

Evaluating Hospital Performance: international experience and possible adaptations for Morocco

Évaluation de la Performance Hospitalière : expériences internationales et adaptations possibles au Maroc

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Abstract:

This article presents an in-depth comparative analysis of international hospital performance evaluation systems, with a particular focus on the Moroccan context. Based on an extensive narrative literature review drawing from a wide range of academic and institutional sources, it identifies key practices, tools, and indicators implemented in reference countries such as France, Germany, the United States, and the United Kingdom. These systems aim to monitor quality of care, hospital efficiency, and patient satisfaction through diverse regulatory and institutional mechanisms, while reflecting each country's specific healthcare priorities. The study highlights the diversity of governance models and the influence of historical, political, and cultural factors in shaping national strategies. Special attention is given to evaluation frameworks, measurement indicators (mortality rates, average length of stay, patient satisfaction, resource utilization), and accountability mechanisms. The Moroccan case is examined in light of these international experiences, with the aim of identifying improvement opportunities and strategic levers to strengthen the national hospital performance evaluation system. The analysis emphasizes the importance of harmonizing practices and establishing a coherent methodological framework adapted to the local context, in order to support the efficiency and quality of healthcare services. Drawing on international best practices, the article proposes actionable recommendations to enhance institutional governance, invest in human capital, and adopt advanced digital tools for data collection and analysis. By promoting an inclusive and context-sensitive approach, the study seeks to balance global efficiency standards with local realities and contribute to the creation of a structured, transparent, and sustainable national framework for evaluating hospital performance.

Keywords: Hospital performance; Evaluation; international benchmarking; Quality of care; Moroccan health system

Classification JEL: I18, H75, P46.

Paper type: Theoretical Research

1. Introduction

In a global context marked by rapid transformation of healthcare systems, the rise of chronic diseases, and increasing financial pressures, the issue of hospital performance evaluation has become a key concern for public decision-makers, managers, and researchers. Hospitals today face a dual challenge: on the one hand, responding effectively to ever-increasing demand for care and, on the other, ensuring optimal use of limited resources. This issue is all the more crucial as hospital systems must cope with an epidemiological transition marked by an aging population, an increase in chronic diseases, and recurring health crises such as the COVID-19 pandemic. These developments reinforce the need to put in place robust evaluation mechanisms that not only ensure continuity and quality of care, but also anticipate and manage health and organizational risks (Porter, 2010; Arah, Westert, Hurst & Klazinga, 2006).

For several decades, many countries have developed institutional mechanisms to measure and manage hospital performance. These initiatives take the form of national or regional programs that use a variety of tools, including clinical audits, accreditation and certification processes, inter-hospital benchmarking, and performance incentive systems (OECD, 2017; Pomey, Contandriopoulos, François & Bertrand, 2005). Beyond the diversity of approaches, these programs share common objectives: to ensure continuous improvement in the quality of care, to contain costs, and to further integrate the perspective and experience of patients into the overall evaluation of the health care system (Donabedian, 1988; World Health Organization, 2018).

Numerous studies have focused on evaluating hospital performance, highlighting the diversity of approaches used depending on the context. Several studies have relied on traditional indicators such as mortality, morbidity, average length of stay, and hospital costs (Arah et al., 2003; Kelley & Hurst, 2006). Other studies have broadened this perspective by incorporating additional dimensions, such as perceived quality of care, patient safety, and user satisfaction, which are considered key determinants of overall performance (Manary, Boulding, Staelin & Glickman, 2013; Doyle, Lennox & Bell, 2013). In addition, international comparisons, conducted in particular under the auspices of the World Health Organization (WHO) and the Organization for Economic Cooperation and Development (OECD), have made it possible to develop analytical frameworks and benchmark indicators aimed at harmonizing evaluation practices and promoting learning between health systems (WHO, 2000; OECD, 2019). These studies show that hospital performance evaluation is now seen not only as a measurement tool, but also as a strategic lever for improving governance, enhancing transparency, and guiding public health policy.

Beyond these studies, recent literature particularly highlights the importance of indicators related to governance, transparency, and patient experience, which complement traditional approaches. This development is part of the broader context of new public management (NPM), which promotes the adoption of management methods from the private sector in order to improve the efficiency of public services, including hospitals. From this perspective, patient satisfaction appears to be a strategic indicator, situated at the intersection of technical, relational, and organizational dimensions, and is now a major lever for improving overall performance (Vuori, 1991; Kruk & Freedman, 2008).

In Morocco, interest in hospital performance evaluation is fully in line with this international trend, while also responding to specific national challenges. The country faces significant challenges: regional disparities in access to care, budgetary constraints, epidemiological transition, and growing public expectations in terms of quality and safety. Several recent reforms have been undertaken to strengthen the efficiency and performance of the hospital system, but their success depends largely on the implementation of appropriate evaluation mechanisms that take into account specific national institutional, economic, and social

characteristics (Ministry of Health, 2021). These reforms focus in particular on the regionalization of healthcare provision, the strengthening of hospital governance, and the generalization of medical coverage, as part of the national social protection program launched at the instigation of the royal family. These transformations underscore the urgent need for a national performance evaluation system that is both adapted to local realities and aligned with international standards.

Based on these findings, the central question of this research can be formulated as follows: **how can international approaches to hospital performance evaluation be adapted to the specific characteristics of the Moroccan healthcare system?**

To answer this question, we adopted a structured literature review approach, the methodology of which will be presented in detail in a specific section.

The article is structured as follows: the second section presents the theoretical and conceptual framework for hospital performance evaluation. The third section provides an overview of international experiences and best practices. The fourth section analyzes the Moroccan program and its specific features. The fifth section is devoted to the methodology and approach of the literature review. Finally, the sixth section offers a comparative analysis between Morocco and international models, in order to identify lessons and perspectives adapted to the national context.

2. Conceptual Framework for Hospital Performance Evaluation

2.1. Definition of the concept of hospital performance

The concept of hospital performance remains complex and multifaceted, and there is no universal consensus on it in scientific literature. Depending on the authors and institutions, it can be defined either as the technical and economic efficiency of an institution, or as its ability to guarantee high-quality, safe, accessible care that is tailored to the needs of patients and society (Arah, Klazinga, Delnoij, Asbroek & Custers, 2003). This diversity reflects the plurality of expectations among stakeholders: policy makers, hospital managers, healthcare professionals, and users.

One of the seminal contributions in this field is Donabedian's model (1988), which distinguishes three fundamental dimensions for assessing quality and, by extension, performance: structures (resources and organization), processes (clinical practices and professional interactions), and outcomes (health status, satisfaction, safety). This framework, which is still widely used, provides a major conceptual basis for understanding hospital performance in a systemic way.

For their part, international institutions have contributed to broadening the debate. The World Health Organization (2000) defined the performance of a health system as its ability to improve the health of the population, meet the legitimate expectations of citizens, and ensure equitable financing. Applied to hospitals, this concept emphasizes that performance cannot be reduced to economic efficiency alone: it also includes social, ethical, and institutional dimensions. Similarly, the Organization for Economic Cooperation and Development (OECD) has proposed evaluation frameworks based on standardized indicators, enabling comparison between countries and promoting collective learning (Kelley & Hurst, 2006; OECD, 2019).

Starting in the 2000s, new approaches emerged to address the limitations of previous models. Porter (2010), with the concept of value-based healthcare, put forward the idea that performance should be measured in terms of value produced for the patient, i.e., the relationship between the health outcomes achieved and the resources mobilized. This approach refocuses evaluation by placing the patient and their outcomes at the center, beyond simple indicators of activity volume or costs.

Finally, several researchers (Arah et al., 2006; Kruk & Freedman, 2008) emphasize the need for an integrated approach combining multiple dimensions: economic, clinical, organizational,

and relational. This systemic vision highlights the dynamic and contextual nature of hospital performance, which should be understood not as a fixed notion, but as an evolving concept reflecting changes in healthcare systems and contemporary social expectations.

