



# A Delphi Study to Validate the Patient-Centered Doctor's Competency Framework in Korea

Sunju Im<sup>1</sup>, Youngjon Kim<sup>2</sup>, Chanwoong Kim<sup>3,4</sup>, Geon Ho Lee<sup>5</sup>, Sun-Woo Lee<sup>6</sup>, Woo Taek Jeon<sup>7</sup>, Hanna Jung<sup>7</sup>, So Jung Yune<sup>1</sup>

<sup>1</sup>Department of Medical Education, Pusan National University School of Medicine, Busan, Korea

<sup>2</sup>Department of Medical Education, Wonkwang University School of Medicine, Iksan, Korea

<sup>3</sup>Department of Emergency Medicine, Chung-Ang University College of Medicine, Seoul, Korea

<sup>4</sup>Department of Medical Education, Chung-Ang University College of Medicine, Seoul, Korea

<sup>5</sup>Department of Family Medicine, Daegu Catholic University School of Medicine, Daegu, Korea

<sup>6</sup>Department of Psychiatry, Chungnam National University College of Medicine, Daejeon, Korea

<sup>7</sup>Department of Medical Education, Yonsei University College of Medicine, Seoul, Korea

Defining a competent doctor is important for educating and training doctors. However, competency frameworks have rarely been validated during the process of their development in Korea. The purpose of this study was to validate the patient-centered doctor's competency framework, which had been developed by our expert working group (EWG). Two rounds of Delphi questionnaire surveys were conducted among a panel of experts on medicine and medical education. The panel members were provided with six core competencies, 17 sub-competencies, and 53 enabling competencies, and were asked to rate the importance of these competencies on a 5-point Likert scale. Between April and July 2021, a total of 28 experts completed both rounds. The data of the Delphi study were analyzed for the mean, standard deviation, median, inter-rater agreement (IRA), and content validity ratio (CVR). A CVR >0.36 and IRA ≥0.75 were deemed to indicate validity and agreement. This study found that five enabling competencies were not valid, and agreement was not reached for three sub-competencies and two enabling competencies. In consideration of CVR and the individual opinions of panel members at each session, the final competencies were extracted through consensus meetings of the EWG. The competencies were modified into six core competencies, 16 sub-competencies, and 47 enabling competencies. This study is meaningful in that it proposes patient-centered doctor's competencies enabling the development of residents' milestone competencies, an assessment system, and educational programs.

**Keywords:** Competency-based education; Delphi technique; Validation study

## Introduction

Medical doctors' competencies are important because they represent key milestones in medical education, and the implementation of these competencies in educational systems varies internationally. In the United States, the Accreditation Council for Graduate Medical Educa-

tion has established six core competencies with corresponding milestones, sparking a lively debate, particularly in the context of residency training [1]. Canada developed competencies in the form of the "CanMEDS" framework, which presents a role model of a doctor, led by the Royal College of Doctors and Surgeons, with the participation of various specialists and educators. Canadian residency training programs have been incorporating these competencies since the early 1990s, predating similar initiatives in the United States [2]. The United Kingdom has introduced competencies encapsulated by the "Good Medical Practice" guidelines and initiated outcome-based residency training in the mid-1990s [3]. A common feature of these programs is their integration of undergraduate medical education with continuing professional development, a concept that took root in specialty training during the 1990s.

In South Korea, however, competency-based medical education (CBME) has taken a different form. Initially, CBME was introduced at the undergraduate level, with each university creating and implementing its own set of competencies, rather than adopting a unified ap-

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**Corresponding author:** So Jung Yune

Department of Medical Education, Pusan National University School of Medicine, 49 Busandaehak-ro, Mulgeum-eup, Yangsan 50612, Korea  
Tel: +82-51-510-8025 Fax: +82-51-510-8125 E-mail: cc139@pusan.ac.kr

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proach through a representative federation. When it comes to major-specific competencies, the Korean Institute of Medical Education and Evaluation released a report in 2010 on the development of a standardized curriculum for Korean residency programs, known as “RESPECT 100.” Subsequently, in 2013, the Korean Academy of Medical Sciences recommended a set of desirable educational competencies for residency training as part of a study aimed at reorganizing the curriculum for each specialty to enhance the efficiency of residency training [4,5]. In 2019, the Ministry of Health and Welfare announced an outcome-based approach to residency training [6]. However, research on the actual training programs and the identification of competencies within residency training has been sporadic [7,8]. Recognizing the need to investigate the competencies of Korean doctors beyond undergraduate education and specialty training, the “Korean Doctor’s Role” was established in 2014 through policy research [9]. Despite this development, it has not been actively integrated with the competencies established at the undergraduate level or those for specialties. Consequently, CBME in Korea faces challenges due to the insufficient connection between the competencies of doctors, specialty competencies, and undergraduate competencies.

Although the practice of CBME varies between South Korea and other countries, a shared characteristic is that each nation has developed its own framework outlining the desired competencies for doctors. This framework aims to create a continuum between undergraduate and graduate medical education. Within this framework, the competencies expected at the undergraduate level, during residency, and at the specialist level are delineated, with the term “milestone” used to describe the competency levels at each stage [10,11]. Consequently, defining the competencies required of residents necessitates the establishment of a foundational framework for doctors’ competencies.

The “Korean Doctor’s Role,” which has been used as a framework for Korean doctors’ competencies, is important because it was the first formal presentation of Korean doctors’ competencies. However, it has several limitations, particularly in the context of residency training and undergraduate education. These include the challenge of evaluating intangible aspects such as doctors’ attitudes and qualities; variability in the specificity of skill descriptions, with some milestones articulated as broad concepts rather than concrete competencies; ambiguous categorization of competencies due to overlapping content; and unclear descriptions that encompass multiple competencies or use undefined terms. Amidst the coronavirus disease 2019 (COVID-19) pandemic, there has been a shift towards incorporating social considerations and a patient-centered approach in healthcare. Historically, competencies for doctors, both domestically and internationally, have been predomi-

nantly devised by experts, without adequately reflecting the perspectives of patients and the broader medical community. In response to these challenges, the National Evidence-based Healthcare Collaborating Agency initiated a study entitled “How to Improve the Educational System for Residency Training to Improve Patient-Centered Outcomes.” This study necessitated a reevaluation and restructuring of the Korean Doctor’s Competency Framework, a high-level conceptual model, to define the competencies required of residents more accurately.

