

# Measuring patient experience in healthcare

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## ABSTRACT

Understanding patient experience is crucial as it influences patient satisfaction, perceived quality of healthcare services, loyalty to physicians and providers, as well as patient health and well-being. However, the multidimensional, long-lasting, affective, and dynamic nature of patient experience demands using new metrics and emerging methodology for measurement. This research note aims to review the potential approaches to measuring patient experience in healthcare, provide a typology of patient experience metrics, and call for further research on evaluating patient experience and analyzing its effects on health outcomes.

## 1. Introduction

Patient experience has emerged as a core component of healthcare (Kluetz et al., 2018; Majeed and Kim, 2022; Wolf and Jason, 2014). Understanding patient experience is crucial for healthcare providers as it influences satisfaction, perceived quality of healthcare services, loyalty to physicians and providers, and patients' behavioral intentions (Fenton et al., 2012; Kandampully et al., 2018; Larson et al., 2019; Majeed and Kim, 2022). In efforts to increase patient satisfaction, healthcare providers utilize hospitality services such as hotel-style dining, room service, environmental aesthetics, etc. (Kim et al., 2021; Sheehan-Smith, 2006; Ulrich et al., 2008). Beyond only improving the environment, patient experience has significant impacts on patient health and well-being outcomes (Mody et al., 2020; Pizam, 2020). For instance, a recent study by Mody et al. (2020) found that hotel-like hospital rooms and services positively influenced patients' perceived well-being. Another study by Trzeciak et al. (2019) determined that compassionate care and empathy lead to positive health effects. For this reason, modern perceptions of healthcare performance have moved beyond the quality of clinical care to providing excellent, holistic patient experience. After recognizing this shift in orientation towards patients, healthcare providers can incorporate principles and practices of hospitality culture that have been successful in delivering exceptional guest experiences in other service contexts. Application of strategies from the hospitality domain can thus improve the delivery of patient experience.

Recent literature has explored developing links between hospitality and healthcare. Majeed and Kim (2022) reviewed 73 articles on healthcare hospitality and hospital-hotel choice and introduced the

conceptual framework of patient-guest hospital choice. DeMicco and La Forgia (2020), advocating for "hospitality bridging healthcare" as a cultural philosophy that contributes to satisfying experience, posited that wellness and loyalty are higher when "integrated with a hospitality-driven process" (p. 1073). Erickson and Rothberg (2017) emphasized similarities between healthcare and hospitality settings with marketing, customer relationships, and intangible practices as key features. Another study by Kelly et al. (2016) investigated experience during a hospital visit and found that even small acts of hospitality altered patient outcomes. In a similar vein, Russell-Bennett et al. (2017) reported the effects of hospitality elements, such as booking interactions, ability to modify the service environment, indulgent experience, customer relationships, etc., on patient loyalty. Introducing a hospitality organizational culture framework for healthcare, Pizam (2020) established several categories for patient-clinician interactions, workplace climate, relationships with external stakeholders, and facility atmospherics.

Despite the growing body of literature and the paradigm shift in practice, there is still a gap related to measuring different dimensions of patient experience in healthcare. Traditional methods (e.g., direct communication methods or patients' self-reported evaluations) are influenced by social desirability, availability heuristics, and other self-reported biases (Godovykh and Tasci, 2020a) and do not reflect the dynamic nature of customer journey (Becker and Jaakkola, 2020; Roggeveen et al., 2020). In addition to cognitive aspects, affective components are facets of the healthcare experience (Gao et al., 2021) and therefore need to be evaluated. Patient experience is also of longer duration than the healthcare service and occurs at different time points

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before, during, and after the service (Lemon and Verhoef, 2016; Pemberton and Richards, 2013). The multidimensional, long-lasting, affective, and dynamic nature of patient experience demands using new metrics and emerging methodologies for measurement. This research note aims to review the potential approaches to measuring patient experience in healthcare, provide a typology of patient experience metrics, and call for further research on evaluating patient experience and analyzing its effects on health outcomes.

## 2. Patient experience

Patient experience can be defined as “the sum of all interactions, shaped by an organization’s culture, that influence patient perceptions, across the continuum of care” (The Beryl Institute, 2022). Interactions are the processes, actions, and communications between patients and clinicians. Patient experience starts earlier than the actual service and begins with anticipating future outcomes and concludes after the service through post-visit evaluations and memories (Godovykh and Tasci, 2020b; Lemon and Verhoef, 2016). Experience comprises cognitive, affective, and behavioral components that interact with each other and have distinct effects on customer outcomes (Godovykh and Tasci, 2022; Kim and So, 2022; Song and Qu, 2017). Consequently, it would be more appropriate to define patient experience as a totality of cognitive, behavioral, and affective responses before, during, and after the healthcare visit.