In summary, hospital performance can be defined as an integrative framework that articulates economic, clinical, organizational, and social dimensions in a logic of continuous improvement. It thus goes beyond a simple logic of productivity to include the value created for patients and society, making it a central strategic concept in the evaluation of healthcare systems today.

2.2 Core Theoretical Approaches

The evaluation of hospital performance is not based on a single conceptual approach, but on a variety of theoretical frameworks drawn from public management, management sciences, and health economics. These approaches make it possible to understand performance not only from a technical perspective, but also as an organizational and strategic construct, integrating managerial, clinical, and societal dimensions.

2.2.1 New Public Management (NPM)

New Public Management provides an essential framework for understanding the reform of public organizations. Developed in the 1980s, it advocates the introduction of mechanisms inspired by the private sector, such as managerial accountability, performance-based evaluation, and the dissemination of strategic management tools (Hood, 1991; Gruening, 2001). In the hospital sector, these principles translate into the implementation of performance contracts, the accreditation of institutions, and the use of dashboards to measure efficiency. However, several authors point out the limitations of an approach that is overly focused on profitability, which risks reducing the social missions of hospitals (Pollitt & Bouckaert, 2017; Saltman & Duran, 2015).

2.2.2 The Balanced Scorecard (BSC)

Developed by Kaplan and Norton (1992), the Balanced Scorecard (BSC) is a strategic management framework that evaluates performance across four perspectives: financial, customers (patients), internal processes, and organizational learning. Its application to the hospital sector has made it possible to broaden the assessment beyond purely economic considerations, incorporating quality of care, patient satisfaction, and capacity for innovation (Inamdar, Kaplan & Bower, 2002; Zelman, Pink & Matthias, 2003). Several studies have shown that the BSC, when adapted to medical realities, is an effective tool for aligning clinical objectives with the strategic orientations of hospitals (Chan, 2004).

2.2.3 International institutional frameworks (WHO, OECD)

International institutions have also played a decisive role in conceptualizing hospital performance. The World Health Organization (2000) proposed a comprehensive framework defining the performance of health systems based on three objectives: improving health status, meeting the legitimate expectations of citizens, and ensuring equity in financing. The Organization for Economic Cooperation and Development (OECD), for its part, has coordinated several programs aimed at developing standardized indicators that can be compared between countries. The report by Smith, Mossialos, Papanicolas, and Leatherman (2009) has contributed in particular to consolidating a theoretical framework for measuring the performance of health systems, highlighting the methodological challenges associated with the comparability and interpretation of indicators.

2.2.4 The value-based healthcare approach

More recently, Porter (2010) proposed a redefinition of hospital performance through the

concept of value-based healthcare, which evaluates performance based on the value created for the patient, defined as the ratio between the health outcomes achieved and the resources used. This approach places clinical outcomes and patient experience at the heart of the evaluation, breaking with a logic focused solely on the volume of activity. It has been enriched by the work of Porter and Lee (2013), who advocated for the reorganization of care into integrated units, and by the Triple Aim framework of Berwick, Nolan, and Whittington (2008), which articulates improving the patient experience, improving population health, and controlling costs. These different frameworks, although derived from varied theoretical backgrounds, converge on one essential point: hospital performance is a multidimensional concept that cannot be understood through a single measure. They offer complementary approaches, NPM emphasizes accountability and efficiency, BSC provides an integrated vision of management, international organizations provide a framework for comparability, while the value-based healthcare approach refocuses evaluation on patient outcomes. Together, they form a robust conceptual basis for analyzing and evaluating the performance of hospitals.

2.3 Methods for measuring hospital performance

The issue of measuring hospital performance is one of the most hotly debated topics in the literature, as it determines the credibility of evaluation systems and their ability to guide effective public policy. Unlike other sectors, hospitals do not only produce economic or financial results, but also clinical, organizational, and social effects that are difficult to reduce to numbers. Thus, the literature distinguishes between several methods, each with its own strengths and limitations, and whose articulation is now a methodological imperative.

2.3.1 Traditional quantitative approaches

Quantitative approaches rely on administrative and medical data, collected systematically by healthcare institutions. They enable the establishment of standardized indicators such as risk-adjusted mortality rates, average length of stay, bed occupancy rates, and average cost per patient (Iezzoni, 1997; Jarman et al., 1999). These methods are widely used in hospital systems because they allow for comparability between institutions and internationally. However, their main limitation is their reductive nature: they provide a partial picture of performance, focusing on technical effectiveness and economic efficiency, without reflecting the full complexity of the patient experience.

2.3.2 Qualitative approaches

Qualitative methods aim to capture more subjective and relational aspects of performance. They rely on satisfaction surveys, individual interviews, focus groups, and direct observation of care pathways. These tools provide a better understanding of perceived quality, communication between caregivers and patients, and overall feelings about care (Doyle, Lennox & Bell, 2013). The major contribution of these methods is that they give a voice to users and professionals, which makes it possible to identify areas for improvement that would not be visible through numerical data. However, these approaches pose challenges in terms of statistical representativeness and are sometimes criticized for their subjectivity and low international comparability (Pomey et al., 2004).

2.3.3 Mixed approaches

Aware of the limitations of an exclusively quantitative or qualitative approach, many researchers recommend the use of mixed methods (Creswell & Plano Clark, 2011). These consist of combining objective data (quantitative indicators) and subjective data (qualitative feedback) in order to obtain a more complete picture of hospital performance. For example, a hospital can track its readmission rate (quantitative) while collecting patient feedback on the causes of these readmissions (qualitative). This combination allows the figures to be

contextualized and improves the relevance of managerial decisions. Mixed methods are now seen as an essential lever for strengthening the legitimacy of evaluation processes.

2.3.4 External assessments and certifications

Beyond internal measures, hospital performance is also assessed through external certification and accreditation processes. These systems, such as those run by the Joint Commission International (JCI, United States) or the Haute Autorité de Santé (HAS, France), are based on visits by experts, document audits, and interviews with stakeholders (Pomey et al., 2004; JCI, 2021; HAS, 2014). They aim to ensure compliance with predefined quality and safety standards. These methods provide institutional recognition and enhance transparency vis-à-vis the public. However, they are sometimes criticized for their bureaucratic nature and for the risk that they may be perceived as an exercise in compliance rather than a genuine lever for continuous improvement.

2.3.5 International benchmarking and cross-country comparisons

Finally, benchmarking methods make it possible to compare hospital performance between different countries or regions. The OECD and WHO, for example, have developed standardized indicator systems, which are incorporated into comparative reports such as *Health at a Glance* (OECD, 2019). These international comparisons facilitate the identification of best practices and promote a dynamic of collective learning. They play a key role in disseminating innovations in hospital management. Nevertheless, they pose the problem of contextual heterogeneity: the indicators used do not always have the same meaning depending on the structures, medical cultures, and socioeconomic contexts.

Ultimately, there are many complementary methods for measuring hospital performance. Quantitative approaches provide rigor and comparability, qualitative approaches give a voice to users and professionals, mixed methods integrate both dimensions, while certifications and international benchmarking place performance in a normative and comparative perspective. The current trend is to favor integrated and pluralistic approaches that capture the complexity of hospital systems while meeting the requirements of transparency, efficiency, and equity.

2.4 Determinants and indicators of hospital performance

Hospital performance cannot be reduced solely to the figures provided by traditional indicators. It is shaped by a set of internal and external determinants that directly influence the results obtained, while also being translatable into measurable indicators. The relationship between these two levels, determinants as structural factors and indicators as monitoring tools, provides an essential conceptual framework for understanding and managing hospital performance.

2.4.1 Internal determinants and associated indicators

Internal determinants refer to factors specific to the organization and operation of hospitals.

