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VIEWPOINT ARTICLE

A CALL FOR A HOLISTIC APPROACH TO MEASURING QUALITY IN HEALTHCARE SERVICES

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ABSTRACT

Quality in healthcare is a construct whose measurement is vital for quality assurance and improvement purposes. However, achieving a holistic view of quality in healthcare settings can be challenged by having multiple stakeholders involved, such as patients, healthcare providers and managers, with each having different viewpoints and priorities. Whilst service marketing and quality-of-care literature offer a plethora of quality-measuring models that show similarities, each discipline prioritises measuring quality as perceived by one stakeholder (e.g.: patients or service providers), thus offering a partial picture that does not necessarily capture the viewpoints of all stakeholders involved. Moreover, some models evaluate the overall quality of a service, rather than providing a detailed evaluation that captures the quality of different elements of care. Local context and culture are factors to consider as well when measuring quality.

Therefore, this paper aims to propose an approach to measuring quality that captures the viewpoints of multiple stakeholders in a service setting.

A customised model is constructed, based on comparing the basic elements of models derived from service marketing and quality-of-care literature. The elements are chosen to also reflect the contextual and cultural peculiarities of the service under evaluation, while ensuring that such a detailed approach remains practical upon application.

KEYWORDS

service quality, healthcare quality, quality models, quality measurement

INTRODUCTION

The World Health Organization defines quality of care as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes" and asserts that a quality health care can be defined in different ways [1, p.1]. Quality of care is a vital performance indicator that reflects achieving health outcomes and patient satisfaction, whilst guiding improvement efforts to optimize care delivery. However, its measurement can be challenged by the involvement of multiple stakeholders in healthcare services design, delivery, and consumption, such as patients, healthcare providers, and managers, with each perceiving quality from a perspective that is governed by their priorities [2]. This was captured by Ovretveit's paper that differentiates between three dimensions of quality: patient quality, professional quality, and management quality that prioritizes designing efficient services that abide by guidelines and regulations [3]. Therefore, a quality that is judged as appropriate by one stakeholder may overlook quality elements that are crucial for others. Consequently, it is imperative that healthcare providers "…move away from internal service auditing practice" [4, p.127] when defining and evaluating the quality of the service they deliver.

Lee *et al.* identified two distinct approaches in their paper that can be utilised in appraising the quality of healthcare services [5]. The first approach is the **service marketing perspective** that is rooted in business and management literature, and it is concerned with service recipients' viewpoints, with Grönroos and Parasuraman *et al.* being notable scholars in this field. The second approach, which is derived from **quality-of-care literature**, appraises the quality of a healthcare service from the perspective of its providers [5]. Examples of models primarily adopting the latter approach include Donabedian's structure-process-outcome (SPO) model [6], Donabedian's seven elements of quality of care [7], and the STEEEP model proposed by the Institute of Medicine (IOM) [8]. Therefore, it is argued that the concurrent utilisation of models derived from both: service marketing and quality-of-care literature will facilitate the formulation of a picture of quality that represents the expectations of multiple stakeholders involved.

To this end, this paper commences with a brief overview of selected quality-measuring models derived from seminal work of service marketing and quality-of-care scholars. This is followed by a proposal of an approach to measuring quality, which benefits from the synergistic utilisation of models derived from both: service marketing and quality-of-care disciplines, to provide a representative picture of quality in healthcare services. Being a viewpoint, this paper does not aim to offer a comprehensive review of all quality-measuring models in relevant literature. Instead, it focuses on presenting selected models, that the author is familiar with from her studies and professional experience, and the stakeholders whose viewpoints are represented by such models.

GENERIC, MULTI-DIMENSIONAL QUALITY MODELS

Table 1 presents the elements of three generic quality models that this viewpoint focuses on, whilst providing the definition of each element. By adopting the healthcare provider's perspective, medical care quality can be measured using the seven elements proposed by Donabedian: efficacy, efficiency, effectiveness, equity, optimality, acceptability, and legitimacy [7]. These elements are partially synonyms with the six domains of safe, timely, efficient, effective, equitable, and patient-centred care that form IOM's STEEEP model [8]. On the other hand, the SERVQUAL (service quality) model, as conceptualised by Parasuraman *et al.*, is one of the most well-known tools for measuring service quality as perceived by service recipients, with its five determinants being: assurance, empathy, reliability, responsiveness, and tangibles [9]. Such a recipient-centred perspective is partially covered in STEEEP's 'patient-centred' domain.