Therefore, this study was conducted as part of an initiative to establish a competency framework for physicians, serving as a foundation for both undergraduate and graduate medical education [12-17]. The development of the competency framework proceeded in stages: In Stage 1, the research team formed an expert working group and devised a plan for constructing the framework. In Stage 2, the researchers compared and analyzed both domestic and international competencies for physicians, reviewed relevant literature, social networking services (SNS), and newspaper articles, and finalized the competency framework through discussion and consensus. Stage 2 of the study primarily focused on identifying a competency framework that consists of six core competencies: (1) expertise in diseases and health, (2) communication with patients, (3) collaboration with colleagues, (4) guardianship of societal health, (5) professionalism in self-conduct, and (6) scholarship in academia. The framework is further detailed with 17 sub-competencies that are organically connected to the core competencies, and 53 enabling competencies, which are the functional units that must be demonstrable in practice. The third stage of the study involved conducting a Delphi study to validate the competency frameworks identified by the researchers. The Delphi method is the most widely used approach for decision-making by synthesizing expert opinions to reach consensus in uncertain situations. It has been employed in medical education for various purposes, including the development of curricula or assessment tools, the creation of educational resources, and the definition of competencies [18,19].

The purpose of this study was to validate the competencies created by the researchers under the theme of “patient-centered doctor’s competencies in Korea” from the perspective of an expert panel. To reflect the views of patients and the medical community, a large-scale survey was conducted after the Delphi survey, as well as big data analysis of newspaper articles and SNS.

## Methods

### 1. Participants

To validate the framework of patient-centered doctor’s competencies

in Korea, a Delphi survey was conducted with an expert panel comprising clinical specialists and medical education experts, each with at least 10 years of experience in their respective fields. The panel consisted of 28 members who were carefully selected to ensure a balanced representation in terms of age, gender, geographic location, institutional affiliation, current department (specialty), and work experience (Table 1). There were more men (60.7%) than women (39.3%), and half of the participants (50.0%) had between 16 and 25 years of work experience. The majority (85.7%) were affiliated with university hospitals, which included doctors from primary and secondary healthcare organizations as well as government employees. In terms of educational background, most panelists (71.4%) specialized in clinical medicine, with the remainder coming from fields such as basic medical science, education, and health administration. The clinical specialties represented on the panel were diverse, including internal medicine, surgery, obstetrics and gynecology, pediatrics, family medicine, emergency medicine, and psychiatry. Geographically, while the majority (32.1%) of the panelists were based in Seoul, the rest were distributed evenly across the country (Table 1).

## 2. Instruments

In the first round of the Delphi survey, participants were prompted to freely list three patient-centered competencies that healthcare providers

should currently possess, as well as three additional patient-centered competencies that healthcare providers should aim to acquire in the future. This was done to determine whether there were any further competencies to be considered beyond those identified by the research team. Additionally, respondents were asked to rate the significance of each patient-centered competency for doctors in Korea, as established by a prior study, on a scale from 1 to 5. Participants were also given the opportunity to suggest any competencies that they felt should be removed, altered, or included. The second Delphi questionnaire was updated and expanded based on the feedback from the first round. Respondents were once again asked to assess the importance of each competency on a 1 to 5 scale and were invited to provide their own commentary. The Delphi survey form is available in Appendix 1.

After selecting experts for the Delphi survey and developing the survey materials, we conducted two rounds of the Delphi survey in April and July 2021, collecting all questionnaires at each instance. This study received approval from the Institutional Review Board of Chungnam National University Hospital (CNUH 2021-02-025) and was carried out after obtaining informed consent from all participants.

## 3. Analysis

The first and second rounds of Delphi data were analyzed using mean, standard deviation, median, agreement, and content validity ratio (CVR), with modifications made based on free comments regarding the deletion, modification, and addition of competencies. The CVR, a measure of content validity, quantifies the extent of agreement among expert panelists on the validity of the statements, specifically the frequency with which each statement is rated as valid (receiving a score of 4 or 5 on a 5-point scale). In a Delphi survey with 28 participants, content validity was deemed satisfactory if the CVR exceeded 0.36 [20]. If the CVR was 0.36 or lower, or if the content was deemed valid by more than one expert in free-form comments, the item was either deleted, merged into a single competency, or revised to better reflect the content. Expert panel agreement is a measure of the degree to which panelists' opinions concur, and the threshold for agreement varies among researchers, ranging from 51% to 80%. In this study, consensus was considered achieved at a level of 0.75 or higher, a commonly accepted standard [18,19]. In this study, we prioritized the validity criterion and modified it with reference to the consensus.

## Results

### 1. First round of the Delphi survey

In our initial Delphi analysis, we discovered that when participants

**Table 1.** Participants' characteristics (N=28)

Characteristic	Category	No. of participants
Gender	Male	17
	Female	11
Years of related experience (yr)	11–15	4
	16–20	7
	21–25	7
	26–30	6
	>30	4
Affiliation	University hospital	24
	Primary/secondary hospital	3
	Government organization	1
Major	Basic medical science	4
	Clinical medicine	20
	Education	3
	Administration	1
Residence	Seoul/Gyeonggi	9
	Pusan/Gyeongsangnam	6
	Daegu/Gyeongsangbuk	4
	Jeonnam/Jeonbuk	3
	Choongnam/Choongbuk	3
	Gangwon/Jeju	2
International (USA)	1	

were asked an open-ended question to identify the top three patient-centered competencies for healthcare workers, as well as the top three patient-centered competencies essential for the future of healthcare workers, their responses encompassed all of the competencies we had identified.

In the validity analysis, the CVR exceeded 0.36 for both core and detailed competencies. However, 52 of the action competencies had CVRs below 0.36, indicating low content validity. Examples of these competencies with low CVRs include “coordinating various health care services needed for patient care” (Practice Competency 24) within the core competency of “collaborator”; “protecting the health of the population through public health activities in the community” (Practice Competency 32) under the core competency of “health guardian”; “improving the efficiency of health care organizations through cost-effective management systems” (Competency 33); “contributing to reducing health disparities through fair distribution and equitable utilization of health care resources” (Competency 35); and “conducting research to generate knowledge and contribute to the dissemination of results (Competency 52)” associated with the core competency of “scholar in academia” (Tables 2–4). The free comments from the panel of two or more experts are presented in Appendix 2. The main comments included: (1) the view that doctors’ participation in society, as described under “health guardian,” is more a societal role than a competency; (2) the question of whether the research and teaching competencies under “scholar in academia” are essential for all doctors; and (3) the recommendation to eliminate ambiguous expressions and revise them for greater clarity. The competencies were revised in consultation with researchers, focusing on those with the lowest validity and incorporating feedback from the expert panel. The core competency “health guardian” was renamed “healthcare leader,” and “scholar in academia” was updated to “contributor to the advancement of medicine.” Competency 24, “collaborator,” which had a CVR of 0.36 or lower, was eliminated and its elements were integrated into Competency 29. Competency 32, “health advocate,” was merged with Competency 30, “participating in the establishment of laws, institutions, and policies to protect and pro-

mote patients’ health,” resulting in a revised competency: “applying medical expertise to the establishment of policies, laws, and institutions that promote and protect patient health.” The phrasing for Competency 33 was refined to “ensuring effective and efficient management and operation of community healthcare organizations,” and Competency 35 was updated to “Contributing to the elimination of disparities by equitably utilizing healthcare resources.” Competencies 47 and 48, as well as 49 and 50, were each consolidated under the category of “academic personnel,” and competency 52 was removed to ensure relevance for doctors in primary and secondary institutions, in addition to those in university hospitals. Following the first Delphi round, five items were either combined or deleted, resulting in a refined framework of six core competencies, 17 sub-competencies, and 48 enabling competencies (Tables 2–4, Appendix 3).