- **Human resources:** the competence, availability, and commitment of healthcare professionals are one of the main drivers of performance. Several studies show that insufficient nursing staff is associated with increased mortality and decreased patient satisfaction (Aiken et al., 2002). Related indicators include the nurse-to-patient ratio, staff turnover, absenteeism, and job satisfaction surveys.
- **Governance and management:** the way in which an institution is managed influences its ability to achieve its objectives, establish a culture of quality, and empower its teams. Clear and participatory governance is associated with better organizational performance (Denis & Forest, 2012). Indicators include the existence of quality committees, the adoption of certification processes (HAS, JCI), and the periodic evaluation of strategic plans.

- **Infrastructure and technology:** the modernization of technical facilities and access to medical innovations directly affect the quality and safety of care (WHO, 2018). Indicators include the ratio of medical equipment per bed, the availability of cutting-edge technologies (MRI, scanners, surgical robots), and the rate of digitization of medical records.

2.4.2 External determinants and associated indicators

External determinants stem from the institutional, regulatory, and socioeconomic environment in which hospitals operate.

- **Public policy and financing:** Institutional reforms and financing models (global budget, activity-based pricing, performance-based financing) directly influence the degree of flexibility available to institutions (Saltman & Duran, 2015). Indicators include the share of hospital spending in the national health budget, the public/private distribution of funding, and financial incentives linked to quality.
- **Socioeconomic and demographic context:** The level of economic development, the territorial distribution of resources, and demographic aging influence hospital demand and supply (Kruk & Freedman, 2008). Indicators include the number of beds per capita, medical density by region, life expectancy, and the prevalence of chronic diseases.
- **Social and cultural expectations:** beyond technical criteria, performance is also shaped by social perceptions of healthcare and changing public expectations. In several countries, patient satisfaction is now considered a strategic indicator on a par with clinical outcomes (Doyle, Lennox & Bell, 2013). Indicators include the results of national satisfaction surveys, complaint or claim rates, and stated confidence in hospital institutions.

Table 1: Overview of hospital determinants and indicators

Category	Determinants	Related indicators
Internal	Human resources	Nurse-to-patient ratio; turnover rate; absenteeism; job satisfaction
	Governance and management	Existence of quality committees; certification (HAS, JCI); monitoring of strategic plans
	Infrastructure and technology	Number of pieces of equipment per bed; availability of MRI/scanners; electronic medical records
External	Public policy and financing	Share of healthcare budget; public/private funding; quality-related incentives
	Socioeconomic and demographic context	Number of beds per capita; medical density; life expectancy; chronic diseases
	Social and cultural expectations	Satisfaction surveys; complaint rates; trust in hospitals

Source: Compiled by the author from various sources (Aiken et al., 2002; WHO, 2018)

Hospital performance is therefore the result of a complex combination of internal determinants (human resources, governance, infrastructure) and external determinants (funding, public policy, socio-economic context, and social expectations). These determinants, translated into indicators, not only make it possible to evaluate results but also to understand their causes. Integrating them into a common conceptual framework promotes a more comprehensive approach to evaluation, going beyond the simple measurement of outputs to include the structural and contextual conditions of performance.

3. International Overview of Hospital Performance Evaluation Programs

3.1 Countries with Centralized, State-Regulated Health Systems

In certain European countries, the structure of the healthcare system is based on strong state regulation, with powerful public agencies dedicated to the planning, financing, and quality control of care delivery. In these contexts, hospital performance evaluation is generally managed at the national level through certification programs, standardized indicators, and inspection visits.

This centralization offers several advantages, such as better coordination of health policies, harmonization of evaluation criteria, and the development of a culture of transparency across the entire territory. However, it may also lead to certain challenges, including managing administrative burdens and accounting for local specificities (demographics, geography, and resource availability).

In this subsection, we analyze four major examples, France, the United Kingdom, Denmark, and Sweden, whose health systems are largely centralized and supported by strong public agencies. We will examine how national organizations, such as the “Haute Autorité de Santé” (HAS) in France or the Care Quality Commission (CQC) in the United Kingdom, play a pivotal role as guarantors of quality and safety in healthcare.

3.1.1 France

In France, hospital performance evaluation is primarily based on two key mechanisms: the certification of healthcare institutions, implemented and supervised by the “Haute Autorité de Santé” (HAS, 2014), and the COMPAQ-HPST project, which develops and tests quality indicators to promote continuous improvement.

➤ Certification: A Process Supervised by the HAS

Established in 1996 (initially referred to as "accreditation") and entrusted to the “Haute Autorité de Santé” in 2004, certification aims to verify healthcare facilities' compliance with a national reference framework and to promote quality and patient safety (HAS, 2014). The current framework covers two major areas:

- Hospital management (organization, risk management, resource allocation)
- Patient care (patient rights, medical records, continuity of care)

The certification process involves three key steps:

1. **Self-assessment** by the hospital, reviewing its organization and practices;
2. **On-site visit** conducted by HAS-appointed experts to compare declared practices with field reality;
3. **Scoring and publication of a report**, including a rating that ranges from full certification to non-certification.

Beyond regulatory compliance, certification encourages facilities to implement corrective actions and to foster a culture of continuous improvement. Certain key indicators, such as hospital-acquired infection rates, discharge letter transmission time, and appropriate antibiotic use, are integrated into this process. Data are collected regularly and publicly reported on the HAS website.

Several academic studies have assessed the impact of this system. Pomey et al. (2004) describe certification as a tool for organizational change, strengthening quality culture, although its effects vary significantly across hospitals. Minvielle (2006) emphasizes the difficulty of transforming certification into a genuine lever of managerial innovation, pointing out the risk of bureaucratic overload and “formal compliance” rather than deep structural change.

➤ ***The COMPAQ-HPST Project: Indicators to Improve Quality***

The COMPAQH initiative (Coordination of Measurement and Improvement of Hospital Performance), extended under the name COMPAQ-HPST, aims to deepen performance evaluation by developing more targeted and comparable quality indicators across hospitals (Minvielle et al., 2008).

The project follows a structured methodology:

- Selection of relevant indicators (based on literature review and consultations with healthcare facilities);
- Field testing of feasibility;
- Progressive validation.

Themes include patient safety, pain management, continuity of care, coordination, and secondary prevention. Over time, new topics were added in alignment with national health priorities (e.g., emergency care, pain management).

Validated indicators are made available to all institutions, accompanied by practical tools (data collection protocols, methodological guides). A key focus of the COMPAQ-HPST project is internal ownership: hospitals are encouraged to analyze their compliance gaps, identify success factors (training, awareness), and assess the real impact of these indicators on professional practices (Minvielle et al., 2008).

France thus promotes a complementary approach to hospital performance evaluation: on the one hand, certification supervised by HAS, which sets a common standard and ensures national visibility of healthcare quality; and on the other hand, COMPAQH/HPST, which designs more specific indicators and fosters a dynamic of improvement driven by practitioners themselves. These two mechanisms illustrate the public authorities' intent to balance external control and internal improvement, in order to sustain high-quality standards in French hospitals. However, the literature highlights the challenge of striking the right balance between transparency, comparability, and administrative simplification, so as to prevent bureaucratic overload that could hinder the transformative potential of these programs (Arah et al., 2006; Minvielle, 2006).

3.1.2 United Kingdom

In the United Kingdom, hospital performance is primarily driven by the National Health Service (NHS) and overseen by the Department of Health, with support from an independent body: The Care Quality Commission (CQC). Historically, the CQC published annual reports (such as the Annual Health Check and NHS Performance Rating) assessing both the quality of care and hospitals' financial management (Bevan & Hood, 2006).

➤ ***Reform and the Role of the National Quality Board (NQB)***

Since 2010, the reform titled Equity and Excellence: Liberating the NHS restructured the NHS around the principles of quality through the QIPP agenda (Quality, Innovation, Productivity, and Prevention). This led to the creation of the National Quality Board (NQB), bringing together key health actors such as the CQC, (NICE), and Monitor. Emphasizing a culture of safety (through incident reporting) and individual accountability among healthcare professionals, the NQB deliberately avoids using a single set of indicators to prevent hospitals from focusing solely on predefined targets (Department of Health, 2010; Smith & Dixon, 2013).

