent medical errors and ensure patient safety by continuously evaluating the structure, process and output based on the understanding of "To Err is Human".

Quality and patient safety issues are a universal reality of healthcare delivery. Every year, an estimated 15,000 to 35,000 in-hospital deaths occur as a result of medical error in USA. Despise trends of quality and safety are reported frequently at level of national or international as cost and error, understanding relationship and challenges of quality and safety is more important and more obligatory.[1]

Patient safety can be defined as "protection from unintentional and preventable injuries caused by medical care," and it has been a critical component of the healthcare system and quality for a long time. However, data suggest that patient safety behaviors can be taught and improved in terms of medical professionals and teams. But same data has shown that these behaviors can be forgotten in one year as well. According to recent researches, consolidating patient safety improvement through instilling a patient safety culture among hospital healthcare professionals as well as enhancing an organizational culture focused on learning from mistakes and avoiding a blame culture is critical.[2]The level of healthcare quality is critically dependent on patient safety. To consistently improve the level of care, health organizations need to improve own safety cultures.[3]

Patient safety culture, as defined by the Joint Commission, is "the product of individual and group beliefs, values, attitudes, perceptions, competencies and patterns of behavior that determine the organization's commitment to quality and patient safety".[2]

Evaluation of quality processes in order to ensure patient safety is possible by measuring quality. Although the measurement of quality varies from country to country, health systems, reimbursement systems, service delivery steps and structure of demographic also shape "Quality Indicators" in healthcare area. In order to determine the quality indicators and to make realistic measurements, it is possible to measure the quality as a result of detecting and reporting the unexpected events that have arisen on the basis of these indicators, revealing very valuable results for the development of health systems.

In patient care, critical incidents (CIs) are unexpected events that may reach patients and thus threaten "Patient Safety". Therefore, unexpected events are important to report .Instead of blaming culture, Critic Incidents Reporting System (CIRS) is the most process for safety culture. CIRS data provides an overview of the characteristics of reported incidents, their contributing factors, their consequences, and their actions taken to prevent future incidents.[4]

In this study, Germany, which is a member of the European Union and a developed country, and Türkiye, which is a developing country on the way to the European Union, were compared in the focus of quality indicators and unexpected events in "Quality Practices in Healthcare", which vary according to health policies and health systems. We aimed to recognize the Quality of Healthcare as a result of comparative evaluation, to discuss the positive and negative aspects of the two countries' healthcare quality indicators and their approaches to unexpected events in health practices and to suggest alternative methods for application updates for healthcare quality indicators by comparison.

MATERIAL AND METHOD

In this study, we examined the data that have been reported and reached in the last 20 years by OECD, federal and national statistic corporations and health service providers and obtained from scientific studies on this subject. In addition, the literature and the publications of governmental and non-governmental organizations on the healthcare quality were examined, thus a compilation study focused on quality indicators and unexpected events in healthcare services.

We used OECD Health Data and filtered for only Healthcare Quality Indicators shared by Germany and Türkiye. We considered the data that was fully shared by both countries, which would give us an idea about information sharing on Healthcare Quality Indicators. Moreover, our motivation for selecting the data and selection details was explained in the section which was compared the two countries.

Although the most important priority in the provision of healthcare services is to provide healthcare services without harming to patients, it is a fact that patients expose to many adverse events during healthcare in health centers. These events should not be ignored, should be recorded, measured, analyzed and fixed.

It is undeniable that the first step of a safe health service delivery is the creation of a leadership and patient safety culture. But patient safety doesn't just mean reducing medical errors.

RESULTS

Quality of healthcare

According to World Health Organization (WHO) "Quality of Healthcare" is to increase the probability of improving healthcare services to the desired level for individuals and communities. This must be based on absolutely evidence-based knowledge.[5]

While US National Academy of Sciences Institute of Medicine defines the quality of healthcare as "safety, effectiveness, patient-centeredness, timeliness, efficiency and equity", US Agency for Healthcare Research and Quality defines it as "doing the right thing at the right time, with the right method, to achieve the best possible outcome for the right patient".[6]

Quality indicators

Quality is a phenomenon that is evaluated qualitatively but expressed quantitatively. It can be analyzed and evaluated using specified quality indicators. Quality Indicators are one of the tools used to monitor and control the effectiveness of the quality management system on the basis of "accurate measurement and continuous quality improvement".[7] Healthcare Quality Indicators serve for users such as patients, service providers and health policy makers to make decisions based on the quality of care. Single indicators measure quality from specific aspects, whereas measuring quality as a whole requires a multidisciplinary study and the creation of indicator sets.[8]

Unexpected Event (Sentinel Event)

The most serious medical errors to be reported in the field of patient safety are unexpected events. When we look at the accreditation criteria developed by Joint Commission International (JCI) for hospitals, it is seen that the unexpected event (sentinel event) is related to many standards of the "Quality and Patient Safety" section, and there are many measurable standards that directly cover the unexpected events in this section. According to JCI, the central management should have a process for identifying and managing sentinel, adverse, non-hazardous and near miss events to deal with system problems that could cause harm to patients, staf for visitors in health care centers. s. It is important to focus on system-level factors that contribute to the development of the event rather than on individual error.[9]

It is the fact that; despite the principle of "Primum Non Nocere (First Do No Harm) in medicine, healthcare professionals know that events that cause harm to the patients occur every day in healthcare providers. These events should not be ignored, they should be recorded, measured, analyzed and fixed.[10]

