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Hospice-Palliative Medicine as a Model of Value-Based Healthcare

Dae Seog Heo ,¹ Shin Hye Yoo ,² Bhumsuk Keam ,^{2,3} Keunjoo Yoo ,¹ Insun Choi ,¹ and Min-Jeong Kim ¹

¹Patient-Centered Clinical Research Coordinating Center, National Evidence-Based Healthcare Collaborating Agency, Seoul, Korea

²Center for Palliative Care and Clinical Ethics, Seoul National University Hospital, Seoul, Korea

³Department of Internal Medicine, Seoul National University Hospital, Seoul, Korea



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Address for Correspondence:

Dae Seog Heo, MD, PhD

Patient-Centered Clinical Research
Coordinating Center, Health & Social Welfare
Administration Complex 3F, 400 Neungdong-
ro, Gwangjin-gu, Seoul 04933, Korea.
Email: heo1013@snu.ac.kr

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ORCID iDs

Dae Seog Heo

<https://orcid.org/0000-0001-5221-173X>

Shin Hye Yoo

<https://orcid.org/0000-0001-7473-1082>

Bhumsuk Keam

<https://orcid.org/0000-0001-8196-4247>

Keunjoo Yoo

<https://orcid.org/0000-0002-2296-5837>

Insun Choi

<https://orcid.org/0000-0003-2091-5964>

Min-Jeong Kim

<https://orcid.org/0000-0002-2418-8226>

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Advances in medical technology have increased people's lifespans, and evidence-based medicine that utilizes health technology assessments has contributed significantly to medical development. Owing to the ever-increasing costs of medical services, cost-effectiveness analysis has been adopted to ensure the efficient use of limited healthcare resources. However, problems that cannot be solved through medical technology alone have emerged because of the aging of the global population. When faced with a choice providing life-sustaining treatment to a terminally ill patient or offering them comfortable end-of-life care in a hospice, value-based choice takes precedence over technical judgment.

In addition to cost, various values must be considered when making medical decisions. The World Health Organization (WHO) and the Organization for Economic Cooperation and Development (OECD) expect "value-based healthcare" (VBHC) to play a major role in solving these problems.¹ However, the concept itself remains vague and has not attracted significant attention in the field of medicine.

What Is Value-Based Healthcare?

Evidence-based medicine has shown that making decisions based on scientific evidence is better than making decisions based on individual experience. However, the technological development of medicine has resulted in the emergence of cases where it is difficult to only rely on health technology assessment, usually focusing on efficacy and safety. The cost of medical treatment is also a major concern. Economic evaluation was initially introduced as a strategy to manage the problem of medical costs. Although comparative evaluation has become possible through quantified indicators using cost-effectiveness analysis, it is often difficult to make decisions based on economic evaluation alone, because the value of various other elements must be reflected as well.

The United Kingdom's National Health Service (NHS) defined VBHC as the equitable, sustainable, and transparent use of available resources to achieve better outcomes and experiences of care for every person.² The WHO adopted a broad and comprehensive definition of VBHC that requires a deeper understanding of what patients, families, health professionals, communities, and societies as a whole value most in relation to health care.¹

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VBHC encompasses a range of considerations besides value for money (from value for money to value-based health services).¹

The European Union (EU) expert panel defined VBHC as a comprehensive concept built on four value pillars: appropriate care to achieve patients' personal goals (personal value), achievement of best possible outcomes with the available resources (technical value), equitable resource distribution across all patient groups (allocative value), and contribution of healthcare to social participation and connectedness (societal value).³

VBHC originated from the need to reduce costs and improve quality of care. There are different value standards for various stakeholders (e.g., patients, healthcare providers, insurance agencies, society). There may also be conflicts among stakeholders. However, a consensus can be reached with the perspective of what is best from the patients' viewpoints (patient-centered care).^{1,3} The National Academy of Medicine (formerly the Institute of Medicine) defined "patient-centeredness" as providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions. It encouraged coordination and integration of care. The Patient-Centered Outcomes Research Institute (PCORI) aims to present evidence of the most efficient use of healthcare resources by comparatively evaluating various medical technologies in a patient-centric manner.⁴

Medical judgment requires specialized knowledge. As a result, decisions related to medical care have traditionally been paternalistic. However, VBHC is more compatible with shared decision-making, where the medical staff explain the pros and cons of available medical technologies to the patient, who subsequently makes a decision in consultation with the staff.

