

# The Impact of Patient-Centered Care on the Patient Experience in Healthcare Settings

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## ABSTRACT

Patient-centered care refers to the process of empowering patients and centering care around a patient's preferences, values, and goals. Empowering patients means that they are educated about their medical condition and treatment plan, as well as being encouraged to be active in their care processes. Patient-centered care has been shown to contribute to favorable patient outcomes in terms of treatment adherence, patient satisfaction, treatment outcomes, and overall patient experience with a variety of medical conditions. The purpose of this review is to explore the patient experience with exposure to the medical home model—a model shown to improve the delivery of patient-centered care. The patient experience and general scores of quality of care are fairly consistent across payers and diagnoses. Improving the quality of care within our population has been a goal of most nations for a long time. Various remote and rural communities are often more at risk when it comes to receiving the high-quality, patient-centered care that aligns with the patient-centered medical home model design principles than those in urban areas. Patient-centered care was proposed in response to the increasing complexity and specialization of health care and the increasing number of patients. These changes highlight the need for relationship, trust, and respect between the doctor and the patient as essential features of patient-centered care. Given the relative simplicity, there is enormous potential to develop solutions to improve the experience of care for more remote and rural patients in line with the principles of the patient-centered medical home model. That is our focus in the present situation.

**Keywords:** diagnoses, principles, situation, relationship.

## 1. Introduction to Patient-Centered Care

Patient-centered care refers to the process of empowering patients and centering care around a patient's preferences, values, and goals. Empowering patients means that they are educated about their medical condition and treatment plan, as well as being encouraged to be active in their care processes. Patient-centered care has been shown to contribute to favorable patient outcomes in terms of treatment adherence, patient satisfaction, treatment outcomes, and overall patient experience with a variety of medical conditions. The purpose of this review is to explore the patient experience with exposure to the medical home model—a model shown to improve the delivery of patient-centered care. The patient experience and general scores of quality of care are fairly consistent across payers and diagnoses. Improving the quality of care within our population has been a goal of most nations for a long time. Various remote and rural communities are often more at risk when it comes to receiving the high-quality, patient-centered care that aligns with the patient-centered medical home model design principles than those in urban areas. Patient-centered care was proposed in response to the increasing complexity and specialization of health care and the increasing number of patients. These changes highlight the need for relationship, trust, and respect between the doctor and the patient as essential features of patient-

centered care. Given the relative simplicity, there is enormous potential to develop solutions to improve the experience of care for more remote and rural patients in line with the principles of the patient-centered medical home model. That is our focus in the present situation.

### Methods

In November 2005, a roundtable was convened in Washington, D.C., that brought together key stakeholders in healthcare to launch a public-private initiative to improve communication between patients and their healthcare providers and establish patient-centered care as a standard. We conducted a literature review to identify and evaluate recent evidence on the impact of patient-centered care on key outcomes. We identified 30 studies published between 1990 and 2005, including recent systematic reviews, current research, and a few studies on innovative approaches that assessed the evidence. The studies were of variable quality and used different methodologies. We found that the evidence supports positive effects of patient-centered care, but current and proposed performance measures to assess patient-centered care are inadequate. The field is growing, and future work would benefit from common definitions and methods and from a focus on innovative interventions designed to improve processes and outcomes.

### Conclusion

In conclusion, the objective of improving the care of those who are ill is one that unites people from various traditions and outlooks. It is important to remember that ultimately the business of health care is about curing... it is also about caring. Physicians enjoy a special place in the social order. Governments have acted out of humanitarian motives to help the injured and ill. The international medical community has made global care its official business. Patient-centered care is a concept that would be endorsed by believers of all faiths and traditions, and that should win over the most hardheaded of policymakers. Not only is the commitment to patient-centered care endorsed by humanists of all ilk, the achievement of successful medical treatment and care requires all these elements to function harmoniously. There is a growing understanding that the very best health care comes from a proper equipoise among all these factors. Attempts to treat patients failed to consider the unique psychological effects of each disease; such simple steps break down at the individual level. Financial concerns are essential to sound health policy and practice; we would be foolish to pretend otherwise. The best healthcare systems are those that are identifiable; it is the latter that nourishes and is nourished by patient trust. And this element is equally critical in small practices, such as one-person practices. Healthcare systems that lack any one of these elements are in some real sense not medical: without a caring person with compassion to heal, care is grappling with material care. Thanks to the natural creativity and economy of medicine, data support the intuition that major changes in care can be introduced in major healthcare environments. Every measure of quality care measured to date has shown improvement in all participating clinics.