Unexpected events, that are critical incidents in patient care, are related in quality of medical care, because of threatening patient safety. By allowing reporting and analysis of such events, critical incident reporting systems are expected to induce organizational learning from these events and near misses to improve the safety of healthcare organizations before a sentinel event happens.[4] "Incident Reporting In Healthcare" refers to collecting health care incident data with the aim of improving quality of patient safety. Standardization and reporting are the main challenges in quality improvements.[4,11] This occurs due to the fear of legal ramifications, blame, shame or guilty of punishments, lack of time for reporting, loosing of details with time and as a result of not having an easy reporting system. It is recommended to implement comprehensive Reporting System in health services in all developing countries in order to drive good medical practice and to ensure patient safety and the quality of care. This should begin with the development of an incident reporting policy for each county and upper hand has to be taken centrally by establishing quality governance unit at the Ministry of Health.[11]

We should know that; Though Donabedian establish own quality theory as "Structure, Process and Outcome", he defined high quality of healthcare as remaining of "well-being of patients" after taking into account whole income and other expenses.[12] Express of "well-being of patients" has been used for emphasizing on not only healthiness situation but also patient safety.

Germany's Approach to Quality of Healthcare Based on Quality Indicators and Unexpected Events

System of healthcare quality in Germany as a European Union member

The European Union (EU) referred to the modern, sensitive and sustainable health system by addressing the issue of "Quality in Health" in order to increase the effectiveness of investing in health in the member states council meeting held for the first time in 2011 under the leadership of Hungary. As a result of this guidance, member states agreed in 2014 that they could play a greater role in healthcare services and investing by improving knowledge on how to measure and evaluate the performance of the health system. They founded the "Group of Experts" aiming to develop the "Health System Performance Evaluation". Group of Experts started to work openly to all EU member countries, European Free Trade Association (EFTA) countries consisting of Iceland, Liechtenstein and Norway, OECD, WHO European Regional Office and the European Observatory of Health Systems and Policies. This expert group allowed each country to present the health care quality system adopted according to its own experience, rather than attempting a unique definition and study of health care quality in EU member states. However, he wanted each country to adopt the general health service quality study and measurement methods of OECD countries as a reference point within the framework of their own experiences.[13] As a result of this process, the UN reached the following conclusions;

Quality Indicators do not measure quality, they show whether the service delivery is high, sufficient or insufficient quality. This express requires quality indicators to be understood in a broad context and means that no single indicator should be evaluated on its own.

1. Process indicators and result (output) indicators must be evaluated together.
2. The use of old data may reduce the explanatory power and the period of the data should be in intervals that allow comparison.
3. Data must be based on health information system.

Eventually, EU accepted definition of quality, which was developed by Donabedian (1919-2000) and accepted by the OECD, consisting of "Structure, Process and Output" components. In the report prepared by the "Expert Group" for the European Union, as the quality components in the structure that should be taken as a basis within the scope of the "Health System Performance Evaluation"; Effectiveness, Safety, Responsiveness, Patient Centeredness, Accessibility, Efficiency and Equity were accepted. The structure simplified by the OECD with six dimensions as Effectiveness, Efficiency, Accessibility, Patient-Centered, Safety and Equity has been widely accepted in EU countries (Figure 1).

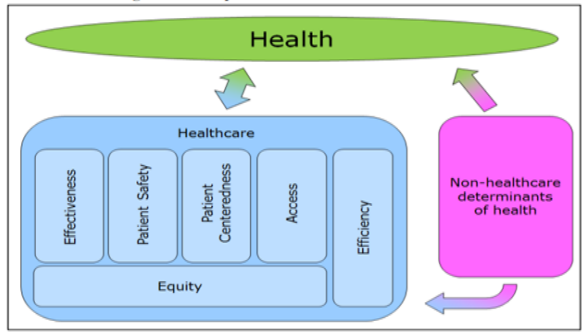


Figure 1: Simplified Form of the OECD Health Services Performance Evaluation Structure.[13]

In member countries, quality standards have been used for different purposes, and Germany initially used quality standards to investigate and prevent undesirable results by establishing and following some diagnosis-related hospital reimbursement plans. In Germany, doctors, dentists, hospitals and the "Federal Joint Committee", which is the most important decision-making body

of the health reimbursement system and supervised by the Federal Ministry of Health, 1clearly did not accept the use of the quality model in all its details.

The German Federal Joint Committee limited the efficiency and equity dimensions of the 6 dimensions in the concept of Donabedian.[8] Therefore, the equality dimension in Germany is considered outside the working area of the Federal Joint Committee. It may also mean that Quality Indicators are evaluated by the Federal Joint Committee only as the main components of "Structure, Process and Output". Germany is an example that keeps its Quality Indicators constant in order to make time-dependent comparisons among EU, but makes updates over time according to newly developing clinical and diagnostic situations.

Unique Quality indicators and unexpected event approaches in healthcare for Germany

Germany has focused more on improving the quality of health services with its recent laws such as the "Law for Further Improvement of Quality in Financial Structures and Statutory Health Insurance" in 2014 and the "Law on Strengthening of Health Services" in 2015.[14]

In Germany, "Association of the Scientific Medical Societies in Germany" (Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften-AWMF), "German Medical Association" (Bundesärztekammer-BÄK) and "National Association of Statutory Health Insurance Physicians" (Kassenärztliche Bundesvereinig-KBV) are working together for publishing National Care Guide (Nationale Versorgungsleitlinien-NVL). This guide is especially aimed at increasing the quality of treatment of diseases such as asthma, diabetes, Chronic Obstructive Pulmonary Disease, Congestive Heart Failure. AWMF publishes the "Oncology Guide Program" working with the "German Cancer Aid Association", to improve the quality of cancer treatment.[15]Furthermore, there are "Disease Management Programs", which are submitted by the studies from AWMF together with other scientific and medical professional organizations for other chronic diseases and different patient care activities. These programs contend demands and studies that will play a role in improving the quality of care and treatment for each disease group.