➤ ***From Global Evaluation to Risk Profiling***

Rather than producing a universal dashboard, the CQC develops a customized Quality and Risk Profile (QRP) for each healthcare institution. This profile evaluates several outcomes, such as patient respect, safety, cleanliness, without systematically publishing detailed results. Hospitals can therefore target internal improvement efforts (Walshe & Shortell, 2004).

Additionally, the NHS has developed tools such as PROMs (Patient Reported Outcome Measures) and PREMs (Patient Reported Experience Measures) to better incorporate patients' perspectives and experiences into performance evaluation (Devlin & Appleby, 2010).

➤ ***Regional and Private Initiatives***

Some regions, such as the North West with its Advancing Quality program, have experimented with Pay-for-Performance (P4P) systems inspired by U.S. models, combining clinical indicators with PROMs and PREMs (Kristensen et al., 2013). At the same time, private actors such as Dr Foster Health publish hospital rankings and benchmarking tools (hospital guides), sometimes including international participants (Bridgewater et al., 2007).

This diversity of initiatives illustrates the UK's commitment to combining strong national regulation with public-private partnerships to drive improvements in care quality.

3.1.3 Denmark

Launched in 2000, the Danish National Indicator Project (NIP) is the result of close collaboration between the Danish Ministry of Health, regional counties, professional associations (physicians, nurses, physiotherapists, etc.), and various scientific societies. Its primary objective is to measure and improve the quality of care for ten priority conditions (e.g., stroke, hip fracture, lung cancer, diabetes), selected based on case volume, severity, and the potential for clinical intervention. The goal is to establish a common benchmark and promote continuous improvement (Mainz, 2003; Mainz, 2004).

➤ ***An Eight-Step Process for a Structured Approach***

Each condition is assigned to a multidisciplinary team (physicians, nurses, epidemiologists, etc.) responsible for defining a set of structure, process, and outcome indicators. The methodology follows eight major steps:

1. Definition of the condition and organization of the working group
2. Literature review and assessment of existing standards
3. Selection of indicators and benchmarks, based on scientific evidence or expert consensus
4. Data collection from registries or medical records
5. Analysis of results (national, regional, and local levels)
6. Clinical audit to identify potential causes of underperformance
7. Implementation of improvement actions
8. Publication of data and monitoring of progress

By systematically incorporating clinical audits and publishing the results (via an online platform), the project ensures that evaluation is not only diagnostic but also a lever for correcting deficiencies (Mainz et al., 2009).

➤ ***Integration Across Public Hospitals and Link to Accreditation***

Once validated, the data collection and analysis methods are implemented in all public hospitals across Denmark. Regional conferences bring together NIP coordinators and healthcare professionals to explain the approach and encourage uptake of the tools. The results obtained are also considered in the accreditation process (DDKM), overseen by the Danish Institute for Quality and Accreditation in Healthcare (IKAS).

In summary, the Danish National Indicator Project (NIP) offers a unified and coherent approach to evaluating and improving healthcare quality, built on continuous collaboration between public authorities, healthcare professionals, and researchers. This comprehensive model, combining transparency, clinical audits, and corrective action, contributes to the

professionalization of quality management in Danish hospitals (Kristensen, Mainz, & Bartels, 2009; Kjølner et al., 2010).

3.1.4 Sweden

In Sweden, the management and financing of healthcare are primarily the responsibility of counties and regions, which collect a local tax to fund services. To compare the performance of these different territories, national authorities have, since 2006, published an annual report titled "Quality and Efficiency in Swedish Healthcare", developed in collaboration between the Swedish Association of Local Authorities and Regions (SALAR) and the National Board of Health and Welfare (NBHW) (Anell et al., 2012).

➤ *Objectives and Evaluation Dimensions*

The program has two main goals:

1. To inform the public by making the results accessible and easy to understand;
2. To stimulate continuous improvement by encouraging counties and regions to optimize clinical quality, patient satisfaction, and spending efficiency (Glenngård & Anell, 2017).

To achieve these goals, the indicators are structured around four main dimensions:

- **Care outcomes** (mortality rates, cancer survival, maternal care, etc.);
- **Patient experience** (satisfaction, responsiveness to expectations);
- **Accessibility** (waiting times, geographical coverage, equity);
- **Costs and productivity** (spending control, cost-to-quality ratio).

➤ *Indicator Selection and Evolution*

From 2006 to 2009, the number of indicators increased from 57 to over 120. Some indicators are assessed at the county level, while others (19 indicators) are also measured at the hospital level, including readmission rates, 28-day mortality, surgical wait times, and more. In some cases, socioeconomic analysis (such as education level or country of origin) is used to understand the impact of external factors on avoidable mortality or complications (Hakkinen et al., 2013).

➤ *Implementation and Dissemination of Results*

The results are published online and are accessible to both the general public and healthcare professionals. A ranking with confidence intervals is provided for each county. However, hospital-level comparisons remain descriptive only (no rankings or confidence intervals), to account for:

- The lack of adjustment for case severity (except for age);
- The specific role of referral hospitals treating more complex cases;
- The low volume of some small local facilities.

This approach aims to avoid hasty conclusions and instead focuses on internal improvement rather than competition. Local and regional authorities, which manage the hospitals, use this information to analyze their performance, identify areas for improvement, and develop corrective actions (Burström, 2009; Anell et al., 2012).

3.2 Countries with Systems Based on Standardized Performance Indicators

In some healthcare systems, hospital performance evaluation primarily relies on standardized quantitative indicators and dedicated institutions responsible for their collection, analysis, and dissemination. This approach is based on the idea that uniform and objective measurement of performance allows for more rigorous benchmarking across healthcare facilities and facilitates the implementation of targeted improvement policies.

In this subsection, we examine three representative examples:

- Germany, where the **Institut für Qualitätssicherung und Transparenz im Gesundheitswesen (IQTIG)** leads the standardization of indicators and promotes result transparency;
- The Netherlands, with the **Dutch Health Care Performance Report (DHCPR)**, which offers a comprehensive framework for evaluating the quality, accessibility, and economic sustainability of the healthcare system;
- Luxembourg, which combines **national monitoring** with **international comparisons** to steer hospital performance.

This indicator-driven approach emphasizes the relevance, reliability, and comparability of data, in order to foster a culture of systematic evaluation and continuous quality improvement in care delivery.

3.2.1 Germany

In Germany, the organization of healthcare has traditionally been decentralized and is funded by a large number of statutory health insurance funds (Krankenkassen), over 200 today, with ongoing efforts to reduce this number. Hospitals are reimbursed through a fixed-rate payment system (G-DRG) managed and regularly updated by the Institute for Hospital Remuneration Systems (InEK), which defines coding rules and certifies grouping software (Busse & Quentin, 2011).

➤ *Stronger National Governance Since 2007*

To harmonize practices and promote quality, a Federal Joint Committee (G-BA) has overseen hospital quality assurance since 2007. Implementation is delegated to specialized bodies such as the Institute for Quality and Efficiency in Health Care (IQWiG), which develops clinical guidelines and quality indicators (Perleth et al., 2009).

➤ *Mandatory Data Collection and Indicator Selection*

Since 2001, hospitals have been required to document specific diseases and procedures (e.g., pneumonia, coronary surgery) using standardized software based on the ICD-10 classification and the official surgical procedure nomenclature. Each year, IQWiG publishes a guide for each condition, detailing:

- The selected indicators (with scientific justification);
- The data to be collected (length of stay, initiation of antibiotic therapy, clinical parameters, etc.);
- Performance thresholds or targets (IQWiG, 2018).

➤ *Analysis, Feedback, and Follow-up*

Results are transmitted at both the federal and regional (Länder) levels:

- An annual report provides an overview of the situation (number of cases, participating hospitals, average performance);
- Hospitals with “suspect” results must provide explanations and, if necessary, undergo site visits to define corrective actions (Nimptsch & Mansky, 2013).