Items with a consensus score below 0.75 included “improving community health” and “fulfilling social responsibilities,” which were sub-competencies of the “health guardian” competency. Also falling below the threshold were “working with communities to identify and respond to their health determinants and needs” (Competency 31) and “contributing to the elimination of health disparities through fair distribution and equitable utilization of health resources” (Competency 35) (Tables 2–4). After a review of the competencies and consideration of free comments from the expert panel, “improving community health” was merged with “social engagement for health promotion” to form “social activities for health promotion.” Competency 31 was rephrased as “participating in community-appropriate public health care activities in response to the health and health-related needs of residents.” Competency 35 was revised due to not meeting the feasibility criteria. However, “fulfilling social responsibility” was maintained as a separate category. Despite its consensus score being below the threshold, it was retained based on the researchers’ discussions, as its validity score was above the standard.

## 2. Second round of the Delphi survey

The second round of the Delphi survey showed that competency

**Table 2.** Delphi findings on core competencies

Core competency	1st Round				2nd Round			
	Mean±SD	Median	Agreement	CVR	Mean±SD	Median	Agreement	CVR
An expert on disease/health	4.82±0.39	5.00	1.00	1.00	4.86±0.36	5.00	1.00	1.00
A communicator with patients	4.75±0.44	5.00	0.95	1.00	4.89±0.31	5.00	1.00	1.00
A collaborator with healthcare colleagues	4.32±0.72	4.00	0.75	0.71	4.50±0.51	4.50	0.78	1.00
A healthcare leader for society	4.21±0.74	4.00	0.75	0.50	4.46±0.58	4.50	0.78	0.93
A professional for oneself	4.75±0.52	5.00	0.10	1.00	4.82±0.39	5.00	1.00	1.00
A scholar for the advancement of medicine	3.89±0.69	4.00	0.75	0.43	3.93±0.60	4.00	1.00	0.57

SD, standard deviation; CVR, content validity ratio.

**Table 3.** Delphi findings on sub-competencies

Competencies	1st Round				2nd Round			
	Mean±SD	Median	Agreement	CVR	Mean±SD	Median	Agreement	CVR
<b>An expert on disease/health</b>								
Competent practice	4.64±0.49	5.00	0.80	0.43	4.86±0.36	5.00	1.00	1.00
Patient-centered reasoning and decision-making	4.68±0.48	5.00	0.80	1.00	4.79±0.42	5.00	1.00	1.00
Promoting patient safety and quality of life	4.64±0.49	5.00	0.80	1.00	4.79±0.42	5.00	1.00	1.00
<b>A communicator with patients</b>								
Patient-physician partnership	4.64±0.56	5.00	0.80	1.00	4.89±0.31	5.00	1.00	1.00
Empathic communication	4.50±0.58	5.00	0.80	0.93	4.61±0.57	5.00	0.80	0.93
Informed consent	4.75±0.44	5.00	0.95	1.00	4.82±0.39	5.00	1.00	1.00
<b>A collaborator with healthcare colleagues</b>								
Effective consultation and transfer	4.46±0.58	4.50	0.78	0.93	4.50±0.51	4.50	0.78	1.00
Teamwork and continuous quality improvement	4.29±0.66	4.00	0.75	0.79	4.39±0.63	4.00	0.75	0.86
<b>A health advocate for society</b>								
Participating in social activities for health promotion	4.36±0.78	5.00	0.80	0.64	4.36±0.62	4.00	0.75	0.86
Improving public health	4.04±0.74	4.00	0.69	0.50	4.11±0.74	4.00	0.75	0.57
Fulfilling social accountability	4.21±0.83	4.00	0.69	0.50	4.18±0.67	4.00	0.75	0.71
<b>A professional for oneself</b>								
Adhering to ethical standards in patient care	4.79±0.42	5.00	1.00	1.00	4.96±0.19	5.00	1.00	1.00
Participating in doctor-led self-regulation	4.36±0.68	4.00	0.75	0.79	4.61±0.50	5.00	0.80	1.00
Managing physicians' health and well-being	4.21±0.74	4.00	0.75	0.64	4.43±0.57	4.00	0.75	0.93
<b>A scholar for the advancement of medicine</b>								
Continuing professional development	4.61±0.57	5.00	0.80	0.93	4.57±0.57	5.00	0.80	0.93
Facilitating professional learning	3.96±0.64	4.00	1.00	0.57	4.25±0.75	4.00	0.75	0.64
Contributing to research	3.82±0.61	4.00	0.75	0.43	3.86±0.59	4.00	0.94	0.50

SD, standard deviation; CVR, content validity ratio.

33, “Ensuring that community health care organizations are effectively and efficiently managed and operated,” had a CVR of 0.29, but all other competencies met the content validity requirements. In the free-form comments, as in the first survey, there were still disagreements about the social participation of doctors as “healthcare leaders,” and many comments were made regarding the need for further clarification (Tables 2–4, Appendix 2).

We removed Competency 33, as it lacked validation from consultations with researchers. Additionally, we refined the detailed competency of “healthcare leader” to “social activities for health promotion.” This revision integrates “social engagement to improve patients’ health” with “providing healthcare services for the community,” enhancing the clarity of the competency’s description. Following the second Delphi round, the competencies were categorized into six core competencies, 16 sub-competencies, and 47 enabling competencies (Appendix 3).

## Discussion

The purpose of this study was to evaluate the validity of research-

er-derived, patient-centered physician competencies using the Delphi method. The findings indicated that the majority of competencies were deemed valid. However, the competencies related to societal and academic roles contained items that were considered substandard in terms of validity and consensus. Additionally, there was a significant number of comments from the expert panel regarding these competencies.