The AWMF is represent for 182 medical occupational association and KBV is represent for almost 185,000 medical workers such as physicians, experts, dentists etc. in 2023. In Germany AWMF and KBV are the most important and comprehensive occupational associations represented in Federal Joint Committee (FJC).

FJC (Gemeinsamer Bundesausschuss, G-BA), was founded according to modernization law in health in 2004, control federal and state self-governing partners according to laws and account to Federal Health Ministry (Figure 2).[16]

FJC (G-BA) determine and conduct requirement of hospital education and expertism education of medical personnel such as physicians, dentists and nurses. FJC determine require ments of reducing complex procedures in health system as well. Patient safety, prevent of no socomial infections, expert level outpatient services, requirement of disease quality programs, quality regulation of processes, evaluation of new treatment, medicine and drug to hold circumstances for negotiations to reimbursement systems and processes, determine procedures for rehabilitation are some of FJC's responsibilities.

Thanks to these comprehensive responsibility and authority, FJC has the ability to provide quality assurance at expert level through a multi-participant organization.

Plenum of FJC, as a general board, consists of representatives from healthcare providers (Associations of hospitals, physicians, dentists etc.), representatives from statutory health insurance providers, patient representatives and impartial members (Figure 3).

One of impartial members is assigned by FJC as chairman. The chairman conducts Plenum with other impartial members. There are nine subcommittees as Subcommittee on Drug Therapy, Non-Drug Therapy, Hospital Treatment, Methods and Quality Assurance, Vaccination, Disease Management Programs, Organ Transplantation, Hospital Hygiene and Infection Prevention, Medical Devices.[17]

Germany has been buying service on quality assurance, quality framework, evaluation of new treatment models, developing, implementing and evaluating of new quality indicators, developing and implementing healthcare providers and patient surveys, data managing services since 2010. Institute for Applied Quality Improvement and Research in Health Care (AQUA) was the first corporation which worked on quality improvement for FJC until 2016.[18] In 2016, due to certain legal requirements, FJC found own foundation company named "Institute

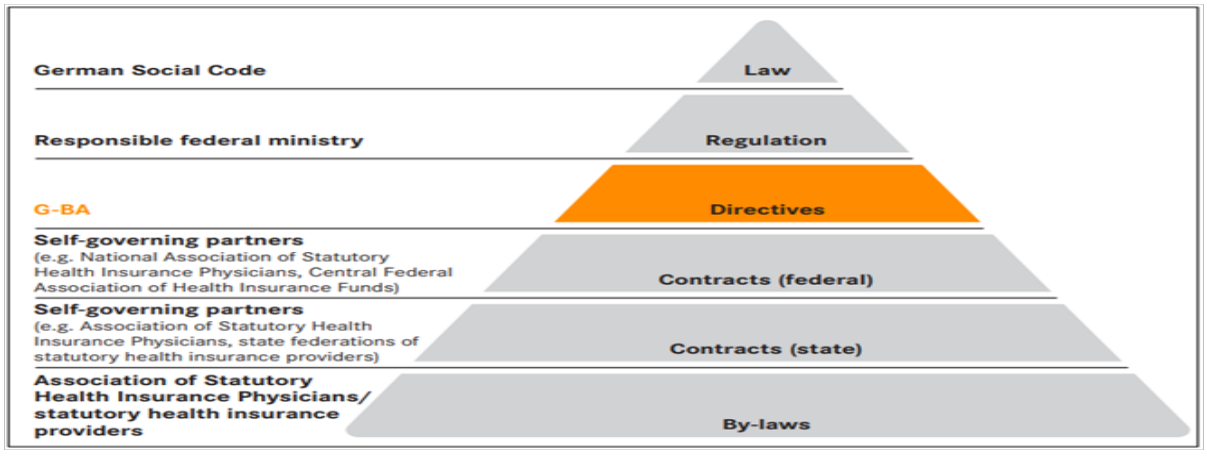


Figure 2: Statutory Status of FJC (G-BA).[6]

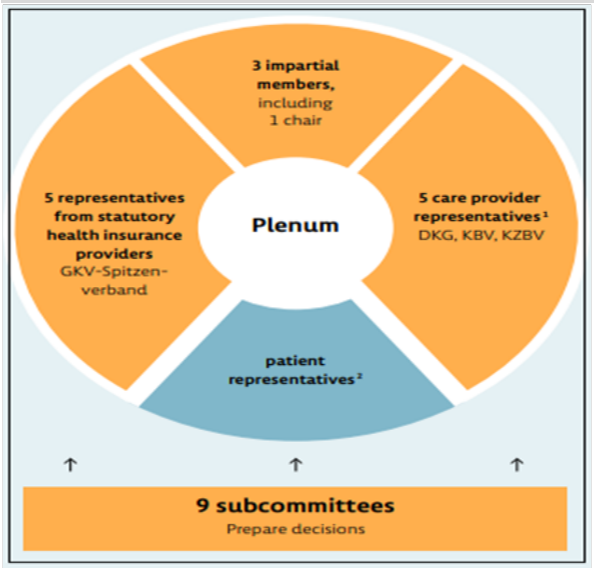


Figure 3: Plenum Organization of FJC.[17]

for Quality Assurance and Transparency in Health Care" (IQTiG).[19] Managing Board of IQTiG consists of representatives from healthcare providers and representatives from statutory healthcare insurance providers. The activities of IQTig are conducted independently by FJC officers and other autonomous members. Hence IQTiG provides comprehensive and scientific source for healthcare quality to FJC and Federal Ministry of Health.[20]

Starting in IQTiG, Healthcare Quality Process continue with arrangements in FJC, and National Care Guide is published with contribute by AMWF. This guide includes mostly chronic disease such as asthma, diabetes, COPD and Congestive Heart Failure. Apart from, AMWF studies for a number of diseases managing programs with specialty groups for submitting to FJC.