#### 1.1. Definition and Principles

Patient-centered care is an approach to providing care in the healthcare system that is focused on improving the individual patient's experience in the care they receive. It is the quality of the relationship and communication between the healthcare provider and the patient that drives improvement in outcomes in this model. It is frequently delivered in the primary care setting as care focused on the entire patient, not on a single episode of illness or disease. It is the patient showing up to an appointment focused on prevention or early detection as part of maintaining their health. It also happens in the emergency room in the middle of a life and death situation when the provider responds to the individual needs and preferences of the patient. The guiding principles of patient-centered primary care are the foundational elements of this care model. (Alshammri et al.2022)(Kuipers et al., 2021)(Liu et al., 2024)

The importance of the patient's perspective has been recognized as central to the concept of patient-centered care by both healthcare providers and the healthcare profession. But with the transformation of the healthcare system of the early 21st century, this perspective has expanded, not from the care of the patient, but from the concept of the patient in general. The reason given is a medical model designed to diagnose and treat illness, while the person is generically the individual to be treated. However, improvement is needed in the ability of the healthcare system to meet the current needs of providers and patients. Several initiatives have been launched to address this topic in publications, conferences, and action plans. Subsequently, other professional organizations created by practitioners and consumers have used the patient-centered concept to study and improve the efficiency of the healthcare transaction. These organizations define patient-centered care as attributes of a good relationship and good communication between the patient and provider. They have identified aspects of care that can be evaluated and measured in the context of improving patient outcomes. When the perspectives of different interest groups are included in the same approach, we can expand the definition of patient-centered care.

## 1.2. Historical Context and Evolution

Historical Context and Evolution The historical underpinnings of patient-centered care are generally traced to changes in physician-patient relationships in Greco-Roman antiquity, which were based on a growing body of medical knowledge. The Hippocratic writings, related instructions to young aspiring doctors, and various regulations were primary guides. In the Hippocratic writings, in particular, attention to the patient's characteristics began to form a collective "picture" of what might be going on inside the body, which was greatly enhanced by Galen, who practiced in Rome and described the progression of various symptoms in diseases analytically. Islamic medicine of the ninth century also focused on achieving a diagnosis through a pre-patient laboratory examination, and as diagnostic and therapeutic procedures expanded, however slowly, one's status in society was recognized. A Persian healer-philosopher suggested that attention be paid to the social and economic conditions that patients' activities required. During the Renaissance, the transition from the "patient" as the "disease" to the "patient" as a "person" in the familiar understanding of this term began to take place. Medical approaches, grounded in the laboratory-like anatomy theater of the era, facilitated innovation in pharmacology and surgery, but the power of a trained and knowledgeable healthcare professional to subjectively assess, through patient-physician dialogue, the conditions that could cause the emergence of certain symptoms and lead to specific therapies had no boundaries, and in some cases, contributed to the mystique of the medical specialist. Over centuries, numerous approaches to care have been developed and modified. These, however, were part and parcel of existing healthcare settings, driving forces in the further development of geographic information system analysis and more recent applications in healthcare economics, with the ultimate goal of creating and sustaining equitable and patient-centered healthcare systems. However, patient-centered care, a "style of medicine," is relatively modern and post-nonagenarian, approximately 80 years old. The second part of this chapter is devoted to describing and assessing its impact.