First, the competencies associated with doctors’ role in society as “health advocates” or “healthcare leaders” had low validity, with numerous dissenting opinions. Specifically, the competencies deemed to have low validity included “protecting the health of the population through public health activities in the community (Competency 32),” “improving the efficiency of the healthcare organization through a cost-effective management system (Competency 33),” and “contributing to the elimination of healthcare disparities through fair distribution and equitable utilization of healthcare resources (Competency 35).” Furthermore, the competency “being able to coordinate various healthcare services needed for patient care (Competency 24),” initially categorized under the role of “collaborators” for fellow healthcare workers, could also be considered relevant to societal roles, indicating an overall trend of

**Table 4.** Delphi findings on competency

Competencies	Competencies no. <sup>a)</sup>	1st Round			2nd Round				
		Mean±SD	Median	Agreement	CVR	Mean±SD	Median	Agreement	CVR
An expert on disease/health									
Competent practice	(1)	4.75±0.44	5.00	0.95	1.00	4.86±0.36	5.00	1.00	1.00
	(2)	4.64±0.56	5.00	0.80	0.93	4.79±0.42	4.00	1.00	1.00
	(3)	4.14±0.76	4.00	0.75	0.71	4.18±0.77	4.00	0.75	0.71
	(4)	4.29±0.66	4.00	0.75	0.79	4.50±0.58	5.00	0.80	0.93
Patient-centered reasoning and decision-making	(5)	4.82±0.39	5.00	1.00	1.00	4.93±0.26	5.00	1.00	1.00
	(6)	4.64±0.68	5.00	0.95	0.79	4.57±0.63	5.00	0.80	0.86
	(7)	4.75±0.44	5.00	0.95	1.00	4.71±0.46	5.00	0.80	1.00
Promoting patient safety and quality of life	(8)	4.64±0.49	5.00	0.80	1.00	4.61±0.50	5.00	0.80	1.00
	(9)	4.64±0.49	5.00	0.80	1.00	4.68±0.48	5.00	0.80	1.00
	(10)	4.50±0.64	5.00	0.80	0.86	4.57±0.63	5.00	0.80	0.86
	(11)	4.46±0.64	5.00	0.80	0.86	4.61±0.57	5.00	0.80	0.93
	(12)	4.54±0.64	5.00	0.80	0.86	4.68±0.48	5.00	0.80	1.00
A communicator with patients									
Patient-physician partnership	(13)	4.71±0.46	5.00	0.80	1.00	4.82±0.39	5.00	1.00	1.00
	(14)	4.32±0.72	4.00	0.75	0.86	4.39±0.63	4.00	0.75	0.86
	(15)	4.21±0.69	4.00	0.75	0.71	4.43±0.50	4.00	0.75	1.00
Empathic communication	(16)	4.46±0.74	5.00	0.80	0.71	4.50±0.58	5.00	0.80	0.93
	(17)	4.39±0.63	4.00	0.75	0.86	4.68±0.48	5.00	0.80	1.00
	(18)	4.54±0.58	5.00	0.80	0.93	4.64±0.49	5.00	0.80	1.00
Informed consent	(19)	4.86±0.36	5.00	1.00	1.00	4.86±0.36	5.00	1.00	1.00
	(20)	4.50±0.58	5.00	0.80	0.93	4.61±0.50	5.00	0.80	1.00
	(21)	4.46±0.58	4.50	0.78	0.93	4.79±0.42	5.00	1.00	1.00
A collaborator with healthcare colleagues									
Effective consultation and transfer	(22)	4.71±0.46	5.00	0.80	1.00	4.82±0.39	5.00	1.00	1.00
	(23)	4.61±0.57	5.00	0.80	0.93	4.71±0.53	5.00	1.00	0.93
	(24)	4.04±0.84	4.00	0.50	0.36	Combined with no. 29			
Teamwork and continuous quality improvement	(25)	4.25±0.70	4.00	0.75	0.86	4.39±0.63	4.00	0.75	0.86
	(26)	4.54±0.51	5.00	0.80	1.00	4.54±0.58	5.00	0.80	0.93
	(27)	4.14±0.76	4.00	0.75	0.71	4.36±0.68	4.00	0.75	0.93
	(28)	4.32±0.67	4.00	0.75	0.79	4.57±0.50	5.00	0.80	1.00
A health advocate for society									
Participating in social activities for health promotion	(29)	4.11±0.79	4.00	0.75	0.64	4.29±0.66	4.00	0.75	0.79
	(30)	4.00±0.72	4.00	0.88	0.43	4.25±0.65	4.00	0.75	0.79

(Continued on next page)

Table 4. Continued

Competencies	Competencies no. <sup>a)</sup>	1st Round				2nd Round			
		Mean±SD	Median	Agreement	CVR	Mean±SD	Median	Agreement	CVR
Improving public health	(31)	3.96±0.74	4.00	0.69	0.43	4.04±0.74	4.00	0.69	0.50
	(32)	3.75±0.80	4.00	0.75	0.36		Combined with no. 30		
	(33)	3.61±0.88	4.00	0.75	0.14	3.71±0.71	4.00	0.75	0.29 (Deleted)
	(34)	3.75±0.75	4.00	0.75	0.43	3.89±0.74	4.00	0.94	0.50
	(35)	3.96±0.84	4.00	0.50	0.36	4.07±0.66	4.00	0.94	0.64
	(36)	4.18±0.77	4.00	0.75	0.71	4.39±0.57	4.00	0.75	0.93
A professional for oneself									
Adhering to ethical standards in patient care	(37)	4.79±0.42	5.00	1.00	1.00	4.93±0.26	5.00	1.00	1.00
	(38)	4.68±0.48	5.00	0.80	1.00	4.71±0.46	5.00	0.80	1.00
Participating in doctor-led self-regulation	(39)	4.43±0.57	4.00	0.75	0.93	4.54±0.51	5.00	0.80	1.00
	(40)	4.54±0.64	5.00	0.80	0.86	4.71±0.46	5.00	0.80	1.00
	(41)	4.79±0.50	5.00	1.00	0.93	4.86±0.36	5.00	1.00	1.00
	(42)	3.86±0.93	4.00	0.50	0.43	4.00±0.72	4.00	0.88	0.50
Managing physicians' health and well-being	(43)	4.37±0.69	4.00	0.75	0.79	4.57±0.57	5.00	0.80	0.93
	(44)	4.29±0.60	4.00	0.75	0.86	4.50±0.64	5.00	0.80	0.86
A scholar for the advancement of medicine	(45)	4.45±0.58	5.00	0.80	0.93	4.57±0.50	5.00	0.80	1.00
	(46)	4.36±0.62	4.00	0.75	0.86	4.43±0.50	4.00	0.75	1.00
Continuing professional development	(47)	4.61±0.57	5.00	0.80	0.93	4.64±0.56	5.00	0.80	0.93
	(48)	4.57±0.50	5.00	0.80	0.93		Combined with no. 47		
Facilitating professional learning	(49)	4.07±0.60	4.00	1.00	0.71	4.25±0.65	4.00	0.75	0.79
	(50)	4.00±0.61	4.00	1.00	0.64		Combined with no. 49		
Contributing to research	(51)	3.96±0.64	4.00	1.00	0.57	4.14±0.59	4.00	0.94	0.79
	(52)	3.68±0.61	4.00	0.75	0.21	Deleted			
	(53)	4.32±0.72	4.00	0.75	0.71	4.71±0.46	5.00	0.80	1.00

SD, standard deviation; CVR, content validity ratio.  
<sup>a)</sup>For competencies (1) to (53) see Appendix 1.

low-validity items in this category. The primary reason for this is that the competencies associated with societal roles are not solely the responsibility of individual doctors; they require collaboration with other professionals such as public servants and social workers. Moreover, not all doctors are expected to engage in these activities.