Hospitals, both as providers of quality recommendations and as data providers, are the basic units in the quality system with the participation of all components from management to departments, from employees to patients. From this point on, data collection and transmission, in the healthcare quality process, are sent to State Quality Assurance Management Offices in 16 states, and if legally possible, to AQUA offices in the State. The unsuitable data analyzed here is sent back to the source, while the appropriate results are shared with hospitals through the State Administration Offices. Analyses in Federal Level are carried out in IQTiG and are shared with FJC. Thus, FBK reports and enforces the results of implementation and evaluation of Federal Level Quality Standards to each unit providing health care (Figure 4).

As we mentioned before in this data evaluation and analysis process, FJC does not consider the dimensions of efficiency and equity within its scope of duty. Since "efficiency" is not seen as a diagnosis-related dimension, it is included in the evaluation indirectly for the quality system. And "equity" plays a indirect role in the quality program due to be included of the Risk Assessment model.[17] This difference valid for development end improving of healthcare quality indicators as well. FJC, making decisions continually on clinical areas, treatment processes and diseases, applies a process with three steps in carrying out indicators. In first step, international publics are searched, the second step is the RAND/UCLA multidisciplinary application.

In final of panel, indicators are evaluated, developed and adapted giving different on demographic change and risk evaluations. This application also allows the regional comparison of hospitals.[17]

More than 400 Quality Indicators are used in 30 clinical areas in Germany. Chosen 11 indicators on Breast Surgery, Obstetric and Gynecologic Surgery are used performance evaluation of hospitals at once of the year.[21] Performances of over 1600 hospitals are published publicly in three system though internet; these systems are Qualitatssicherung mit Routinedaten (QSR), Initiative Qualitatsmedizin (IQM) and Qualitatskliniken.[22]

Performance uses for an ideal aim as quality improver in Germany. Hospitals which are determined and published low performance, are interaction and dialogued by quality authorities and they can keep an opportunity for improving their healthcare quality, and are controlled more frequently.[23]

"Türkiye's Approach" Based on Quality Indicators and Unexpected Events

Healthcare quality system covers all of the healthcare providers in Türkiye, whether government or private. System is in force all for three level health services as outpatient, hospital and higher. With the Health Trans-

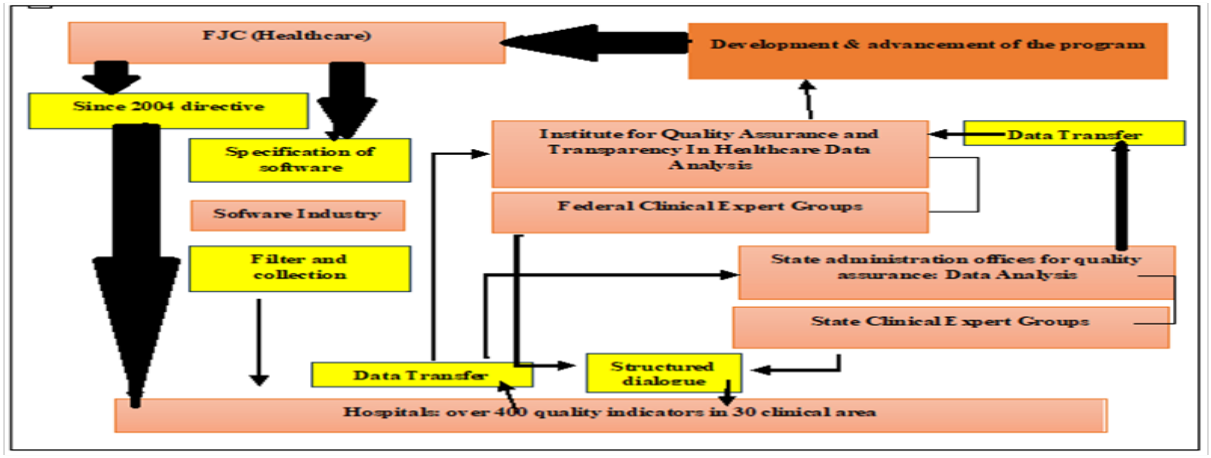


Figure 4: Germany Data-Based Quality Assurance Program Process

formation Program in Türkiye, Ministry of Health has focused on "Quality in Health" since the 2000s, referring to the sixth dimension of this program (Figure 5).

After "2003 Performance System on Additional Wage" and "2005 Corporation Performance System and Improvement of Quality Studies", in Türkiye, "Health Services Basic Law No. 3359"was published by The Grand National Assembly of Türkiye this law ordered quality in healthcare and forced Ministry of Health on Regulating Quality and Standardization for whole health corporations in articles 3th and 9th. Ministry of Health published "Health Performance and Quality Directive" in 2010. This directive contained only health corporation of ministry and quality was evaluated with performance in this directive. In 2011, was published Regulation on ensuring Patient and Employee Safety. This regulation had evaluated quality of healthcare just in terms of safety.