In the United States, the Centers for Medicare and Medicaid Services adopted VBHC to treat cancer patients in 2016 and attempted to provide higher quality service through more coordinated cancer care.⁵ Since 2017, the NHS has also been funding a pilot project on the "Vanguards" care model that integrates various medical resources, including the primary care system, acute care system, community, and home care.⁶ A typical example of VBHC is the improvement of side-effect-induced patient safety issues and conservation of healthcare resources through the reduction of instances where frail older patients are overmedicated due to being given multiple prescriptions. Cost reduction is a secondary outcome of VBHC, not its primary goal.

In Korea, the number of patients with complex chronic diseases continues to increase owing to the aging of the population. However, since medical services are currently segmented by specialty, problems resulting from overlapping prescriptions have emerged, and medical expenses are increasing rapidly. Further, nursing care has not improved. The implementation of VBHC, which combines medical resources and welfare services, will help reduce unnecessary spending and increase patient and family satisfaction. Additionally, it will decrease the workload of healthcare workers.

Quantitative indicators and fee-for-service are widely used in technology-driven medicine, but patients are growing more concerned about their quality of life. **Table 1** summarizes the differences between technology-oriented medicine and VBHC.^{3,4} Previous studies have described limitations to the adoption of VBHC, which include challenges related to measuring patient-centered outcomes, creating multidisciplinary units, attributing and communicating costs, and bundling payments.⁷ However, the benefits of VBHC outweigh its risks.

Table 1. Comparison between technology-oriented medicine and value-based healthcare

Items	Technology-oriented medicine	Value-based healthcare
Direction	Health technology assessment	Patient-centered care
Medical decision	Paternalistic	Shared decision
Utilization of healthcare resources	Fragmented	Coordinated
Outcomes	Quantity	Quality of care/life
Reimbursement system	Fee-for-service	Payment linked to quality (bundled payment for performance)

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The need for decision-making that reflects patient values has been emphasized, but it is difficult to outline how exactly VBHC should be implemented. Hospice-palliative medicine has been recognized as a medical field that serves as a last resort for terminally ill patients. However, it has recently attracted attention as a form of care that reflects patient values.⁸

In Korea, VBHC must be established throughout the medical field, and the most appropriate model for its implementation would be hospice-palliative medicine. Our evaluation was based on the four value pillars suggested by the EU.

1) Personal value

If a terminally ill patient develops hypoxia due to pneumonia and has difficulty breathing, it is appropriate to transfer them to the intensive care unit and apply a ventilator to overcome the hypoxia. However, the decision may be criticized because it only prolongs the period of suffering and not the period of meaningful survival. Rather, it may be more appropriate to transfer the patient to a hospice or palliative care unit to minimize their pain and allow them to spend the end of their life in a meaningful manner with their family. It is difficult to determine which option is better for terminal patients based on scientific evidence alone, and value-based decisions that reflect the patient’s self-determination are often justified (Table 2).⁹

2) Technical value

Although medicines help patients, their side effects can occasionally cause more harm than good. The toxicity of anti-cancer drugs can increase hospitalization and the possibility of dying at the hospital rather than at home. When a patient stops responding to chemotherapy, it is advisable to discontinue treatment because its side effects would offset the benefits. A study on cancer deaths in Korea found that patients who died in hospice-palliative care units incurred lower medical expenses than those who died in hospitals.¹⁰

3) Allocative value

According to OECD data (2016–20), pharmaceutical expenses accounted for 19.3% of total medical expenses in Korea, whereas they accounted for 12.6% and 11.5% of total medical

Table 2. If a patient with terminal cancer develops hypoxia, would a ventilator be used?