## 2. The Importance of Patient-Centered Care

Patient-centered care is generally recognized as a means of patient empowerment that allows patients to participate in healthcare decision-making and shifts the balance of control from healthcare professionals to patients themselves. The result is a focus on the patient rather than the disease, and on the prevention and management of the multiple problems individuals and families experience with illness. Patient-centered care has been linked to better patient experiences, improved adherence, and better clinical interventions. It has also been associated with higher levels of patient trust in healthcare professionals and with better clinical outcomes. With it, patient engagement in healthcare decision-making increases, and levels of patient satisfaction improve, in addition to emotional support and longer consultations with healthcare professionals. Patient-centered care is part of a broader shift away from medical paternalism and towards patient autonomy, which has implications for both nursing practice and nurse education. While there may be some resistance from both patients and health professionals, most nurses support the move towards a more patient-centered way of working, considering patient-centered care to be at the core of the profession. As such, enabling patients to respond to the challenge of contemporary healthcare as informed, capable partners requires a healthcare system that is organized to support this. In order to foster patient-centered care, sustainable change is required, with organizational support, nursing education, and the role of the nurse as fundamental factors.

### 2.1. Enhancing Patient Satisfaction

A meta-analysis of 17 studies performed to elucidate the importance of patient-centered care and satisfaction found a positive association between the two. Another meta-analysis that focused on communication between healthcare providers and patients found a direct connection with patient satisfaction and patient compliance, offering empirical evidence that both prevention and cure consist of elements that include active cooperation and symbiosis between patients and healthcare providers. When it comes to patient-centered care, the therapeutic alliance, which is a bi-directional partnership between patients and healthcare providers, also affects patient satisfaction. The therapeutic alliance comprises three key elements: a) the capacity for cooperation; b) agreement between healthcare providers and patients concerning their illness experience and treatment plan goals; and c) the patient's attachment, including their feeling of being regarded as an equal partner by the healthcare provider. In addition, the collaboration, cooperation, and partnership that are formed during the therapeutic alliance have an impact on the patient's functional outcome. (Ferla et al.2022)(Bejarano et al.2022)

The communication skills of healthcare providers can affect patients' health results. According to another meta-analysis, which included 106 empirical studies, disease management can be enhanced when healthcare providers use emotionally supportive communication skills and facilitative communication behaviors. Another study on the dialoguing process reported that the way respondents engage in interactions during a consultation can provide maximum opportunities to help make shared decisions with a continuous emphasis on shared viewpoints and responses that contribute to creating group inclusion. The emotional needs of patients can be fulfilled when healthcare consists of care beyond cure, and when healthcare providers reveal an understanding of patients' feelings. Healthcare providers must demonstrate awareness of patient emotions in order to

successfully meet those needs. Healthcare providers who present talk-time control behaviors, employing a controlling style with enthusiasm accompanying an emphasis on medication compliance, have been linked with higher patient satisfaction and higher levels of illness experience.

## 2.2. Improving Health Outcomes

In addition to the ways that patient-centered care impacts the patient experience, there are also a number of ways that it can contribute to improvements in patient health. The individual contributions of each of these improvements to overall positive health outcomes will be affected by patient characteristics, such as health status, and the severity and nature of their condition. Targeted interventions will likely be the most effective way to address the health needs of obese adults who receive care from patient-centered facilities. Patient-centered care has also been linked to preventive services use and adherence to clinical guidelines. Patient-centered care can, in turn, promote shared decision-making between patients and health care providers, possibly improving patient outcomes. While there is some evidence to support the link between patient-centered care and health outcomes, particularly in chronic disease care, the evidence is still evolving in areas such as preventive care, and it is not yet clear which features of patient-centered care are most strongly linked to health outcomes across multiple populations and settings. Future efforts in this area should focus on tying individual characteristics, patient experience measures, and patient-centered care features to outcomes that are even more patient-centered, cutting down on preventable adverse effects and improving patients' overall health and well-being.

## 3. Key Components of Patient-Centered Care

The concept of patient-centered care has been described in healthcare literature since the 1800s. Early formulations proposed that in establishing a patient-physician relationship, patients who are ill and require medical intervention would provide information and then turn the decision-making role over to the physician, participating only to the extent of following advice. This concept can be seen in very current discussions. The eight dimensions of patient-centered care are respect for patients' values, preferences, and expressed needs; coordination and integration of care; informed access to information and education; emotional support to relieve fear and anxiety; involvement of family and friends; continuity as a result of caregiver transfer, team responsiveness, and follow-up; physical comfort that was easily obtained, attentive, and respectful; and coordination of community resource support. More recently, it was recommended that patient-centered care focus on health care outcomes, consumer needs and preferences, evaluation of patient care functions and patient-clinician relationships, and expansion of the roles and responsibilities of patients and family members. It was suggested that core components should include respect for patients' values, preferences, and expressed needs; coordination and integration of care; information, communication, and education; physical comfort; emotional support and alleviation of fear and anxiety; involvement of family and friends and participation in care and decision-making; continuity and transition; and access to care.