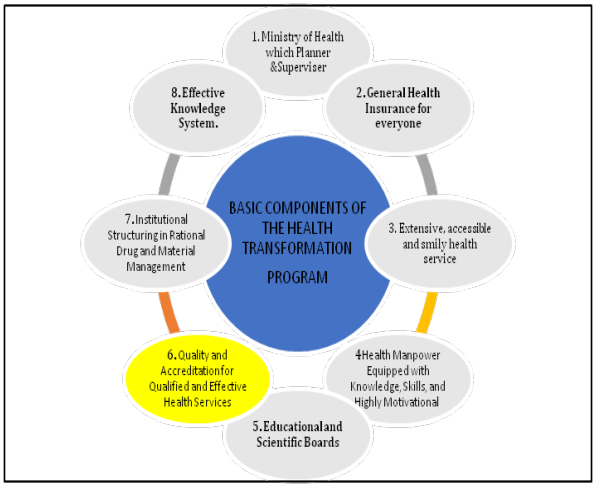


Figure 5: Basic components of the health transformation program inTürkiye

Regulation on Evaluating and Improvement of Quality of Healthcare Services was published in 2013, and it contained" Sets of Standards of Quality on Health (SQH)-Hospital, Oral and Dental Health Center, Ambulance Services, Dialysis". Eventually, Regulation on Evaluating and Improvement of Quality of Healthcare Services was updated in 2015. Today, whole regulation of healthcare quality is managed by General Directorate of Health Services of Ministry of Health, Department of Health Quality, Accreditation and Employee Rights.[24]

"Continually Quality Improvement in Healthcare" was targeted in "Health Transformation Program" by Ministry of Health in Türkiye. Furthermore, in order to determine the current situation and measure clinical quality, Ministry launched "Clinical Quality Program of Türkiye" in 2012. Program contained only public hospital initially, but by time, it covered all type (private, University etc.) hospitals and healthcare corporations.[12] There are three frameworks for healthcare quality system in Türkiye. These are Clinical Quality, Health Service Quality and Corporate Structure. From Ministry of Health to Provincial Health Department, whole corporate structure is built according to this framework. Clinical Quality differ from public health laboratory services and ambulance services in terms of evaluation of quality.[25] Clinic Quality consist of definition, measurement, evaluation, improvement and regulation. Moreover, it is a gradual process. This gradual process forms technologic framework of hospital information management system, decision support systems, statistics modules and health literacy form the basis of data flow systems.[12] Clinic quality of outpatient services is evaluated by provincial quality commission, while second and third level healthcare provider's clinic quality is evaluated by quality directorate and clinic quality committee in control of chef physician of hospital. All of evaluations are transmitted to "Ministry of Health General Directorate of Health Services Department of Quality in Health, Accreditation and Employee Rights" as central authority by Provincial Coordinator of Healthcare Quality.[25]

Within the scope of healthcare service quality, Standards of Healthcare Quality (SHQ) and Standards of Clinic Quality (SCQ) indicators are developed by experts from Ministry of Health Services. Development process cover to platforms of comments and suggestions on clinic and healthcare. And these platforms are important dimension for developing of SHQ Sets. Standard sets are developed on ambulance services, home health, dialysis, laboratory services etc. separately. Standards are prepared on the basis of current scientific resources, policies and priorities, in line with international standard development algorithms.

Türkiye has determined the SHQ Targets to include the WHO's patient safety targets in the Health Quality Standards as patient safety, patient focused, healthy working life, continuity, efficiency, effectiveness, productivity, relevance, timeliness, fairness.[26]

Quality measurements and unexpected (sentinel) event reporting are made in "Corporate Quality System" as intranet system. Although the data entry periods are determined by the institutions, the analyses is determined separately according to the characteristics of each indicator in this system. When there are deviations from target values, "Root Cause Analysis" is performed, and corrective actions are initiated by health corporations. In light of all these, the targeted success in quality studies is achieved by increasing the level of quality and efficiency in all health facilities across the country. In this process, data processors, statisticians, relevant specialist physicians, relevant managers and healthcare professionals work together under the coordination of the Ministry of Health in Türkiye.[12]

Comparison of Türkiye and Germany In Terms Of Healthcare Service Quality Indicators and Unexpected Event Approaches

Publication of hospital quality results in Germany, open accessible, contributes to the quality improvement of hospitals with low quality levels, while it has the opposite effect in healthcare institutions with high quality levels. Hospitals with average quality tended to show minor changes. It has been observed that financial profitability is also effective in the motivation created by the disclosure of quality results. In addition to the publication of quality results, financial motivation was also considered to be important in studies.[23]

When we look at OECD statistics, it is seen that Turkiye published the results of Health Care Quality indicators in the years 2015-2017, and Germany regularly published indicators related to patient safety and patient experience, as well as health care indicators from 2011

to 2020. We filtered OECD healthcare quality data as 2015 and 2017 because of both of country has shared fully healthcare indicators in these years. For these years, both Türkiye and Germany had shared primary care data for 15 years old and over patients with Asthma, COPD, Congestive Heart Failure, Hypertension and Diabetes, thus we consider about these group and illnesses. We filtered OECD statistics table for these situations.