Social competencies are not explicitly described in the General Medical Council's competencies in the United Kingdom, which operates a public healthcare system [3]. However, in the United States, the Accreditation Council for Graduate Medical Education (ACGME) competencies include "systems-based practice," which focuses on understanding healthcare delivery systems and providing cost-effective care within the healthcare system [1]. Similarly, the Canadian competencies include roles such as "health advocate" and "leader," which compel physicians to address the health needs of patients or communities, manage health resources effectively, and strive for improvements in the healthcare system [2]. However, similar to the results of this study, doctors viewed social competencies such as ACGME's "systems-based practice" and CanMEDS "health advocate" as less important than other competencies [21-23]. A proposed explanation for this is that doctors who enter medical school are often not socially disadvantaged and have fewer opportunities to experience socially disadvantaged populations [24]. To counteract this, efforts are being made to raise awareness of social competencies by offering experiences that highlight healthcare disparities and by maintaining a website dedicated to connecting clinical medicine with social determinants of health [24].

In contrast, the growing interest in the social competence of doctors during the COVID-19 pandemic seems to have contributed positively to the validation of the "healthcare leader" competency [25-27]. Throughout the pandemic, doctors and medical education professionals have recognized the importance of understanding illness not merely as an individual patient issue, but within the broader context of a society's healthcare system. They have also acknowledged the significance of offering medical support to vulnerable populations during treatment and vaccination efforts [28,29].

The researchers concluded that doctors bear a collective responsibility to society as "leaders" who are pivotal in healthcare organizations, both in preventing illness and treating the health of patients and communities. However, the term "social accountability" as described in the "Korean Doctor's Role" (2014) is typically associated with providing limited support for vulnerable populations and does not fully capture the broader concept of improving patient and community health or delivering healthcare services. Therefore, this study adopted the more encompassing and general term "healthcare leader." Additionally, given the low validity and consensus indices from the expert panel, the com-

petencies were articulated in terms of "exercising expertise" and "contributing," reflecting the level of responsibility that an individual doctor can and should assume in society.

Second, there was disagreement about doctors' competencies in academia as "scholars" or "contributors to the advancement of medicine." While there was a consensus on the importance of "continuing professional development," many argued that engaging in "education" and "research" should be expected of doctors in tertiary hospitals, but not necessarily of all doctors. This sentiment was echoed in a survey examining perceptions of CanMEDS competencies, which showed that the scholarly competency associated with research was not only deemed the fifth least important out of seven competencies but also exhibited the largest discrepancy in perceived importance between generalists and specialists [22]. The study concluded that doctors in primary or secondary care settings should also foster learning among peers and possess the ability to pose academic questions and seek scientific solutions within the medical field. These findings were generalized in the study's description. However, terms such as "academic," "scholar," or "research" were replaced with "a person who contributes to the advancement of medicine" to avoid overwhelming general practitioners. Additionally, the phrase "contributes to the conduct of research to generate knowledge and the dissemination of its results" was removed because it suggested a direct involvement in research, which was not the intent of Competency 52.

This study has several strengths. First, we are confident that the Delphi method was effectively employed to validate the competencies of doctors. The expert panel participating in the Delphi study was diverse, including doctors from both primary and secondary hospitals, as well as university hospitals and government officials. The panel was not limited to clinicians; it also comprised experts in basic medicine, education, and administration. Furthermore, the panel members were geographically representative of the hospitals where they practiced. Second, in addition to the Delphi study, our research on competencies is comprehensive, involving the analysis of domestic and international literature, social media, and newspaper articles. We are also conducting large-scale surveys targeting citizens, nurses, medical students, residents, and specialists, and organizing public hearings to gather a wide range of perspectives.

However, there are limitations to this study. As mentioned earlier, disagreements regarding the competencies of "healthcare leader" and "contributor to the advancement of medicine" are likely to persist even if statistical validity and consensus levels are satisfactory. Although we have removed ambiguity and used language that is easier to understand, there may be difficulties with using this competency in the education of students or specialists, and the meaning may change during



implementation.

The “patient-centered doctor’s competencies” developed in this study are significant for several reasons. First, the concept of competence pertains to the abilities a doctor possesses at the culmination of training. Therefore, it is anticipated that milestones—incremental competencies symbolizing the educational objectives for medical students and residents—will be established and serve as a foundation for their training. Second, the development of a competence evaluation system would enable the monitoring and individual assessment of medical students’ and residents’ competencies. Third, such an assessment system could pinpoint areas of deficiency and guide the creation of educational programs designed to address these shortcomings.

In a follow-up study, it will be necessary to actively review the validity not only through a Delphi study, which is a content validation process, but also through the statistical validation of construct validity or quasi-validity. In addition, efforts should be made to develop patient-centered competencies through comparative studies of experts’ views on doctors’ competencies and patients’ and society’s views. Above all, it is necessary to develop competencies with specificity, clarity, transparency, and applicability in mind, and to re-measure their validity while applying them to the education of students and specialists.

This study focused on developing and validating patient-centered doctors’ competencies, and it is hoped that these competencies will be used in the future for stepwise competency development, competency assessment systems, and educational program development.

## ORCID

Sunju Im	<a href="https://orcid.org/0000-0002-3038-3570">https://orcid.org/0000-0002-3038-3570</a>
Youngjon Kim	<a href="https://orcid.org/0000-0002-0445-526X">https://orcid.org/0000-0002-0445-526X</a>
Chanwoong Kim	<a href="https://orcid.org/0000-0001-7821-8980">https://orcid.org/0000-0001-7821-8980</a>
Geon Ho Lee	<a href="https://orcid.org/0000-0003-0696-3804">https://orcid.org/0000-0003-0696-3804</a>
Sun-Woo Lee	<a href="https://orcid.org/0000-0002-0451-969X">https://orcid.org/0000-0002-0451-969X</a>
Woo Taek Jeon	<a href="https://orcid.org/0000-0002-9213-6057">https://orcid.org/0000-0002-9213-6057</a>
Hanna Jung	<a href="https://orcid.org/0000-0001-5051-3953">https://orcid.org/0000-0001-5051-3953</a>
So Jung Yune	<a href="https://orcid.org/0000-0002-2567-0444">https://orcid.org/0000-0002-2567-0444</a>

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## Conflict of interest

Woo Taek Jeon, Hanna Jung, and Youngjon Kim are Editorial Board members of KMER, but was not involved in the peer reviewer selection, evaluation, or decision process of this article. Except for that, no other potential conflict of interest relevant to this article was reported.