### 3.1. Effective Communication

The theme of patient-provider communication was the most frequently discussed in the literature that was reviewed. Meta-analytical studies reveal the importance of this for a wide range of outcomes: comprehension of diagnosis and treatment, satisfaction, adherence, and health outcomes are all affected by the way doctors communicate. In a study of consultations with general practitioners, patient satisfaction was linked not only with the perceived empathy of the doctor but also, and more strongly, with the perceived control exercised by the patient in the interaction. These results have been replicated in a comprehensive study and also in a study of pain management interviews. There are now robust major theoretical models relating to the quality and content of the consultation that are based on the specificity of the communication process and the doctor's behavior. These measures are also sensitive to the doctor's training and are linked with patient outcomes. (Hoffstädt et al.2020)(Lu & Zhang, 2021)(Wu et al., 2022)

It is worth clarifying what we mean here by 'quality' of consultation is not necessarily length. Perceived quality is a better predictor of what patients take from a consultation than objective length. In the latest edition of her book, it is reflected that advice on spacing out involves more than the passage of time. It also involves the development of trust, confidence, and frankness in the relationship. Patients are more satisfied with the time allotted for a consultation, non-verbal sensitivity, information exchange, enabling, and support. Other quality indicators include shared decision-making, understanding of diagnosis/prognosis, knowing whom to contact if they have concerns or get worse, being asked about psychosocial problems or needs, advice about talking to family about their condition, and meeting expectations with respect to treatment. However, these interpersonal attributes are not necessarily associated in a linear fashion. Different patients have different needs in terms of the balance between their communication and information exchange, and integrating the experiences and needs of diverse patients within consultations can be among the most challenging tasks for all involved. Educational input could potentially make a difference.

### 3.2. Shared Decision-Making

Shared decision making is the crux of true patient involvement in care. In patient-centered care, the provider works collaboratively with the patient to create a care plan that reflects the patient's desires and clinical needs. The approach to shared decision making involves informing patients of their clinical statuses, making sure they understand their choices, and helping them make appropriate decisions based on their personal preferences. The clinician's responsibility includes ensuring that the patient knows and understands the evidence-based advantages and disadvantages of treatment. Organizing healthcare services around the needs and preferences of healthcare consumers results in positive effects in the form of improved health outcomes, reduced unplanned healthcare use, and lower costs. Without a clear understanding of the principal contributions of treatment or care, patients may be severely hampered in making informed choices. For example, opening communication between the healthcare consumer and the provider found that favorable clinic outcomes are reported in such diverse medical areas as Alzheimer's disease, attention-deficit/hyperactivity disorder, geriatric care, diabetes, epilepsy, hypertension, osteoporosis, and weight management. Such dialogue may optimize health by increasing patient satisfaction but also by enhancing physical and emotional well-being as well as functional ability and cognitive status. The potential added benefit of patient education and stronger provider-patient partnerships extends into the realm of overall mental health. Only after the consumer is fully informed can they properly weigh treatment or care options, and values are received, are appropriate decisions concerning treatment taken.

## 4. Implementing Patient-Centered Care in Healthcare Settings

This change in the patient-centeredness of healthcare services will require more than a physician behavior change. Healthcare organizations will be required to create climates and cultures that are more supportive of physicians treating patients in a more empathetic and compassionate manner. They will also need to build provider teams around the patient to address the patient's needs, not just their medical conditions. The largest change in healthcare will come when the financial incentives for the care of patients put helping the patient in their lives in a patient-centered manner in addition to just treating medical conditions at the heart of healthcare services. Implementing patient-centered care in healthcare organizations is a broader concept than it would seem. What is needed are institutional changes that help providers pay attention to creating the experience of patient-centeredness. Organizations unable or unwilling to make systemic changes that can help to create the atmosphere necessary for the experiences of patient-centered care to occur will leave providers who attempt to use patient-centered behaviors with little or no institutional support. Once they find that they receive little or no approval and have few financial rewards for their efforts, it is unlikely that they will continue to use such patient-centered behaviors, especially when there are ways in which they can increase their financial rewards through the use of individual control strategies that are the least time-consuming and discouraging to handle.