As indicators of Healthcare Quality in 2015 and 2017, the number of Asthma, COPD, Congestive Heart Failure, Hypertension and Diabetes patients who applied to the hospital in primary care were shared. Asthma and COPD patients applied to the hospital more frequently in primary care in Türkiye, but this figure was higher for Germany in patients with Congestive Heart Failure, Hypertension and Diabetes. This can be interpreted in different ways, from taking more responsibility in primary care for Asthma and COPD in Türkiye to more testing, diagnosis and treatment opportunities for heart diseases and endocrinological disorders in primary care in Germany (Table 1 and 2).

However, quality measurement is not just a measurement consisting of numbers; it is the conclusions that can be reached as a result of analyses with multidisciplinary evaluations. The indicators reported by Türkiye in primary care are both limited to the years 2015-2017 and do not seem to include the reporting of structural and process-oriented criteria such as patient safety and patient experiences.

Germany has made progress in patient safety by recording a decrease in postoperative prolonged surgical events, pulmonary embolism and postoperative deep vein thrombosis (DVT) after 2016, when legal regulations were made regarding the publication of unexpected events and health care quality indicators in the country. However, Germany failed to progress in postoperative injuries and postoperative sepsis events. In fact, the possibility that injury and sepsis events are more likely to be included in unexpected event reports should also be carefully considered. However, Türkiye does not seem to share data on these issues in OECD statistics (Table 3).

Table 1: Comparison for Türkiye and Germany on Primer Healthcare Quality Indicators for five diseases in 2015 (Per 100,000 patients).[26]

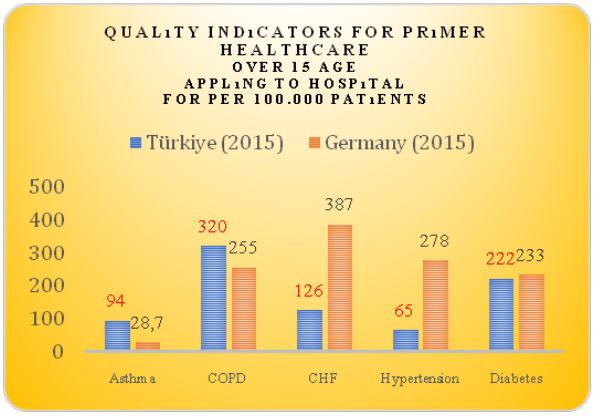


Table 2: Comparison for Türkiye and Germany on Primer Healthcare Quality Indicators for five diseases in 2017 (Per 100,000 patients).[26]

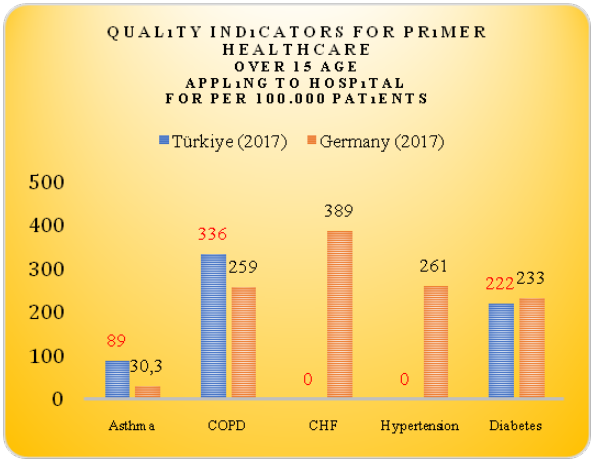
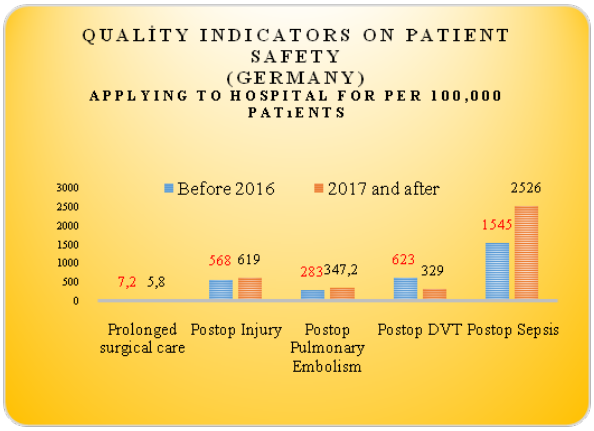


Table 3: Quality indicators on patient safety of Germany before 2016 and after 2017.[27]



In Türkiye, as independent on healthcare quality publications, in 2022 "Series of Patient Safety" published by ministry of health healthcare services general directorate, it was published that DVT was emerged approximately 10-40% for inpatients.[25] This rate is 9-10 times higher than inpatient DVT cases reported in Germany.

In Germany, an average of 3.2 million unexpected events were reported from 1557 hospitals using 434 and 416 indicators respectively in 2013 and 2014. This rate corresponds to approximately 20% of the total number of hospitalized patients.[21] Furthermore, results of healthcare quality measures also are published as regularly and officially through website of AWMF in Germany.

In Türkiye, generally unexpected events carry out due to inadequate number of physicians, number of nurses and time of medical examinations. However, these events are expressed as statistics of healthcare such as "number of physician, nurse and hospital bed per a patient".

Authority of Germany Healthcare include healthcare quality systems whole partners of health system in the country such as healthcare providers, healthcare quality corporations and nongovernmental unions of medical workers or patients, while Türkiye Ministry of Health include only official departments such as patient rights and occupational rights departments, however medical occupational nongovernmental corporations or unions have not been included to activities adequately.