The traditionally discussed antecedents of patient experience include the influence of communication with doctors and nurses, responsiveness and politeness of administrative staff, the effectiveness of pain control, perceived cleanliness and safety of the space, and patient expectations (Wu et al., 2013). Service interventions that improve patient experience consist of decreasing waiting times, better communication with personnel, digitalization of services, increased courtesy of healthcare staff, and others (Suess and Mody, 2018; Wu et al., 2013). Likewise, the contemporary patient experience is impacted by the usefulness and perceived ease of use of technological interfaces such as healthcare websites, telehealth portals, and information or communication technologies (Alkire et al., 2020).

Introducing hospitality culture as “a system of shared norms, values, beliefs, traditions, and expectations whose ultimate goal is to provide exceptional service and memorable satisfactory experiences to all the organizations’ stakeholders” (Pizam, 2020, p. 432) in healthcare services also influences patient outcomes. Previous studies demonstrate that room and building design, environmental aesthetics, interaction with other guests, food service management, and other hospitality attributes have significant effects on patient experience (Lin et al., 2020; Majeed and Kim, 2022). Furthermore, patient access to appropriate lighting and daylight, views of nature, presence of family zones, and noise mitigation solutions significantly reduced patient stress, pain, and depression, while also leading to higher levels of satisfaction (Demichco and Poorani, 2017; Wu et al., 2013). In addition, hospitality services such as hotel-like patient rooms, hospital wellness centers, hotel-quality food, concierge services, and entertainment activities positively influenced patient outcomes (Jonsson et al., 2021; Pati, 2010; Sheehan-Smith, 2006; Ulrich et al., 2008). Design of the servicescape, from architecture to presence of art, can be advantageous to satisfaction and improved well-being (DeMicco and La Forgia, 2020; Rosenbaum, 2018). Customized entertainment and creative technologies, remote and contactless robot-assisted services, and other smart hospitality applications also have the potential to improve healthcare experience (e.g., Buhalis and Leung, 2018; Etemad-Sajadi and Sturman, 2022; Huang et al., 2021; Jones, 2018).

## 3. Measuring patient experience

Measuring the dynamic and multidimensional nature of patient experience in healthcare demands using the combination of

multidisciplinary methods and metrics. The most common current approaches to measuring patient experience are surveys, online ratings, in-depth interviews, and direct communication with patients (Larson et al., 2019; LaVela and Gallan, 2014). Widely applied patient-reported scales include the Consumer Assessment of Healthcare Providers and Systems (CAHPS) and the Picker Patient Experience Questionnaire (Jenkinson et al., 2002; LaVela and Gallan, 2014). These surveys assess interaction with doctors and nurses, the responsiveness of personnel, the cleanliness of the hospital environment, and other aspects of hospital care (Goldstein et al., 2005). Employing customer experience scales from hospitality supports additional opportunities to measure patient experience in healthcare settings. Examples that could be utilized are the service experience scale EXQ (Maklan, 2012; Kuppelwieser and Klaus, 2021), the tourists’ emotional experience scale (Hosany and Gilbert, 2010), the experience of hospitality scale (Pijls et al., 2017), or the Positive and Negative Affect Schedule/PANAS (Flores-Kanter et al., 2021; Watson et al., 1988). Several components of the medical tourism experience scale by Ghosh and Mandal (2019), such as treatment quality, medical service quality, expenses, infrastructure, ease of access and other components, can be also used to evaluate patients’ perceptions toward healthcare services. In addition to surveys, qualitative measures like patient interviews and focus groups also assist in gaining a thick description, yielding a richer understanding of patient experience (Creswell and Creswell, 2017).

Methodologies currently applied in this domain may possess biases such as social desirability, dependence on previous knowledge, availability heuristics, patients’ feeling while answering questions, and so on (Curtis et al., 2020; Holtgraves, 2017). Manary et al. (2013) suggest that the validity of patient-reported evaluations is limited because evaluations might rely on subjective assessment of their health status, lack of medical knowledge, and fulfillment of their immediate desires regardless of the final outcomes. The literature suggests that there is a dearth of relevant tools for measuring patients’ experiences and a lack of systematic use of existing measures (LaVela and Gallan, 2014). Hence, the combination of patients’ self-reported evaluations with innovative qualitative, psychophysiological, and online metrics would be a more effective way to capture the intricate, multi-faceted nature of patient experience. Methodological triangulation of this sort facilitates comprehension of complex phenomena, offers a variety of datasets, and decreases potential for bias (Noble and Heale, 2019).

The longitudinal experience sampling method enables evaluating long-lasting healthcare experience by asking patients to share their feelings at random time points (Csikszentmihalyi and Larson, 2014). Using psychophysiological techniques captures the dynamic and instantaneous nature of patient experience and overcomes self-reported biases. The temporal resolution of cardiovascular techniques, electrodermal activity, electromyography, pupillometry, and event-related potentials can also measure the shifting character of the patient experience journey (Wilhelm and Grossman, 2010). Cardiovascular measures, such as heart rate, blood pressure, and heart rate variability, can be useful in determining the valence and intensity of positive and negative patient experiences (Agrafioti et al., 2012; Mauss and Robinson, 2009). Electrodermal activity provides skin electrical characteristics that reflect the activity of the human sympathetic system traditionally associated with emotional arousal (Kroeber-Riel, 1979; Stern et al., 2001). Electromyography of zygomaticus and corrugator facial muscles might be beneficial in evaluating the valence of patient reactions (Tassinari et al., 2007). Using pupillometry aids in reflecting emotional arousal, visual search, and working memory load; these measures would be especially applicable during telemedicine visits (Eckstein et al., 2017). In addition, event-related potentials and fMRI techniques should be effective in capturing patients’ experiences through analyzing brain activation during lab experiments and clinical trials (Logothetis et al., 2001; Luck, 2014).