### 4.1. Barriers and Challenges

Research on patient-centered care has been conducted in a variety of healthcare environments, with a wide range of providers and patients from different populations and health conditions, who can enter the healthcare setting through a variety of routes. Understanding what it takes to implement patient-centered care, and in such a way that the staff understands it, accepts it, and is capable of delivering it competently, respectfully, and efficiently, has revealed many issues of concern that frame the potential for more widespread routine implementation. Researchers studying the experience and reporting of care in mental health have repeatedly referred to the lack of availability of patient-centered care as a key concern of patients and their caregivers, and that this lack of availability is a reason why people in need of services would choose not to seek treatment. This raises other questions that are central to a patient perspective. The goals of patient-centered care are to improve the patient experience and to lead to better health outcomes for the individual; to do so, patients must perceive care that is patient-centered, respectful, and safe, and not suboptimally delivered by reluctant or poorly trained healthcare professionals who have not themselves experienced patient-centeredness. Their care, which depends on person- and family-centered relationships and communications, can be lost through a miscommunication or misunderstanding that is not corrected in a timely manner. Rigidly applied punitive measures designed to enforce behavioral rules do not inspire confidence in the presence of compassion, empathy, or increased understanding being present in the therapeutic relationship, contributing to an impression of being treated in a way that is not compassionate or genuine.

### 4.2. Strategies for Successful Implementation

To date, there is no one right way to achieve patient-centered care because there are too many variables that depend on individual organizational circumstances. In order to have the patient experience benefits that are expected by adhering to the patient-centered tenets, much depends on the consistent use of best practices and high-quality communication training of the healthcare team. However, to ensure a fast and successful implementation of patient-centered care, healthcare organizations and their employees can use several strategies. For example, after the provision of an introduction to the patient-centered care concept and the definition of

tasks, all employees must be trained in communication skills. This training should consist of refresher classes for all employees so that they can stay familiar with the recently developed strategies. Other important strategies can include simplification of processes, the creation of a good work environment, and the provision of sufficient resources. The facilitation of sufficient encounter time when viewing patients and their specific conditions is also deemed to be essential. Only when the workforce is provided with some or any of these requirements can satisfied staff provide an excellent patient experience. Organizations that promote and investigate such initiatives will be able to provide a business case for strong leadership that is committed to creating patient-centered care.

## 5. Measuring the Impact of Patient-Centered Care

While a great deal has been written about the components of patient-centered care, relatively few practical measures have been developed that can be used to judge the extent to which health care organizations are actually delivering patient-centered care. In this section, we will examine a subset of these measures in greater detail, as they are particularly relevant to the patient-centered focus of the current investigation. These include: patient care experiences; patient assessments of their care; nurse assessments of patient care; observational studies of provider behavior; and patient narratives and complaints. 5.1. Patient Care Experiences: The majority of patient care experience measures that are available either focus on inpatient stay care experiences or use a large number of questions to collect data on a variety of healthcare settings and experiences. Care experiences can be grouped into two basic categories. The first category collects data on a patient's interactions with the hospital. Included in this category are the number and nature of patient-staff or staff-visitor interactions, the nature of the environment the patient is situated in, and the availability of an experienced healthcare professional to answer questions or provide information about the patient's health. The second category collects data about the patient's interactions with physicians, nurses, and other healthcare providers. Items in the category include the nature and quality of the interactions, the amount of information about treatment and recovery, the time spent waiting to see a doctor, or answer alarms or requests, and the intensity of the care that the patient received.