While Türkiye use 10 healthcare quality standards as

patient safety, patient focused, healthy working life, continuity, efficiency, effectiveness, productivity, relevance, timeliness, fairness, Germany consider Efficiency and Equity out of healthcare quality standards. Germany healthcare quality system suggest that efficiency affecting economic situation, equity affecting risk evaluation affect healthcare quality system indirectly.

Healthcare quality indicators are updated once of year regularly in Germany and there are approximately 400 indicators. However, every indicator has got a timeline and period for being updated in Türkiye. Indicators are evaluated by official and scientific partners when it comes to evaluating period. Evaluating and updating of healthcare quality indicators is the living process in both Germany and Türkiye.

DISCUSSION

Healthcare quality system is identified as "Data-Based Quality Program with Wide Participation" in Germany. From the determination of the quality indicators to data acquisition, data flowing, data analysis, being used of data and updating, this system is carried out by the Federal Joint Commission under the German Federal Ministry of Health. FJC's structure provides participation of all representatives of the health sector, especially health care providers, insurance and reimbursement institutions, patients. Hospitals and other health providers are encouraged for healthcare quality applies and notices of unexpected events in Germany.[28] Thanks to publishing of these results on quality, patients are leaded to the most quality services for themselves. And these activities carry out competition in health services and sector. However, considering the payments and financial concerns, it is also felt in Germany that this competition can't be achieved only by publishing result of quality indicators to the public, and it is seen that there is an increase in the probability that financial concerns can prevent unexpected event notifications and quality data sharing.

It is seen that a very good level has been achieved in the creation of quality data that will enable the use of quality indicators, recording of data, and theoretical planning of the quality system in health in Türkiye. However, there are negative aspects about data entry, unexpected event notification and sharing of results.

If measures are not taken to encourage quality and SHQ operation for the employees and the groups that operate the system, it seems likely that the disruptions will make data collection and sharing more and more impossible in a short time due to the snowball effect in Türkiye. Fortunately, Ministry of Health of Republic of Türkiye activates healthcare institutions and employees on healthcare quality, thanks to a comprehensive department organization that addresses service quality, accreditation and employee safety issues as a whole under the most comprehensive general directorate organization, the General Directorate of Healthcare Services. The planning, organization, direction, information systems and control infrastructure of this planning and supervisory department encourages all health institutions in the country to share quality data recently.

In both Germany and Türkiye, unexpected event notifications and healthcare quality results should be evaluated independent from financial concerns.

CONCLUSION

Both Germany and Türkiye have got systematic, applicable, based on structure, process standardized output and continuous healthcare quality system. Both of countries use quality sets and indicators which are accepted internationally. Goals have been achieved in reporting of adverse events and quality of care errors in both of them. It has been observed that in both countries, errors in areas where there were problems in notification could not be corrected. It is evaluated that the phenomenon of quality in healthcare services has matured in the historical process in both Germany and Türkiye, and is accepted as an important health issue, but more intensive studies are needed to encourage healthcare professionals in unexpected event reporting and patient safety.

Ethics Committee Approval: Not need due to the methodology of study.

Informed Consent: Informed consent was obtained from all adolescents and their parents who participated in this study.

Peer-review: Peer-Review was completed.

Author Contributions: Conceptualization–OÖ, HSTİ; Design–OÖ, HSTİ; Supervision–HSTİ; Sources–OÖ; Materials–OÖ; Data Collection and/or Processing–OÖ; Analysis and/or Interpretation–OÖ; Literature Review–OÖ; Written by–OÖ, HSTİ; Critical Review–HSTİ.

Declaration of Interest: The authors declare no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding: There is no funding by any corporation or institute.

Acknowledgements: The authors would like to extend their sincere thanks to anyone who contributed to this study.

Etik Kurul Onayı: Çalışma metodolojisinden dolayı gerek görülmemiştir.

Bilgilendirilmiş Onam: Çalışma metodolojisinden dolayı gerek görülmemiştir.

Hakem Değerlendirmesi: Dış bağımsız

Yazar Katkıları: Fikir-OÖ, HSTİ; Tasarım-OÖ, HSTİ; Denetleme-HSTİ; Kaynaklar-OÖ; Veri Toplanması ve/veya İşlemesi-OÖ; Analiz ve/veya Yorum-OÖ; Literatür Taraması-OÖ; Yazıyı Yazan-OÖ, HSTİ; Eleştirel İnceleme-HSTİ.

Çıkar Çatışması: Yazarlar bu makalenin araştırılması, yazarlığı ve/veya yayınlanmasıyla ilgili herhangi bir potansiyel çıkar çatışması beyan etmemektedir.

Finansal Destek: Herhangi bir kurum yada işletme tarafından fonlanmamıştır.

Teşekkür: Yazarlar bu çalışmaya katkıda bulunan herkese en içten teşekkürlerini sunarlar.