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## Authors' contribution

Study design: SI, SJY, YK, CK, GHL, SWL, WTJ, HJ; data analysis: SI, SJY, YK, CK, GHL, SWL, WTJ, HJ; manuscript writing: SI, SJY; and final approval of the version to be published: all authors.

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## APPENDICES

### Appendix 1. Delphi survey form

#### [1차 델파이조사지]

1. 귀하는 환자 중심 의료를 위하여 의료인이 갖추어야 하는 핵심 역량(능력)은 무엇이라고 생각하십니까? 특별히 미래사회에서 의료인이 갖추어야 할 역량은 무엇이라고 생각하십니까? 자유롭게 의견을 적어주십시오.

의료인의 환자 중심 역량 3가지	미래사회 의료인이 갖추어야 할 환자 중심 역량 3가지

2. 다음은 국내·외 의사 역량 관련 연구 및 문헌분석을 통해 도출한 의료인의 역량입니다. 각 역량이 환자 중심 의료를 위해 의료인이 갖추어야 할 역량으로 얼마나 중요한지를 평가하여 문항별로 '○'표 해주십시오. 각 역량에 대한 기타 의견이 있으면 기타 란에 작성해 주십시오. 역량의 대분류, 중분류, 소분류 순서로 질문이 구성되어 있습니다.

#### 2-1. 역량 대분류

아래 6가지 역량은 의료인이 갖추어야 할 환자 중심 역량입니다. 각 역량의 중요성을 평가해 주십시오.

역량	중요도				
	1: 매우 낮음	2: 낮음	3: 보통	4: 높음	5: 매우 높음
전문가(expert)로서 질병/건강에 대한 역량	1	2	3	4	5
소통가(communicator)로서 환자에 대한 역량	1	2	3	4	5
협력자(collaborator)로서 동료 의료인에 대한 역량	1	2	3	4	5
건강 수호자(health advocate)로서 사회를 향한 역량	1	2	3	4	5
전문직업인(profession)으로서 자신에 대한 역량	1	2	3	4	5
학문을 다루는 사람(scholar)으로서 학문에 대한 역량	1	2	3	4	5

☞ 삭제, 수정, 추가되어야 할 역량이 있다면 자유롭게 써주십시오.

#### 2-2. 역량별 하위 역량: 중분류

각각의 역량은 다음과 같은 하위역량으로 구성됩니다. 각 하위역량의 중요성을 평가해 주십시오.

1. 의사는 전문가(expert)로서 질병/건강에 대하여 다음과 같은 역량을 가진다.		중요도				
		1: 매우 낮음	2: 낮음	3: 보통	4: 높음	5: 매우 높음
전문적 진료(competent practice)	자신의 진료 영역 안에서 우수한 진료 역량을 갖추고 이를 실무에 적용한다.	1	2	3	4	5
환자 중심 추론과 의사결정(patient-centered reasoning and decision)	의료에 내재된 복잡성, 불확실성을 인식하고 환자 중심의 의사결정과 근거 중심의 과학적 판단을 한다.	1	2	3	4	5
환자안전과 삶의 질 향상(promoting patient safety and life quality)	환자의 삶의 질과 안전을 진료의 궁극적 목표로 설정하고 이의 실현을 위해 노력한다.	1	2	3	4	5
기타 의견						

2-3. 하위 역량별 세부 역량: 소분류

각각의 하위 역량은 다음과 같은 세부 역량으로 구성됩니다. 각 세부 역량의 중요성을 평가해 주십시오.

(1) 의사는 전문가(expert)로서 질병/건강에 대하여 다음과 같은 역량을 가진다.

전문가 역량	세부 역량	중요도				
		1: 매우 낮음	2: 낮음	3: 보통	4: 높음	5: 매우 높음
전문적 진료(competent practice)	최신 의학적 지식과 근거를 가지고 진료를 수행한다.	1	2	3	4	5
	기타 의견					
	술기의 질을 지속적으로 관리한다.	1	2	3	4	5
	기타 의견					
	진료범위를 설정하고 범위 내에서 진료한다.	1	2	3	4	5
	기타 의견					
	의무기록 및 의료서식(진단서)은 정확하게 작성한다.	1	2	3	4	5
환자 중심 추론과 의사결정 (patient-centered reasoning and decision)	환자 중심적 병력청취와 신체진찰을 한다.	1	2	3	4	5
	기타 의견					
	과학적인 근거 중심적 사고로 판단한다.	1	2	3	4	5
	기타 의견					
	환자의 개별성을 존중하여 환자 중심의 의사결정을 한다.	1	2	3	4	5
환자안전과 삶의 질 향상 (promoting patient safety and life quality)	삶의 질에 대한 환자의 요구를 진료에 반영한다.	1	2	3	4	5
	기타 의견					
	환자의 고통과 통증에 적극적으로 대처한다.	1	2	3	4	5
	기타 의견					
	환자의 위엄 있고 품위 있는 죽음을 존중한다.	1	2	3	4	5
	기타 의견					
	환자안전 개념을 위한 진료환경 조성에 노력한다.	1	2	3	4	5
	기타 의견					
	환자안전을 위협하는 상황에 대처한다.	1	2	3	4	5
기타 의견						
전문가 역량 전체에 대한 기타 의견						

[2차 텔파이조사지]

1-1. 역량 대분류

1-1. [역량 대분류]	평균±표준편차	1차 응답
전문가(expert)로서 질병/건강에 대한 역량	4.82±0.39	
소통가(communicator)로서 환자에 대한 역량	4.75±0.44	
협력자(collaborator)로서 동료 의료인에 대한 역량	4.32±0.72	
건강 수호자(health advocate)로서 사회를 향한 역량	4.21±0.74	
전문직업인(profession)으로서 자신에 대한 역량	4.75±0.52	
학문을 다루는 사람(scholar)으로서 학문에 대한 역량	3.89±0.69	