### 5.1. Patient Experience Surveys

Patient experience surveys specifically investigate whether a patient receives patient-centered care. Patients are personally interviewed about the care they receive and asked questions about privacy, communication, information, involvement, and taking account of needs, comfort, food, cleanliness, and discharge. A 37-question survey was administered in 2002 in 267 National Health Service hospitals in England and measured patient satisfaction with five factors: patient safety, waiting service, patient care, patient respect, and coordination of service. Different indicators including hospital death rate, hospital readmission rates for elective, accident and emergency, and one condition effect were combined to develop patient perceptions about hospital care.

A patient satisfaction survey was used that is designed and validated by an independent survey company that has performed research and survey work with more than 500 healthcare organizations. The survey consists of 50 questions along with five demographic questions linked to a patient's overall assessment scores. Four of the questions and patient assessments obtained about how well batteries are controlled, nurses listened carefully, signals were answered promptly, and general views were comfortable. Each question was scored from one to five, with the highest value indicating good satisfaction for the patient. The results were then aggregated to develop an overall satisfaction score.

### 5.2. Clinical Outcomes

For example, patients monitored by physicians with a more patient-centered style are more likely to have their blood pressure controlled or to achieve other health-related outcomes. Other researchers have also reported a positive correlation between physician empathy and ideal cholesterol levels among patients with diabetes. In a longitudinal study, patients with diabetes cared for by physicians with a more patient-centered style were more likely to be vaccine compliant, receive less specialty care, and have longer diabetic retinopathy screening intervals. However, these patient benefits did not occur for those patients with non-diabetic hypertension histories. Hindered by issues with nonrandom group assignment, the research team has only been able to identify a positive correlation between patient-centered care and health-related outcomes. In some healthcare settings, if this association were proved to be true, the addition of patient-centered doctors to the staff may be one means of increasing the effectiveness of evidence-based strategies.

## REFERENCES

1. Alshammri, A., Almalki, A., Alasmay, M., Alshihre, M., Al-Qarni, H., Alqahtani, T., ... & Alotibi, M. (2022). The Impact of Patient-Centered Care at Work: Make a Difference to the Patient Experience. *International Journal for Scientific Research*, 1(2), 171-187. vsrp.co.uk

2. Kuipers, S. J., Nieboer, A. P., & Cramm, J. M. (2021). Making care more patient centered; experiences of healthcare professionals and patients with multimorbidity in the primary care setting. *BMC family practice*. [springer.com](https://www.springer.com)
3. Liu, P. L., Yeo, T. E. D., & Ye, J. F. (2024). ... -centered care and patient activation in the health impacts of offline healthcare obstacles and online health consultations among deaf and hard-of-hearing patients. *Health Communication*. [tandfonline.com](https://www.tandfonline.com)
4. Ferla, J. B. D. S., Araújo, C. M. D., Stechman-Neto, J., Tonocchi, R. D. C., Krüger, S. I., & Berberian, A. P. (2022). Effect of the patient-centered care model on health professional satisfaction: a systematic review. *Revista Gaúcha de Enfermagem*, 43, e20210288. [scielo.br](https://www.scielo.br)
5. Bejarano, G., Csiernik, B., Young, J. J., Stuber, K., & Zadro, J. R. (2022). Healthcare students' attitudes towards patient centred care: a systematic review with meta-analysis. *BMC Medical Education*, 22(1), 324. [springer.com](https://www.springer.com)
6. Hoffstädt, H., Stouthard, J., Meijers, M. C., Westendorp, J., Henselmans, I., Spreeuwenberg, P., ... & van Vliet, L. M. (2020). Patients' and clinicians' perceptions of clinician-expressed empathy in advanced cancer consultations and associations with patient outcomes. *Palliative Medicine Reports*, 1(1), 76-83. [liebertpub.com](https://www.liebertpub.com)
7. Lu, X. & Zhang, R. (2021). Impact of patient information behaviours in online health communities on patient compliance and the mediating role of patients' perceived empathy. *Patient Education and counseling*. [academia.edu](https://www.academia.edu)
8. Wu, Q., Jin, Z., & Wang, P. (2022). The relationship between the physician-patient relationship, physician empathy, and patient trust. *Journal of general internal medicine*. [springer.com](https://www.springer.com)