REFERENCES

1. Colón G. D. R., Wu A., Ratliff J.K., Prolo L. M. Quality and patient safety research in pediatric neurosurgery: A review. *Child's Nervous System*. 2023;39:1147-1158. doi:10.1007/s00381-022-05821-z.
2. Agbar F., Zhang S., Wu Y., Murtada M. Effect of patient safety education interventions on patient safety culture of health care professionals: Sys-

tematic review and meta-analysis. *Nurse Education In Practice.* 2023;67:103565. doi:10.1016/j.nepr.2023.103565.
3. Zabin L.M., Zaitoun R.S.A., Sweity E.M., Tantillo de L. The relationship between job stress and patient safety culture among nurses: A systematic review. *BMC Nursing*. 2023;22(1):39. doi:10.1186/s12912-023-01198-9.
4. Goekcimen K., Schwendimann R., Pfeiffer Y., Mohr G., Jaeger C., Mueller S. Addressing Patient Safety Hazards Using Critical Incident Reporting in Hospitals: A Systematic Review. *Journal Of Patients Safety*. 2023;19(1):e1. doi:10.1097/PTS.0000000000001072.
5. Quality of care. World Health Organization. [Online] 06 13, 2023. https://www.who.int/health-topics/quality-of-care#tab=tab_1.
6. Elation. What exactly does quality mean in the healthcare context? Elation. [Online] 06 13, 2023. https://www.elationhealth.com/resources/blogs/what-exactly-does-quality-mean-in-the-healthcare-context.
7. Vuk T. Quality indicators: A tool for quality monitoring and improvement. *ISBT Science Series*. 2012; 7(1):24-28. doi:10.1111/j.1751-2824.2012.01584.x
8. Schang L., Blotenberg I., Boywıtt D. What makes a good quality indicator set? A systematic review of criteria. *International Journal for Quality in Health Care.* 2021;33(3):1-10:mzab107. doi:10.1093/intqhc/mzab107.
9. Joint Commissionn International. [book auth.] JCI. 2021;173-178. JCI Acreditation Standarts (General Hospitals) Illinois.https://www.jointcommissioninternational.org/-/media/jci/jci-documents/accreditation/hospital-and-amc/jci-errata-standards-only_7th-ed-hospital.pdf
10. Akgün S. Hasta Güvenliği, Beklenmeyen Ciddi Tıbbi Hatalar -Sentinel Olaylar-Sentinel Events in Healthcare. Sağlık Akademisyenleri Dergisi. 2014;1(2):75-82. https://dergipark.org.tr/tr/pub/sagakaderg/issue/46755/586410#article_cite
11. Fernando S., Bandara T., Makani P. Are Incident Reporting Systems in Healthcare Systems a Requirement for Improving Patient Safety? A Review. *International Journal of Health Systems Resilience.* 2023;(2):1-10. doi:10.51595/INJHSR22/019.
12. Koca M., Köksal A., Deniz S. A Cross-sectional Investigation of Physicians' Perspectives on Clinical Quality Practices in a Training and Research Hospital. *Journal Of Health Institutes of Turkey.*2023;(6):1-7. doi:10.54537/tusebdergisi.1213118.
13. European Union. SO WHAT? Strategies across Europe to assess quality of care. Luxembourg : Publications Office of the European Union, 2016.
14. Der Gemeinsame Bundesausschuss. (The Federal Joint Committee: Who we are and what we do). [Online] 06 08, 2023. https://www.g-ba.de/english/structure/.
15. The legal status of the G-BA. G-BA. Official. [Online] 06 09, 2023. https://www.g-ba.de/downloads/17-98-2850/GBA_Rechtsstellung_08-04-2013_engl.pdf.
16. The Federal Joint Committee. Who we are and what we do for your health. s.l. : Gemeinsamer Bundesausschuss, 2022.
17. The AQUA Institute. SQG. [Online] 06 09, 2023. https://sqg.de/front_content.php?idcat=170.
18. IQTiG. Organisation der Stiftung. IQTiG. [Online] 06 10, 2023. https://iqtig.org/das-iqtig/wer-wir-sind/organisation-der-stiftung/.
19. IQTiG Was wir tun. Was wir tun. IQTiG. [Online] 06 10, 2023. https://iqtig.org/das-iqtig/was-wir-tun/.
20. IQTiG Datenerfassung und Auswertung. Datenerfassung und Auswertung. IQTiG. [Online] 06 11, 2023. https://iqtig.org/qs-instrumente/planungsrelevante-qualitaetsindikatoren/.
21. Pross C., Geissler A., Busse R. Measuring, Reporting, and Rewarding Quality of Care in 5 Nations: 5 Policy Levers to Enhance Hospital Quality Accountability. *The Milbank Quarterly*. 2017;95(1):136-183. doi:10.1111/1468-0009.12248.
22. Bayındır E.E., Schreyögg J. Public Reporting Of Hospital Quality Measures Has Not Led To Overall Quality Improvement: Evidence From Germany. *Health Aff.* 2023;42(4):566-574. doi:10.1377/hlthaff.2022.00470.
23. Republic of Türkiye ministry of health. Sağlıkta Dönüşüm. Ankara : TC Sağlık Bakanlığı, 2003.
24. General Directorate of Health Services of Ministry of Health, Department of Health Quality, Accreditation and Employee Rights. TC Ministry Of Health. [Online] TC Ministry Of Health, 2023. [Cited: 12 10, 2023.] https://shgmkalitedb.saglik.gov.tr/TR,6031/mevzuat.html.
25. SKS Hastane. Ankara : TC Sağlık Bakanlığı Sağlık Hizmetleri Genel Müdürlüğü, 2020.
26. OECD. OECD. [Online] 06 14, 2023. https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_HCQI#.
27. Republic Of Türkiye Ministry of Health. SKS Serious Of Patient. Prevention of hospital related thromboembolism. Ankara : (Republic Of Türkiye Ministry of Health) https://shgmkalitedb.saglik.gov.tr/Eklenti/44559/0/01hastane-iliskili-venoz-tromboemboliler-rehberi--10122022pdf. 2022,p. 9.
28. Blümel M, Spranger A, Achstetter K, Maresso A, Busse R. Germany: Health System Review. *Health Syst Transit*. 2020;22(6):1-272.https://pubmed.ncbi.nlm.nih.gov/34232120.