[수정] 1-1. [역량 대분류]	중요도 2차 응답				
	1: 매우 낮음	2: 낮음	3: 보통	4: 높음	5: 매우 높음
전문가(expert)로서 질병/건강에 대한 역량					
소통가(communicator)로서 환자에 대한 역량					
협력자(collaborator)로서 동료 의료인에 대한 역량					
보건의료 리더(healthcare leader)로서 사회를 향한 역량					
전문직업인(profession)으로서 자신에 대한 역량					
의학의 발전에 기여하는 사람(scholar)으로서 학문에 대한 역량					
의견					

1-2. 역량 중분류

1. 의사는 전문가(expert)로서 질병/건강에 대하여 다음과 같은 역량을 가진다.		평균±표준편차	1차 응답
전문적 진료(competent practice)	자신의 진료 영역 안에서 우수한 진료 역량을 갖추고 이를 실무에 적용한다.	4.64±0.49	
환자 중심 추론과 의사결정(patient-centered reasoning and decision)	의료에 내재된 복잡성, 불확실성을 인식하고 환자 중심의 의사결정과 근거 중심의 과학적 판단을 한다.	4.68±0.48	
환자안전과 삶의 질 향상(promoting patient safety and life quality)	환자의 삶의 질과 안전을 진료의 궁극적 목표로 설정하고 이의 실현을 위해 노력한다.	4.64±0.49	

[수정] 1. 의사는 전문가(expert)로서 질병/건강에 대하여 다음과 같은 역량을 가진다.		중요도 2차 응답				
		1: 매우 낮음	2: 낮음	3: 보통	4: 높음	5: 매우 높음
전문적 진료(competent practice)	자신의 진료 영역 안에서 필요한 진료 역량을 갖추고 이를 실무에 적용한다.					
합리적 추론과 환자 중심 의사결정(scientific reasoning and Patient-centered decision)	의료에 내재된 복잡성, 불확실성, 환자 개인의 고유성을 인식하고 환자 중심의 의사결정과 근거 중심의 과학적 판단을 한다.					
환자안전과 삶의 질 향상(promoting patient safety and quality of life)	환자의 삶의 질과 안전을 진료의 궁극적 목표로 설정하고 이의 실현을 위해 노력한다.					
의견						

1-3. 역량 소분류

1. 의사는 전문가(expert)로서 질병/진장에 대하여 다음과 같은 역량을 가진다.		평균±표준편차	1차 응답
전문적 진료	최신 의학적 지식과 근거를 가지고 진료를 수행한다.	4.75±0.44	
	술기의 질을 지속적으로 관리한다.	4.64±0.56	
	진료범위를 설정하고 범위 내에서 진료한다.	4.14±0.76	
	의무기록 의료서식(진단서)은 정확하게 작성한다.	4.29±0.66	
환자 중심 추론과 의사결정	환자 중심적 병력청취와 신체진찰을 한다.	4.82±0.39	
	과학적인 근거 중심적 사고로 판단한다.	4.64±0.68	
	환자의 개별성을 존중하여 환자 중심의 의사결정을 한다.	4.75±0.44	
환자안전과 삶의 질 향상	삶의 질에 대한 환자의 요구를 진료에 반영한다.	4.64±0.49	
	환자의 고통과 통증에 적극적으로 대처한다.	4.64±0.49	
	환자의 위엄 있고 품위 있는 죽음을 존중한다.	4.50±0.64	
	환자안전 개념을 위한 진료환경 조성에 노력한다.	4.46±0.64	
	환자안전을 위협하는 상황에 대처한다.	4.54±0.64	

[수정] 1. 의사는 전문가(expert)로서 질병/진장에 대하여 다음과 같은 역량을 가진다.		중요도 2차 응답				
		1: 매우 낮음	2: 낮음	3: 보통	4: 높음	5: 매우 높음
전문적 진료	최신 의학적 지식과 근거를 가지고 진료를 수행한다.					
	술기의 질을 지속적으로 관리한다.					
	진료범위를 설정하고 범위 내에서 진료한다.					
	의무기록 의료서식(진단서)은 정확하게 작성한다.					
합리적 추론과 환자 중심 의사결정	환자 중심적 병력청취와 신체진찰을 한다.					
	과학적인 근거 중심적 사고로 판단한다.					
	환자의 개별성을 존중하여 환자 중심의 의사결정을 한다.					
환자안전과 삶의 질 향상	삶의 질에 대한 환자의 요구를 진료에 반영한다.					
	환자의 고통과 통증에 적극적으로 대처한다.					
	환자의 위엄 있고 품위 있는 죽음을 존중한다.					
	환자안전 개념을 위한 진료환경 조성에 노력한다.					
	환자안전을 위협하는 상황에 대처한다.					
의견						