TABLE 1: THE ELEMENTS OF DONABEDIAN'S, STEEEP AND SERVQUAL MODELS OF QUALITY

Model	Elements of the model
Donabedian's seven pillars [7, p.1]	Efficacy: the ability of care, at its best, to improve health Effectiveness: the degree to which attainable health improvements are realised Efficiency: the ability to obtain the greatest health improvement at the lowest cost Optimality: the most advantageous balancing of costs and benefits Acceptability: conformity to patient preferences regarding accessibility, the patient-practitioner relation, the amenities, the effects of care, and the cost of care Legitimacy: conformity to social preferences concerning all the above Equity: fairness in the distribution of care and its effects on health
STEEEP model [8, p. 599]	Safe: avoiding injuries to patients Timely: reducing waits and delays in care Effective: providing care based on evidence Efficient: avoiding waste Equitable: ensuring quality does not vary based on personal characteristics Patient Centred: providing care that is responsive to patient's values and preferences.

SERVQUAL [9, p. 23]	Tangibles: Physical facilities, equipment, and appearance of personnel Reliability: Ability to perform the promised service dependably and accurately Responsiveness: Willingness to help customers and provide prompt service Assurance: Knowledge and courtesy of employees and their ability to inspire trust and confidence Empathy: Caring, individualised attention the firm provides its customers

By evaluating the quality of the overall service, such models fail to specify which service aspects are being evaluated as safe, effective, or reliable, thus providing vague feedback that does not pinpoint the exact service elements in need of attention. It is, therefore, proposed to use such models concurrently with models that evaluate a service by deconstructing it into its various elements. This will help detect which service aspect is underperforming and guides improvement efforts where needed, as discussed below.

SYSTEMATIC CONCEPTUALIZATION OF QUALITY

Table 2 provides a detailed deconstruction of three models that measure quality systemically, whilst comparing their elements for similarities. As discussed in Naidu's systematic review, Donabedian presented healthcare quality as a construct comprising three elements: technical quality of the core aspect of diagnosis and disease management, interpersonal quality that is reflected by the friendliness and responsiveness of provider-patient interaction, and amenities of the health care facility [10]. Such deconstruction is mirrored by the work of Grönroos in service marketing literature, capturing two dimensions of customer-perceived service quality synonym to Donabedian's conceptualisation: technical quality of the core outcome and functional quality of the process delivering the outcome. A third dimension was added by Grönroos as the quality perceived regarding the image of the corporation delivering the service, which is created through traditional marketing or word-of-mouth recommendations [11]. Such a dimension does not only matter from a pure marketing perspective, but also influences the perceptions of different stakeholders such as potential employees, policymakers, payers, suppliers, and the public. Therefore, it is argued that considering such element is crucial when evaluating service quality in healthcare institutions.

Another well-endorsed work of Donabedian is a model that systematically defines and measures quality of health care, with structure, process, and outcome being its three dimensions [6]. Such three elements are not presented as standalones but are seen as being interrelated, with a well-designed structure facilitating the run of an effective process, which ultimately leads to satisfactory outcomes [12]. Brady and Cronin also offered a hierarchical conceptualization of customer-perceived service quality in their paper [13]. It is noted that the elements of Brady and Cronin's model mirror the elements of Donabedian's model and Grönroos' work, as displayed in Table 2.

TABLE 2: COMPARISON BETWEEN THE ELEMENTS OF DONABEDIAN'S, BRADY AND CRONIN'S AND, GRÖNROOS' MODELS OF MEASURING QUALITY

Model (by author name)	Whose perspective on quality this model measures	Elements of the model that measure the quality of:			
		the static physical elements	the service process	the service outcome	the organisation's perceived image
Donabedian SPO Model [6, pp. 20-21] [10]	(Mainly) Health care providers	Structure: Staff education and training	Process: Technical:	Outcome: - Patient's health status	---

		Facility Equipment	Activities undertaken to deliver care Interpersonal: Staff-patient relationship	- Patient's satisfaction - Cost of care	
Brady and Cronin's hierarchical model [13]	Quality as perceived by recipients of care	Physical environment: Ambient conditions Design Social factors	Customer-employee interaction: Attitude. Behaviour Expertise	Outcome: Waiting time Tangibles Valence	---
Grönroos' Conceptualization [11]		---	Functional quality: Quality of process	Technical quality: Quality of the core outcome	Corporate image: Perceived quality of the institution delivering the service