➤ *Internal Quality Management and Transparency*

Since 2000, hospitals have been legally required to implement internal quality management systems, including staff training, protocols, and performance indicator monitoring. They must also publish online reports detailing their quality improvement processes, though quantitative performance results are not disclosed publicly (Busse et al., 2017).

In summary, Germany combines DRG-based hospital payment with mandatory quality assurance, under the supervision of national bodies (G-BA, IQWiG) responsible for defining indicators and ensuring their effective use. Despite this structured system and wide hospital participation, the overall effectiveness of the model remains under documented in the academic literature (Busse & Blümel, 2014; Nimptsch & Mansky, 2013).

3.2.2 The Netherlands

In the Netherlands, hospital performance evaluation is based on a conceptual framework built around three key objectives: quality, accessibility, and financial sustainability. It emphasizes transparency and continuous improvement. The government regularly publishes the “Zorgbalans” report, which tracks the evolution of approximately 125 indicators covering areas such as care safety, patient satisfaction, and efficiency (Westert et al., 2009; Kringos et al., 2015).

➤ *Legal Framework and Proactive Inspection*

Dutch hospitals are required to obtain authorization (WTZi) and comply with the KWZ law, which mandates the implementation of a quality management system and the annual publication of a performance report. The Health and Youth Care Inspectorate (IGZ) ensures compliance, issues recommendations, and can impose sanctions if necessary.

As early as 2003, the IGZ defined a first set of indicators and safety standards, which are updated annually. The related data are centralized in the Dutch Hospital Data (DHD) database (Schippers, 2010; Westert et al., 2010).

➤ *“Zichtbare Zorg”: Enhancing Visibility and Comparability*

Launched in 2007, the Zichtbare Zorg (“Visible Care”) program aimed to improve the clarity of results and encourage patient engagement. The principle is to define approximately five indicators per condition, validated jointly by experts and patients, using standardized data collection methods.

The data are submitted via the Zizo platform, verified for consistency, and then published by condition. This process promotes institutional accountability, as hospitals are encouraged to explain their performance in their annual reports.

Finally, the NIAZ (Nederlands Instituut voor Accreditatie in de Zorg) offers a voluntary accreditation system, further enhancing the Dutch strategy to guarantee and showcase hospital quality.

3.2.3 Luxembourg

In Luxembourg, two major initiatives have structured the evaluation of hospital quality. First, the “Quality Incentives” (1998–2002) introduced a financial bonus to encourage improvement programs. Later, the EFQM model, combined with performance indicators, gradually replaced this system to promote a more comprehensive and harmonized quality management approach (Quentin et al., 2013).

➤ *“Quality Incentives”: Financial Bonuses to Drive Improvement*

Following the 1995 hospital financing reform, Luxembourg introduced Quality Incentives (IQ) programs in 1998. Hospitals could voluntarily participate and receive a bonus of up to 2% of their budget in exchange for implementing quality initiatives (risk management, internal audits, etc.) (Merten et al., 2008).

- **Objective:** Motivate hospitals to implement targeted improvement actions (processes, resources, practices).
- **Evaluation:** Conducted by independent experts using predefined standards and on-site visits.

- **Limitations:** Programs were too ambitious for some hospitals, team engagement was inconsistent (especially among medical staff), and evaluations were sometimes perceived as subjective.

After five years, the initiative led to a stronger awareness of the importance of quality, but also revealed the need to rethink the system (Behrendt et al., 2001).

➤ ***Shift to EFQM Model and Development of Performance Indicators***

In 2004, hospital associations and health insurance funds opted for a “total quality management” approach based on the EFQM model.

- Guiding principles: Patient-centered care, involvement of all stakeholders, and continued financial incentives to encourage participation.
- Implementation: Biennial audits verify compliance with EFQM principles (leadership, strategic vision, processes, outcomes).

Over time, hospitals also implemented performance indicators to monitor clinical performance and support strategic management. These indicators fall into various categories (key results, patient outcomes, staff outcomes, procedures), inspired by the WHO PATH project and other international benchmarks (WHO, 2007; Groene et al., 2009).

➤ ***Challenges and Future Directions***

Despite overall progress in quality maturity, medical staff engagement remains inconsistent. Clinical indicators are still underdeveloped, and data reliability requires strengthening. Moving forward, the Evaluation Commission recommends:

- **Better alignment** with international methodologies;
- **Implementation of electronic medical** records to facilitate data collection;
- **Longitudinal evaluations** to better assess long-term public health impacts;
- Continued **linkage** between financial incentives and measured performance;
- **Clarification** of roles between hospital management and physicians in governance (Quentin et al., 2013).

In summary, Luxembourg has shifted from a one-off incentive model to an integrated quality approach, supported by the EFQM model and a growing set of performance indicators. This evolution reflects a clear intention to embed quality and performance more firmly into hospital management.

3.3 Countries Focused on Benchmarking and International Certification

In some countries, improving hospital performance relies heavily on certification and international benchmarking. The idea is to leverage recognized frameworks (e.g., Joint Commission International, ISO standards, etc.) and comparative analyses between hospitals or regions, often conducted on a transnational scale. This approach promotes external recognition of quality, encourages the harmonization of practices, and motivates hospitals to align with international standards.

We will examine two European countries that represent this strategic choice:

- **Belgium**, which focuses on benchmarking programs and hospital accreditation to manage and promote healthcare quality.
- **Italy**, where regional comparisons and hospital benchmarking programs have become key drivers of continuous improvement.

By analyzing these experiences, we will explore how adopting international frameworks and performance rankings can help enhance hospital performance, while remaining adaptable to local specificities.

3.3.1 Belgium

The Belgian hospital system operates under federal jurisdiction, supported by several institutions such as the Federal Public Service (FPS) for Public Health, the National Institute for Health and Disability Insurance (INAMI) for financing, and the Federal Knowledge Center for Health Care (KCE) for scientific evaluation. The Regions and Communities also play a role in hospital organization and infrastructure, which can result in complex governance structures.

➤ *Benchmarking Programs and Performance Indicators*

Several initiatives have been introduced to enable performance comparisons between hospitals:

- **Inter-hospital comparisons** based on quality indicators (infection rates, readmissions, postoperative mortality, etc.).
- **Benchmarking projects** led by hospital federations (e.g., Zorgnet-Icuro in Flanders, Santhea in Wallonia) or supported by the FPS Health.
- **Shared data platforms** (e.g., Sciensano) that centralize and analyze health information (Meeus et al., 2010).

The public reports generated from these initiatives foster transparency and serve as valuable references for setting improvement priorities (KCE, 2012).

➤ *Hospital Accreditation: A Growing Voluntary Approach*

In parallel with benchmarking, an increasing number of Belgian hospitals are voluntarily engaging in accreditation processes led by recognized, often international, organizations. The most commonly used accreditation bodies include:

- **Joint Commission International (JCI)**, widely adopted around the world.
- **Accreditation Canada**, which provides standards adapted to European contexts.
- **NIAZ** (Netherlands Institute for Accreditation in Healthcare), more commonly used in the Flemish region.

Objectives and Principles

Accreditation assesses a hospital's compliance with rigorous standards related to quality, safety, care organization, and patients' rights. It typically involves:

- **Self-assessment** by the hospital.
- **External audit visits** by trained evaluators.
- **Follow-up assessments** to ensure ongoing improvement (usually every three to four years).

Benefits and Limitations

- **Benefits:** External recognition of quality, a clear framework for continuous improvement, enhanced reputation with the public and authorities.
- **Limitations:** Financial and administrative costs for hospitals, concerns about excessive standardization, and disparities between accredited and non-accredited institutions (Braithwaite et al., 2017; Sermeus et al., 2010).

In summary, Belgium combines benchmarking and hospital accreditation to evaluate and enhance performance. This dual strategy, supported by public reporting and voluntary participation, encourages the sharing of best practices, while preserving hospital autonomy in pursuing quality goals.