	Family		Total
	Accept	Oppose	
Physician			
Accept	12	5	17
Oppose	52	25	77
Total	64	30	94

The concordance for the use of a ventilator by the families and physicians of the same patients was only 37/94 (39.4%).⁹

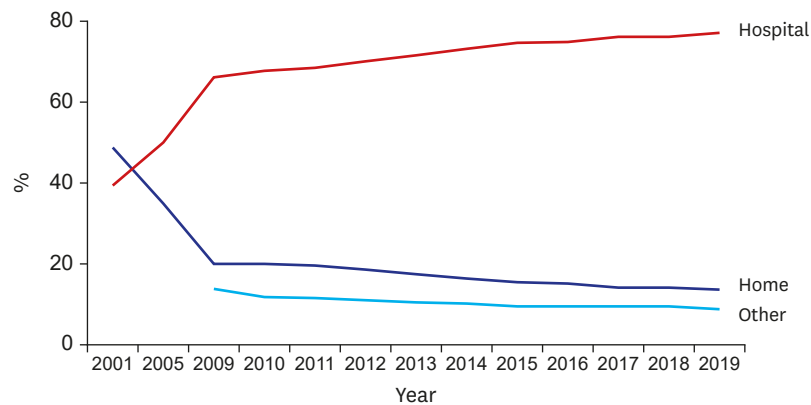


Fig. 1. Changes over time in the place of death of Koreans (plots based on Statistics Korea, Feb 26, 2020).

expenses in the United States and the United Kingdom, respectively.¹¹ Most of the medical expenses were on account of diagnostic tests and medicines, and the use of care-oriented medical services such as hospice-palliative care was limited.

A total of 13.8% of Koreans died at home, whereas 77.1% died at a hospital in 2019 (Fig. 1).¹² According to a survey conducted by the National Health Insurance Service, 57.2% of the patients wished to die at home, 19.5% wished to die in a hospice, and only 16.3% wished to die in a hospital.¹³ Most of the patients who died in a hospital were there not because they wanted to be there, but because their families could not take care of them at home. Therefore, it is appropriate to allocate limited medical resources to care-oriented services.

4) Societal values

The Life-Sustaining Treatment Decision-Making Act (2018) in Korea was based on patients' right to self-determination. Advance directives that can reject futile life-sustaining treatments reflect self-determination.¹⁴ The communication method has also changed, and the choice between hospice-palliative care and life-sustaining treatment requires a shared decision that reflects the patient's opinion and is no longer a paternalistic decision made by medical staff.¹⁵

Even terminally ill patients can select from among various treatment options. When following traditional technology-oriented medicine, decisions would be made based on the technical judgment of physicians. Hospice palliative care services are provided by multidisciplinary teams (physicians, nurses, social workers, other specialties, and volunteers). It integrates healthcare resources and social welfare services for patients. To support this collaborative approach, the hospice-palliative care system has been reimbursed by the bundled payment system (daily flat rate: 381,160 won per day for an inpatient) since 2015. This is more beneficial than the fee-for-service system that necessitates paying for each medical technology separately.

Conclusion

VBHC and evidence-based medicine are not contradictory concepts. In fact, they complement each other.¹⁶ Scientific evidence and values are two important axes in medical decisions. Medical technologies that rely on a high level of evidence and have high social

values are essential. The hospice palliative care system reflects patients' values, which are informed by social values. In this regard, hospice palliative care is expected to greatly contribute to the establishment of VBHC in Korea. As the population ages, the number of people with multiple chronic diseases and single-person households are also increasing. Therefore, VBHC is the need of the hour.

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