Brady and Cronin also deconstructed each of the three primary dimensions in their model further into three sub-dimensions. This resulted in nine sub-dimensions that can be evaluated by service recipients as empathic, responsive, or reliable (i.e: modifiers) (Table 2). Such approach aims to offer a more detailed evaluation of service recipients' perception of service quality. It also forms a departure from the generic use of SERVQUAL determinants in that it explicitly states which aspects of the service customers evaluate as reliable or responsive [13]. It is argued that such an approach can be replicated by using STEEEP domains or Donabedian's seven elements of care as modifiers. Consequently, the STEEEP model, Donabedian's seven elements, and SERVQUAL can be utilised concurrently with the models highlighted in Table 2, as illustrated in Figure 1. Such an integrated approach is proposed to offer a more nuanced evaluation of service quality by deconstructing it into its main elements, detecting which aspects are underperforming, and then guiding efforts toward improving it. However, it is acknowledged that a detailed model may render its application challenging when implemented in real-life contexts, and a well-informed trade-off must be made between the thoroughness of a quality-measuring approach and the feasibility of its application.

ADAPTATION FOR CONTEXT AND CULTURE

Quality must be interpreted as a context-specific construct, that is: it is only successfully measured by deconstructing it into elements that are governed by the specialty of concern (e.g.: public vs. private sectors, intensive care vs. elective care). Consequently, whilst applying the above-mentioned models concurrently can provide invaluable insights into both: healthcare providers' and recipients' viewpoints, deploying them in their generic form risk overlooking critical quality elements that are specific to the context investigated. Such an argument resonates with the note made regarding the use of Donabedian's seven elements, where choosing which elements to measure and deciding on their relative importance is dictated by the context in which they are used [12]. This is also relevant to one of the early criticisms of SERVQUAL, questioning whether its generic determinants are reliably applicable in different service contexts [14]. Therefore, when attempting to measure quality in a healthcare service, the author proposes that a context-specific model is built, as in Figure 1, starting with identifying three variables:

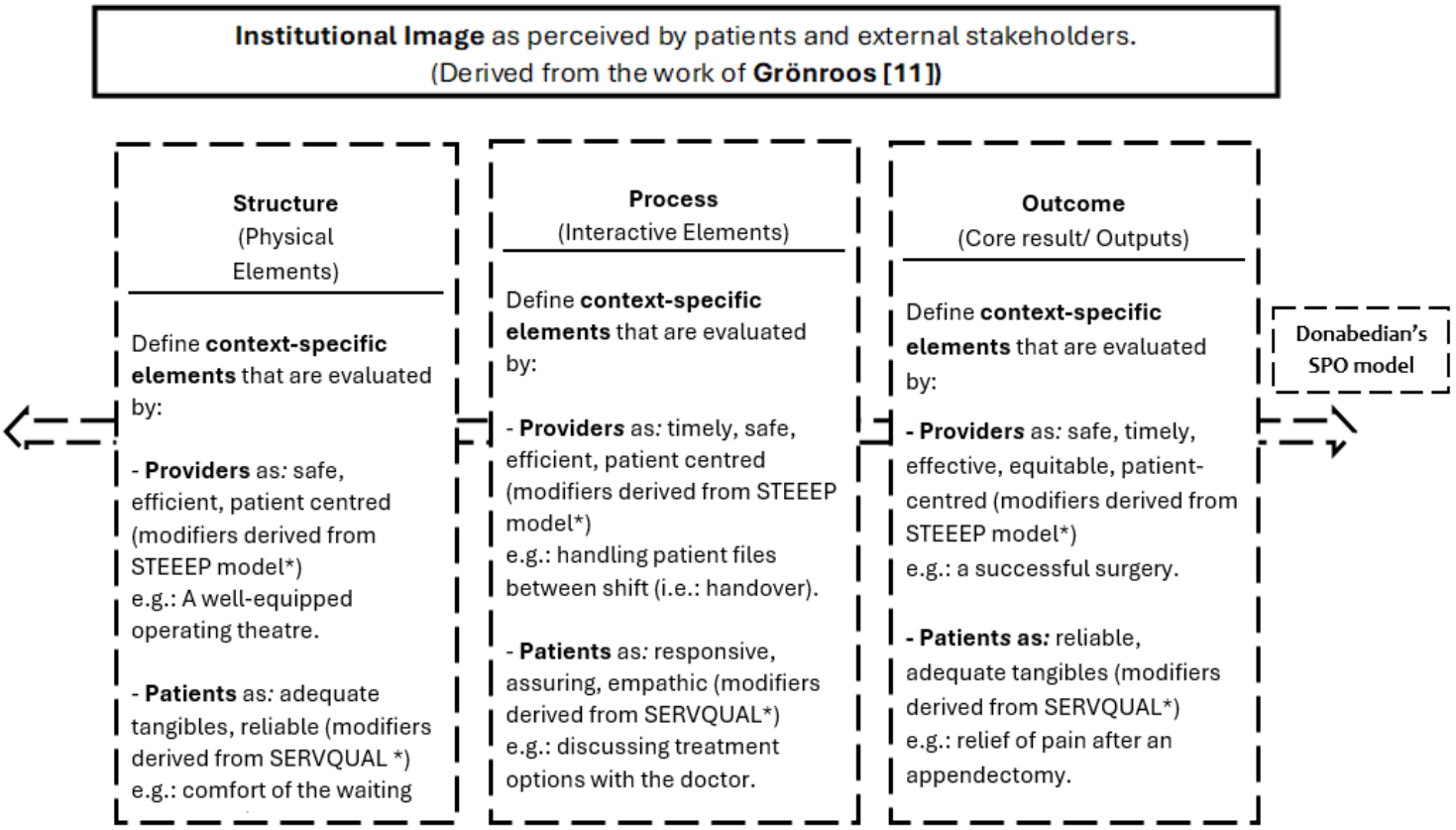
1) Context-specific elements of the structure, process, and outcome whose quality is evaluated from the providers' perspective.