3.3.2 Italy

In Italy, hospital performance evaluation is driven by two main initiatives that reflect the country's intent to standardize performance indicators and enhance health surveillance: the SIVeAS project and the Micronet project.

➤ *SIVeAS Project: A First Set of Regional Indicators*

Launched in 2006 by the Ministry of Health, SIVeAS (National System for Verifications and Controls on Healthcare Services) aims to ensure that healthcare services comply with standards of relevance and quality. It relies on:

- An initial set of **34 indicators** (hospitalizations, efficiency, appropriateness of medical and surgical care, chronic disease management, pharmaceutical assistance, prevention, etc.) to assess regional health system performance.
- A visual presentation of the results (graphic representations), enabling quick identification of strengths and areas needing improvement.

Still in its experimental phase, the project is expected to be expanded with new indicators. The results are designed to foster transparency and promote inter-regional comparisons, encouraging best practices and mutual learning (Cicchetti et al., 2008; Nuti & Seghieri, 2014).

➤ *Micronet Project: A Network for Epidemiological Surveillance*

The Micronet project is a network of microbiology laboratories that collect and share real-time data on infectious agents (both positive and negative results). Funded by the National Centre for Disease Prevention and Control (Ministry of Health) and developed in collaboration with the National Institute of Health, the project has two main objectives:

- Early detection of outbreaks or infectious clusters.
- Rapid exchange of standardized information among laboratories, with an alert system for hospitals.

Launched in the Bologna region, Micronet supports epidemiological trend analysis and promotes collaboration among healthcare professionals (D'Ancona et al., 2009).

➤ **Challenges and Future Perspectives:**

- **Experimental Nature:** Both projects are still under development and require expanded indicators and broader territorial coverage.
- **Regional Focus:** SIVeAS primarily targets regional-level performance, implying that each region must implement its own tools to actively engage hospitals.
- **Scalability Potential:** Micronet highlights the value of automated and reliable data collection. Scaling it nationwide would yield substantial benefits for infectious risk management (Ricciardi & Boccia, 2017).

In summary, Italy adopts a gradual and collaborative approach to improving healthcare quality, combining performance indicators with field-level epidemiological surveillance.

3.4 Countries with Strong Private Sector Involvement in Performance Evaluation: United States (USA)

In some healthcare systems, hospital performance evaluation is not solely driven by public agencies but also involves private actors such as insurance companies, accreditation bodies, and professional associations. This dynamic encourages competition among hospitals and fosters innovation in care quality and safety, while operating within a more or less centralized regulatory framework.

This section focuses on the United States, where private entities, such as The Joint Commission International, insurance providers, and the HCAHPS survey tool developed by Medicare, play a decisive role in establishing and monitoring hospital performance standards (Kohn et al., 2000; Jha et al., 2005).

In the U.S., performance evaluation is built on a combination of standardized indicators and methodological frameworks aimed at promoting continuous quality improvement. Two major initiatives illustrate this approach:

- The **AHRQ Quality Indicators**, developed by the Agency for Healthcare Research and

Quality, which offer a standardized set of measures to assess the quality of inpatient care.

- The work of the **Institute for Healthcare Improvement (IHI)**, which promotes innovative methodologies and frameworks (such as the Triple Aim and Plan-Do-Study-Act cycles) to enhance safety, effectiveness, and patient-centered care across hospitals.

3.4.1 AHRQ Quality Indicators: A Set of Metrics for Quality and Safety

The Agency for Healthcare Research and Quality (AHRQ), under the U.S. Department of Health and Human Services, funds research aimed at improving the quality, safety, and efficiency of healthcare delivery.

- **The AHRQ Quality Indicators (QIs)** are a set of metrics based on administrative hospital data, grouped into four main modules:
- **Prevention Quality Indicators (PQIs):** Hospital admissions that could potentially be avoided through effective outpatient care.
- **Inpatient Quality Indicators (IQIs):** Metrics reflecting the quality of hospital care (e.g., inpatient mortality, appropriateness of procedures).
- **Patient Safety Indicators (PSIs):** Measures of preventable complications and adverse events during hospital stays.
- **Pediatric Quality Indicators (PDIs):** Indicators specifically designed to monitor pediatric care.

Initially developed as internal screening tools, these indicators are now widely used as benchmarks by insurers, policymakers, and pay-for-performance programs (AHRQ, 2019; Romano & Geppert, 2003). AHRQ regularly updates the indicator set, incorporating scientific developments and user feedback to ensure their continued relevance and accuracy.

3.4.2 The IHI: A Comprehensive Methodology to Transform Hospitals

The Institute for Healthcare Improvement (IHI) is a nonprofit organization founded in the 1980s by Don Berwick, with a vision for a healthcare system free of errors, waste, and excessive costs. Its approach is grounded in five core principles (e.g., zero preventable deaths, zero unnecessary pain) and relies on concrete methodologies to move from isolated improvements to systemic transformation (Berwick et al., 2008).

Three Integrated Components :

1. **Strategic Goals:** Establish ambitious, measurable targets for quality and safety.
2. **Governance and Management:** Coordinate all improvement projects through consistent leadership and oversight.
3. **Training and Engagement:** Equip staff with essential tools (data analysis, communication, project management) to drive large-scale change.

Key Success Factors :

- Clearly defined goals shared by all stakeholders.
- A portfolio of tangible projects tailored to local realities.
- Adequate resources (skills, time, budget) to sustain the initiative.
- Ongoing capacity building for staff (through training, seminars, publications) (Nolan et al., 2004; Leape & Berwick, 2005).

By embedding these principles at the strategic and organizational levels, IHI supports hospitals in building a lasting culture of continuous improvement, fully integrated into the institution's overall management.

4. The Hospital Performance Evaluation Program in Morocco

In Morocco, the evaluation of hospital performance takes place within a broader context of

reforms aimed at strengthening the quality, accessibility, and sustainability of healthcare services. The Ministry of Health, along with other bodies such as the National Health Insurance Agency (ANAM), has developed initiatives to measure and improve the quality and efficiency of public healthcare institutions (Ministère de la Santé, 2021).

This approach is generally based on the definition of key indicators, the establishment of monitoring mechanisms, and the organization of evaluation visits. It operates on two levels:

- On the one hand, within hospital units (clinical, medical-technical services, etc.);
- On the other hand, at the strategic level, led by the general management of each University Hospital Center (CHU).

Although Morocco's approach aligns with some international practices (such as certification and audits), it faces specific challenges, such as regional inequalities and limited resources, that affect the implementation and actual impact of evaluation programs.

4.1 Performance Evaluation at the Hospital Unit Level

Each hospital collects and analyzes its activity data (admissions, medical procedures, hospital days, etc.) to calculate productivity and quality indicators (average bed occupancy rate, average length of stay, number of surgeries per surgeon, etc.).

- **Data collection and interpretation:** Head nurses, statistical technicians, and department heads gather and consolidate information, then discuss the results during internal consultative meetings.
- **Review by the medical board:** Key indicators are presented to department heads and administrative managers. Any significant discrepancies or variations are explained by the responsible parties in order to propose necessary adjustments (resources, organization, etc.).

While these indicators are primarily used to produce statistical reports, they also serve as a starting point for improving both clinical and organizational performance (ANAM, 2016).

4.2 Performance Evaluation at the Strategic Level

At the level of the University Hospital Center (CHU) general management, aggregated data from each hospital is analyzed and discussed to provide an overall strategic overview.

1. Indicators (related to care, management, costs, etc.) are compiled by a dedicated division (professional affairs, management control, etc.).
2. The general director reviews the data, and an initial discussion takes place with an advisory body.
3. An activity report is then finalized, including any recommendations, and is presented to the board of directors, which includes the Minister of Health and other institutional representatives.

This approach serves multiple objectives: optimizing costs, improving the organization of facilities, ensuring compliance with institutional regulations, and enhancing the quality of services provided to patients (Ministère de la Santé, 2021; World Bank, 2018).