Additionally, impactful qualitative approaches (e.g., ethnography, photovoice, or guided tours) can illustrate the deeper patient

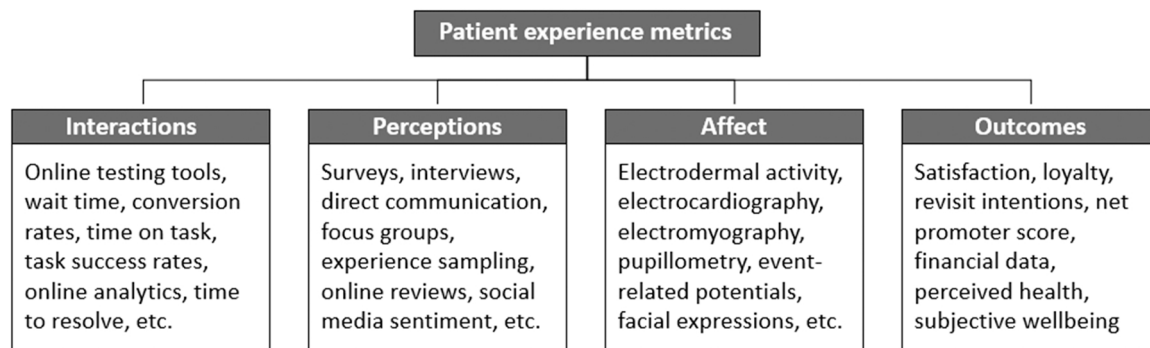


Fig. 1. Patient experience metrics.

experience. Conducting an ethnography observes patients' experiences when participating in healthcare settings (Hackett and Hayre, 2020). By inviting patients to create images and interpret aspects of their environments, photovoice techniques are valuable for understanding patients' perceptions (Halvorsrud et al., 2021). The guided tour approach, or asking patients to lead researchers through the hospital environment and describe their feelings, is another way to evaluate patients' experiences (Locatelli et al., 2015). The emergence of contemporary information and communication technologies offers further opportunities to measure patient experience. Options to evaluate experience through technological interfaces include textual analysis of patients' posted reviews or social media sentiment analysis that uses language processing and machine learning tools to gauge patient experience before, during, and after the visit (Huppertz and Otto, 2018). A combination of online testing tools (conversion rates, time on task, task success rates, etc.) might help to identify the low points, unmet expectations, peak experiences, and duration of phases in the patient experience journey.

All patient experience metrics can be widely categorized as measures of patients' interactions, perceptions, affect, and outcomes (Fig. 1). The main predictors of patient experience are related to patient expectations, communication with healthcare practitioners, responsiveness and compassion of healthcare personnel, the effectiveness of pain control, cleanliness and safety of the environment, and other factors. The interaction metrics aim to assess occurrences during the patient experience including waiting time, online conversion rates, task success rates, and additional indicators that can be measured through online analytics and patient observations. Patient perceptions are related to emotions and cognitive evaluations of their healthcare experience. Perceptions of this sort can be evaluated using surveys, in-depth interviews, focus groups, online review evaluation, and social media sentiment analysis. Affective metrics represent patient emotional responses that are brief in duration, intensive, and immediate but have significant effects on outcomes (Godovykh and Tasci, 2021). Patient emotional states can be captured using psychophysiological techniques, facial expressions, pupillometry, and emotion scales. The main outcomes of patient experience can be evaluated by assessing patient satisfaction, loyalty, behavioral intentions, and subjective evaluations of patient health and well-being.

Researchers should apply a combination of objective and subjective interactions, perceptions, affect, and outcome metrics to access the complex, dynamic nature of patient experience in healthcare. The relative importance of each patient experience dimension can be empirically tested in future studies by conducting surveys, interviews, online analytics, experiments, and longitudinal studies. The relationships between patient experience, its antecedents, and outcomes can be moderated by patients' age, gender, personality traits, cultural differences, timeliness of care, and prior experience (Holt, 2018). Healthcare providers, including hospitals, medical clinicians, allied healthcare professionals, and senior living communities, can utilize the proposed methodological triangulation to measure patient experience in diverse

and significant ways. It is pertinent for providers to remain apprised of the effects of patient experience; the proposed metrics and mixed methodology will assist with this goal. It is critical for healthcare authorities to conduct rigorous nationwide evaluations of the impact of patient experience on patients' and providers' outcomes. Continually and earnestly investigating the effects of hospitality culture on patients' satisfaction, condition, and well-being will ensure that services are healthful and conducive to quality of life.

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