2) Context-specific elements of structure, process, and outcome whose quality is evaluated from patients' perspective.

3) Modifiers (derived from STEEEP, Donabedian's seven elements or SERVQUAL) used to describe the quality of the elements chosen. By acknowledging that some quality determinants can be used as modifiers to describe more than one element of care (e.g.: STEEEP's 'safe' determinant can be used to describe the healthcare facilities (i.e.: structure) as well as the process of service delivery), a more meaningful evaluation of care can be provided.

Whilst being beyond the scope of this paper, accounting for organisational and national cultures is another facet of context. This is highlighted in Endeshaw's review of healthcare quality measurement models, which argues that many of those models are western in origin. Therefore, they may fail to capture the cultural and economic peculiarities of developing countries, thus warranting an articulation of models relevant to developing countries cultures [15]. This emphasises the need to abandon the use of generic quality measurement models and, instead, utilising customised models that capture quality determinants relevant to the economic, cultural, and organisational contexts of the organisation involved [15].

FIGURE 1: AN EXAMPLE OF A CUSTOMIZED MODEL THAT MEASURES HEALTH SERVICES QUALITY FROM BOTH: PROVIDERS' AND PATIENTS' PERSPECTIVES.



Elements from four models were integrated to construct the model: Donabedian's SPO model, STEEEP, SERVQUAL, and the quality of institutional image as proposed by Grönroos.

* The use of STEEEP elements and SERVQUAL determinants as modifiers is derived from the work of Brady and Cronin [13]

CONCLUSION AND LIMITATIONS

This viewpoint paper proposes an approach to measuring the quality of healthcare services that captures the viewpoints of different stakeholders. This is enabled by using a model founded on the work of notable scholars from the fields of service marketing and quality of care, whilst customising its various elements to the context and culture of the service of concern. Such a dynamic approach will enable a more accurate measurement of quality that is useful to different stakeholders. Being a refined adaptation from older models, this approach offers policymakers a with contemporary and updated model that can be utilized for quality assurance purposes. It ensures that the tools comply with the IOM

recommendations to adopt an approach to measuring quality that shows "constant modification and reassessment—that is, the continual development of new strategies and the refinement of old ones" [16, p. 1]. Moreover, this model will help healthcare providers appreciate the service they provide from patients' perspective, and work on improving care not only to meet scientific standards and benchmarks [17], but also to satisfy their patients' needs. Finally, a detailed measurement of healthcare quality will help patients evaluate the level of care provided to them, so that they make informed choices about which healthcare facility to choose as their care provider [17].

This paper was presented as a viewpoint and, therefore, has certain limitations that must be acknowledged. Firstly, whilst the paper offered a brief appraisal of some quality models, it did not provide a systematic review of the relevant literature available to date. Therefore, it is acknowledged that the list of quality models discussed is neither exhaustive nor inclusive of all tools available in the literature. Also, best effort was made to retain objectivity, yet bias was inadvertent as this piece presents a viewpoint articulated by the author, and it is presented with the aim of stimulating discussion about how of quality in healthcare is articulated and measured. Whilst healthcare providers' and patients' perspectives were the focus of analysis, it is crucial to acknowledge the need to consider the viewpoints of other stakeholders who play a vital role in healthcare systems, such as legislators, caregivers, and the public. Finally, the discussion was largely generic and abstract, discussing quality in broad terms rather than linking it to specific real-life contexts. Consequently, applying any advice offered in this paper must consider the feasibility of using multiple tools concurrently when measuring quality, whilst acknowledging any trade-offs to be made between thoroughness of measurement and practicality of application.

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