4.3 Issues and Future Outlook

From the clinical level to the strategic level, performance measurement in Morocco reflects the diversity of approaches found internationally:

- **The use of indicators** (activity, quality, efficiency) as a foundation for managerial dialogue.
- **A quality-driven orientation**, with the aim of better addressing user needs and fostering a culture of continuous improvement.
- **The role of governance bodies** (medical boards, boards of directors) in setting priorities and allocating resources accordingly (El Achhab et al., 2019; WHO, 2019).

However, aspects such as user satisfaction, staff motivation, and mastery of new technologies remain less emphasized at this stage. As hospital performance increasingly becomes a multidimensional concern (quality, safety, efficiency, patient experience), these dimensions are likely to gain greater prominence in future evaluation programs (Bencheikh & Bentaleb, 2016). In this regard, sharing practices with other health systems and raising awareness among medical and administrative teams are two essential levers for enhancing the effectiveness and relevance of performance evaluation in Morocco.

5. Research Methodology

This study is based on a structured literature review drawing on both academic and institutional sources. References were identified through recognized scientific databases such as Cairn.info, Google Scholar, PubMed, OpenEdition, and Science.gov, as well as through institutional repositories and the official websites of national and international organizations, including the World Health Organization (WHO), the Organization for Economic Cooperation and Development (OECD), the Haute Autorité de Santé (HAS) in France, and the National Health Service (NHS) in the United Kingdom.

The search strategy was based on keywords such as “hospital performance evaluation,” “healthcare benchmarking,” “quality and safety of care,” and “patient satisfaction.” Documents were selected based on their relevance to the topic, methodological rigor, and scientific reliability. The selected references were then organized thematically, which enabled a comparative analysis between the Moroccan hospital performance evaluation program and international experiences.

6. Comparative Analysis : Morocco vs. International Models

6.1. Commonalities and Methodological Differences

At both the international and Moroccan levels, hospital performance evaluation shares several common foundations, notably the use of quantitative and qualitative indicators, a commitment to continuous improvement of hospital services, and the need to ensure transparency for key stakeholders (health authorities, healthcare professionals, patients). These objectives are consistently present across the European systems studied as well as within current Moroccan frameworks.

However, notable methodological differences emerge when comparing the approaches:

Centralization vs. Decentralization: Several European countries (such as France, Denmark, and Sweden) have highly centralized national bodies responsible for hospital evaluation. In contrast, Morocco still displays a variety of regional and local approaches, due to the absence of a uniform national framework, resulting in heterogeneous practices and outcomes.

Degree of Mandatoriness in Evaluations: In countries such as Germany, the United States, and the Netherlands, participation in accreditation or evaluation processes is often mandatory or tied to financial incentives. In Morocco, evaluation is mainly based on a voluntary or semi-voluntary approach, with no strict certification requirements or direct financial penalties linked to performance levels.

Involvement of the Private Sector: Internationally, especially in the United States, the private sector and insurers play a major role in evaluating and regulating hospital performance. In Morocco, this role remains minimal, with institutional public regulation still predominating.

6.2. Comparison of Selected Indicators and Evaluated Dimensions

A comparison between the indicators and evaluation dimensions used in Morocco and those adopted internationally reveals significant disparities:

Quality and Patient Safety: Internationally, countries such as Germany (IQWiG), the United States (AHRQ, HCAHPS), and the United Kingdom (CQC) make regular and extensive use of specific indicators related to patient safety (e.g., hospital-acquired infections, postoperative complications, risk-adjusted mortality rates). In Morocco, such indicators do exist but are generally more generic, less systematically collected, and limited to a few advanced facilities (such as certain university hospitals).

Economic Efficiency: Abroad, detailed case-based costing systems (e.g., G-DRG in Germany or Medicare in the US) allow for in-depth evaluation of costs and economic efficiency. In Morocco, economic assessment is usually limited to basic measures (bed occupancy rate, average length of stay), with no direct linkage to cost analysis by condition or procedure.

Patient Experience and Satisfaction: Evaluating the patient experience, particularly through standardized surveys (such as HCAHPS in the US or PROMs and PREMs in Sweden and the UK), is a routine practice abroad. In Morocco, this dimension remains insufficiently structured and is not yet widely integrated into regular performance evaluations.

Organizational and Managerial Indicators: Currently, Morocco focuses mainly on operational and activity-based indicators (e.g., number of medical procedures, occupancy rate, average length of stay). In contrast, the international trend favors a more balanced approach, combining activity metrics with clinical quality, patient safety, patient satisfaction, and economic efficiency.

Table 2: Dimensions and Indicators of Hospital Performance: A Comparative Approach

Country / Program	Quality and Patient Safety	Economic Efficiency	Patient Experience / Satisfaction	Organizational Indicators	Specific Characteristics
France: HAS	IQSS indicators, patient safety	Monitoring of indirect costs, efficiency	Integrated patient surveys	Activity, governance	Mandatory centralized framework
UK: CQC / NHS	Safety and quality indicators	NHS cost and productivity evaluation	PROMs, PREMs, patient satisfaction	Public reporting	Results transparency
Denmark: NIP	National quality standards	Efficiency through DRG	Presence of patient feedback	Activity, waiting times	Strong national leadership
Sweden: SALAR / NBHW	Clinical indicators, infections	Regional economic monitoring	PREMs, HACT	Productivity & governance	Decentralized management, strong local engagement
Germany: IQTIG	Adjusted mortality, complications	G-DRG, costs / pathologies	Limited feedback	Inter-hospital benchmarks	Peer-based evaluation
Netherlands: Zorgbalans	Public quality indicators	Cost and efficiency data	Standardized satisfaction surveys	Hospital governance	Public performance platform
Luxembourg: EFQM	Internal quality processes	Based on quality self-assessment	Limited patient participation	Training & processes	Quality-centered culture
Belgium: KCE	Acute care quality evaluation	Cost-effectiveness approach	Less frequent patient data	Hospital activity	Multidisciplinary analysis network
Italy: SIVeAS	Clinical quality indicators	Regional cost analysis	Patient involvement still limited	Production indicators	Strong regional variability

USA: JCI / AHRQ	Highly developed patient safety	Medicare, pay-for-performance	Standardized HCAHPS	Management indicators	Strong private sector influence
Morocco: Ministry of Health	General, not yet systematized indicators	Limited economic tracking (length of stay, occupancy)	Occasional, not generalized surveys	Activity rates, ALOS, medical acts	Still a non-standardized approach

« **Note:** Acronyms in this table are defined in earlier sections of the article. »

Source: Personal compilation based on the evaluation frameworks analyzed

6.3 International Best Practices as Inspiration for Morocco

Based on this analysis, several international best practices can be identified as potentially beneficial to strengthen Morocco's performance evaluation system:

Establishment of a unified and mandatory national framework: Drawing inspiration from the French (HAS), Danish (NIP), or Swedish experiences would allow Morocco to set a common set of mandatory indicators for all healthcare facilities, thus enabling reliable comparative analysis.

Systematic reinforcement of safety and clinical quality indicators: Morocco could adopt indicators inspired by the German and American models, which clearly integrate postoperative complications, hospital-acquired infections, and readmission rates as central evaluation tools.

Regular integration of patient satisfaction and experience: Based on the experiences of countries such as Sweden, the UK, and the US, Morocco would benefit from implementing standardized, recurring patient satisfaction surveys and incorporating patient feedback into hospital performance evaluations.

Development of performance-based incentive mechanisms: Inspired by German, American, and Luxembourgish (EFQM) experiences, Morocco could consider introducing performance-based bonuses or payments (Pay-for-Performance), tailored to its local economic and healthcare context.

Strengthening team competencies and training: The Luxembourgish (EFQM model) and American (IHI) examples demonstrate the importance of training and involving hospital teams in a culture of quality and continuous improvement. Morocco could adopt structured continuous training programs involving all healthcare professionals.

Increased transparency of results: Following the example of the Netherlands ("Zorgbalans") or the United Kingdom (CQC), the implementation of a public and accessible platform that regularly publishes hospital evaluation results could promote continuous improvement among Moroccan hospitals and increase accountability among professionals and managers.

Morocco already has a foundation for hospital performance evaluation (activity indicators, monitoring initiatives led by university hospitals, involvement of the Ministry of Health). However, compared to international examples, there is still progress to be made to adopt a fully integrated approach that combines quality and efficiency, patient safety and financial sustainability. Adopting best practices from various countries (transparent benchmarking, standardized indicators, a culture of continuous improvement) would be a key driver in consolidating and unifying efforts in hospital performance evaluation.

Ultimately, the implementation of these improvements requires political will (to define clear national directions), professional mobilization (training, accountability), and appropriate technical infrastructure (information systems, budgetary resources). This is how Morocco can move toward a more effective, equitable, and patient-centered healthcare system while meeting the growing demands of an evolving healthcare environment.

6.4 Proposed theoretical model

In light of the comparative analysis and international best practices, a theoretical model is proposed to structure the evaluation of hospital performance in Morocco. This model aims to integrate international best practices while taking into account specific national characteristics (limited resources, regional disparities, highly centralized governance).

The model is based on five key dimensions that constitute the pillars of evaluation:

- Clinical quality and safety of care: monitoring of indicators of mortality, readmissions, nosocomial infections, and adverse events.
- Economic efficiency: consideration of cost per case, resource utilization, and productivity.
- Patient experience and satisfaction: systematic integration of standardized questionnaires and satisfaction indicators.
- Organization and governance: analysis of hospital management, the role of boards of directors, and management practices.
- Innovation and transparency: use of hospital information systems, development of benchmarking, and regular publication of results.

These dimensions are structured around three levels of intervention:

Micro level (hospital units): collection and analysis of clinical and organizational data as close as possible to the patient.

Meso level (hospital management): aggregation of results, development of strategic dashboards, and steering by hospital governance.

Macro level (national system): definition of a unified framework, harmonization of indicators, implementation of incentives, and increased transparency.

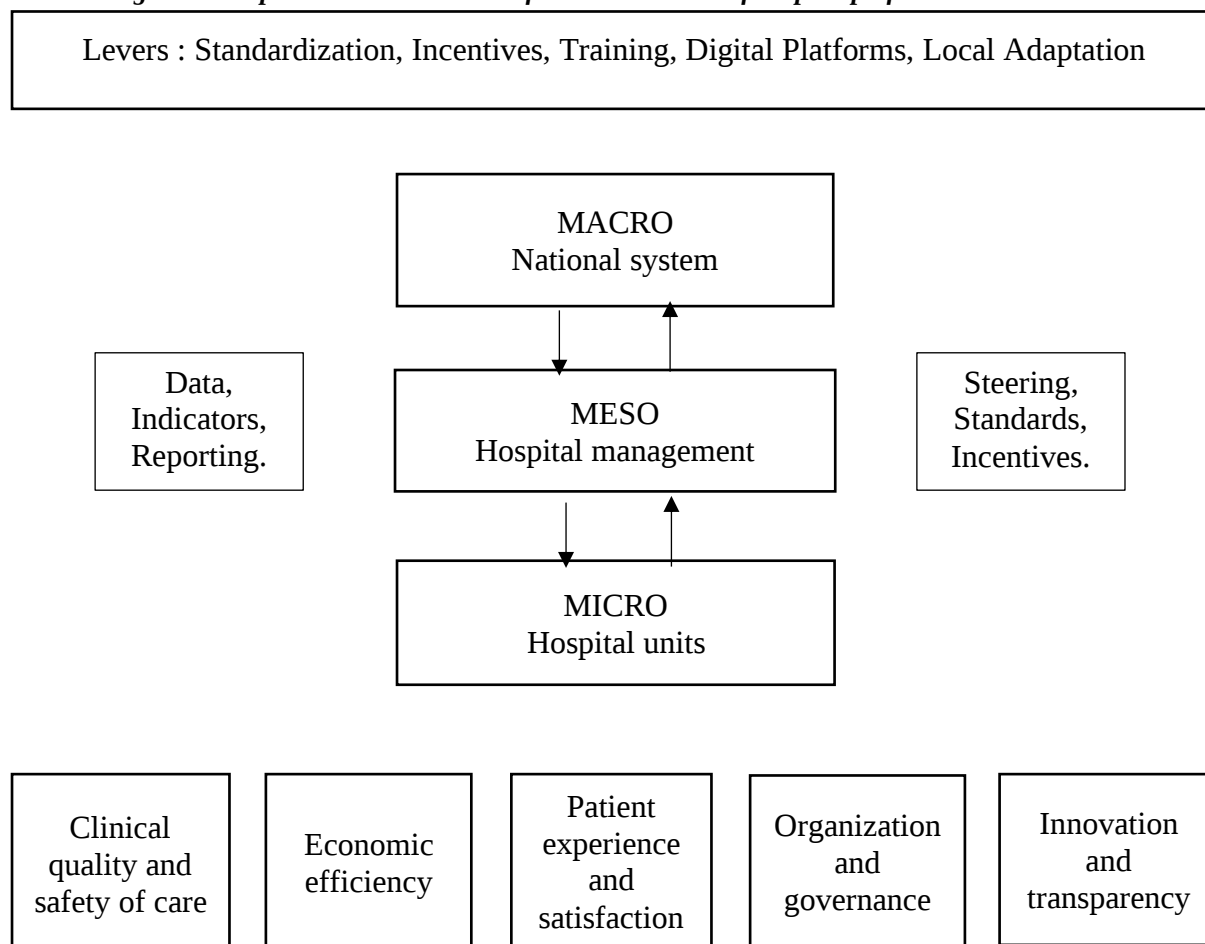
The articulation of these levels aims to establish an integrated and coherent system, where each institution contributes to continuous improvement and where the government has reliable tools to guide its public policies.

Finally, the model proposes several implementation levers:

- Standardization of a national core set of indicators;
- Introduction of incentive mechanisms (financial and reputational);
- Training and engagement of medical and administrative staff;
- The development of digital platforms for disseminating results;
- The adaptation of practices to local realities while drawing inspiration from international standards.

In summary, this theoretical model is intended to be both pragmatic and evolutionary. It provides a basis for guiding the reform of hospital evaluation in Morocco, strengthening the culture of quality, and gradually bringing the national system closer to international standards.

Figure 1: Proposed theoretical model for the evaluation of hospital performance in Morocco



Source: Author's elaboration

7. Conclusion

This in-depth analysis of hospital performance at the international level and its potential adaptation to the Moroccan context highlights several key lessons. First, it confirms that the pursuit of quality, efficiency, and transparency in the hospital sector is a global priority shared by many health systems, despite differences in methodological and organizational approaches. Today, Morocco holds significant potential to advance its hospital evaluation system toward a more efficient model inspired by best practices observed elsewhere. However, this evolution requires realistic adaptation to the local context, which is marked by economic constraints, regional disparities, and specific organizational challenges. To overcome these challenges, it is essential to establish a clear and standardized national framework while strengthening internal capabilities and fostering a strong culture of continuous improvement.

Greater integration of digital and technological dimensions also emerges as a critical condition for the future success of the Moroccan healthcare system. Digital tools will not only allow for more efficient and transparent hospital data management but also enhance inter-facility coordination and significantly improve the patient experience.

Lastly, it is vital to place patients at the center of the hospital performance evaluation and improvement process. Their experience and satisfaction are essential indicators that should systematically guide public health policies. Through this inclusive, transparent, and integrated approach, Morocco can sustainably enhance access to quality care while ensuring the economic and social sustainability of its hospital system.

Thus, the key challenge for the coming years lies in mobilizing all stakeholders, public decision-makers, healthcare professionals, hospital managers, and patients, around a shared vision of

hospital performance, building on international experiences while remaining grounded in Moroccan realities. Such a collective approach will provide the strongest foundation for a hospital system that is effective, sustainable, and capable of meeting the current and future health needs of the population.

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