Appendix 2. Delphi survey key findings

	1차 델파이	2차 델파이
표현 수정	<ul style="list-style-type: none"> <li>· ‘우수한’과 ‘충분히’, ‘적절한’, ‘책임있게’ 등의 모호한 표현 수정</li> <li>· 합리적 추론과 환자 중심 의사결정</li> <li>· 환자의 삶의 질 향상은 너무 지나친 요구이므로 환자 진료의 질과 안전으로 수정</li> <li>· 환자안전을 위협하는 상황에 대처한다는 것은 모호한 표현임</li> <li>· “환자의 감정, 생각, 표현을 수용한다”보다는 “해석한다”가 맞는 표현</li> <li>· ‘적절하게 응답한다’보다는 ‘환자와 가족의 질문이나 불만에 선제적으로 대응한다’가 맞는 표현</li> </ul>	<ul style="list-style-type: none"> <li>· ‘의학의 학문적 발전에 기여하는 사람’으로 변경</li> <li>· ‘환자안전 및 삶의 질 향상’으로 변경</li> <li>· 효과적인 협진을 위한 합리적 의뢰’ 또는 ‘효과적인 협진 추구’ 등의 표현으로 변경</li> <li>· ‘팀워크 향상을 위한 노력’으로 변경</li> <li>· 건강증진이란 일반인을 대상으로 사용하는 용어로 해석되므로 ‘환자’ 용어는 가급적 자제</li> <li>· ‘미래변화 대응을 준비한다’로 수정</li> <li>· 자신 및 동료의료인의 진료환경 보호’ 혹은 ‘자신 및 동료 의료인의 안전관리’ 등의 표현으로 수정</li> <li>· ‘지속적 전문성 개발’로 수정</li> <li>· ‘학문에의 기여’로 수정</li> </ul>
추가	<ul style="list-style-type: none"> <li>· 의료진과 지역사회에서 리더로서의 역량이 추가</li> <li>· 전문직업성을 갖춘 전문직업인으로서의 역량 추가</li> <li>· 소통가로서도 환자와 함께 의사결정하는 영역 포함</li> <li>· 교육자가 역량으로 추가</li> <li>· 평생학습능력</li> <li>· 인문사회학의학적 소양</li> <li>· 전문직업 간(inter-professional) 협력에 관한 내용 추가</li> </ul>	<ul style="list-style-type: none"> <li>· 인공지능 지원환경에서 발휘되어야 할 소통 및 안내자 역할 추가</li> <li>· ‘환자 중심 의료의 실천’과 같은 역량 추가</li> </ul>
삭제	<ul style="list-style-type: none"> <li>· 지속적 전문성 개발은 ‘professional’에 해당</li> <li>· 환자진료에 필요한 다양한 보건의료 서비스를 연계는 의사의 활동이라 할 수 없음</li> <li>· 보건의료 취약계층의 건강문제를 파악하여 개선한다는 의사 외에 공무원, 사회사업 담당자 등이 함께 해야 함</li> <li>· 사회적 책무는 다른 직종과 함께 해야 함</li> <li>· 자율규제를 위한 전문직 단체 및 관련 기구 활동에 동참하는 것은 모든 의사가 이런 활동을 할 필요는 없음</li> <li>· 의료인의 교육추진과 연구에 기여하는 것은 모든 의사가 해야 할 필요는 없음</li> </ul>	<ul style="list-style-type: none"> <li>· ‘의대생의 학습을 지원한다’ 삭제</li> </ul>
일반적 의견	<ul style="list-style-type: none"> <li>· 환자의 uniqueness를 고려한 환자 중심 의료/의사결정이 중요</li> <li>· Patient centered라는 개념에 대한 조작적 정의</li> <li>· 리더쉽과 팀워크는 중요하지만 꼭 ‘리더’가 되어야 되어야만 하는지 고려</li> <li>· 미래사회에 대한 어떠한 책무를 이행해야 할지 구체적으로 제시</li> <li>· 인공지능의 도입과 연관하여 고려</li> </ul>	<ul style="list-style-type: none"> <li>· 조직적인 체계가 필요한 역량은 사회적 지원체제가 동반되어야 가능함</li> <li>· 교육 역량과 연구 역량은 모든 의사가 반드시 일정 수준까지 도달해야 하는 역량인지 검토</li> <li>· 의사의 사회참여는 뜻을 가진 일부 의사들에게만 해당됨</li> </ul>

Appendix 3. Comparing patient-centered doctor's competencies in Korea before and after a delphi survey

델파이조사 전 한국의 환자 중심 의사 역량		델파이조사 후 한국의 환자 중심 의사 역량	
핵심 역량	세부 역량	핵심 역량	세부 역량
의사는 전문가 (expert)로서 질병/건강에 대하여 다음과 같은 역량을 가진다.	전문의적 진료	의사는 전문가 (expert)로서 질병/건강에 대하여 다음과 같은 역량을 가진다.	전문의적 진료
	환자 중심 추론과 의사결정	환자 중심 추론과 의사결정	환자 중심 추론과 의사결정
환자 안전과 삶의 질 향상	환자 안전과 삶의 질 향상	환자 안전과 삶의 질 향상	환자 안전과 삶의 질 향상
	환자 안전과 삶의 질 향상	환자 안전과 삶의 질 향상	환자 안전과 삶의 질 향상

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Appendix 3. Continued

텔레미조사 전 한국의 환자 중심 의사 역량		텔레미조사 후 한국의 환자 중심 의사 역량	
핵심 역량	세부 역량	핵심 역량	세부 역량
의사는 소통가(communicator)로서 환자에 대하여 다음과 같은 역할을 가진다	상호협력적 환자-의사관계	의사는 소통가(communicator)로서 환자에 대하여 다음과 같은 역할을 가진다	상호협력적 환자-의사 관계
	공감적 의사소통	<p>(13) 환자 및 환자 가족과 신뢰가 바탕이 되는 전문적 치료관계를 형성한다.</p> <p>(14) 치료계획을 세울 때 환자와 환자 가족을 참여시킨다.</p> <p>(15) 환자와 환자 가족의 가치, 선호, 필요를 존중한다.</p> <p>(16) 사회경제적, 인종, 종교, 연령, 성별 등 환자의 조건에 따른 차별이 없이 대한다.</p> <p>(17) 환자와 환자 가족의 입장에서 그들의 감정, 생각, 표현을 편견없이 수용한다.</p> <p>(18) 환자와 환자 가족의 고통을 공감하고 이를 언어적, 비언어적으로 적절히 표현한다.</p> <p>(19) 환자와 보호자가 정보에 입각한 결정을 내릴 수 있도록 동의를 구하기 전에 진단, 경과, 위험에 대해 설명한다.</p> <p>(20) 환자와 환자 가족에게 질문할 시간을 충분히 주고, 질문이나 불만 사항에 적절하게 응답한다.</p> <p>(21) 진료 종결, 대진, 의뢰, 전원이 필요한 경우에는 사전에 환자와 보호자에게 충분히 설명한다.</p>	<p>환자 및 환자 가족과 신뢰가 바탕이 되는 전문적 치료관계를 형성한다.</p> <p>치료계획을 세울 때 환자와 환자 가족을 참여시킨다.</p> <p>환자와 환자 가족의 가치, 선호, 필요를 존중한다.</p> <p>사회경제적, 인종, 종교, 연령, 성별 등 환자의 조건에 따른 차별이 없이 대한다.</p> <p>환자와 환자 가족의 입장에서 그들의 감정, 생각, 표현을 편견없이 경청한다.</p> <p>환자와 환자 가족의 고통을 공감하고 이를 언어적, 비언어적으로 적절히 표현한다.</p> <p>환자와 보호자가 정보에 입각한 결정을 내릴 수 있도록 동의를 구하기 전에 진단, 경과, 위험에 대해 설명한다.</p> <p>환자와 환자 가족에게 질문할 시간을 충분히 주고, 질문이나 불만 사항에 적절하게 응답한다.</p> <p>진료 종결, 대진, 의뢰, 전원이 필요한 경우에는 사전에 환자와 보호자에게 충분히 설명하여 이해와 협조를 구한다.</p>
의사는 협력자(collaborator)로서 동료 의료인에 대하여 다음과 같은 역할을 가진다.	효과적인 협진과 의뢰	의사는 협력자(collaborator)로서 동료 의료인에 대하여 다음과 같은 역할을 가진다.	효과적인 협진과 의뢰
	팀워크와 개선을 위한 노력	<p>(22) 최선의 치료를 위해 적절하게 협진과 의뢰에 협력한다.</p> <p>(23) 안전한 협진과 의뢰를 위해 상대 의료인을 존중하며 충분한 정보를 공유한다.</p> <p>(24) 환자진료에 필요한 다양한 보건의료 서비스를 연계할 수 있다.</p> <p>(25) 진료 팀의 리더로서 역할과 책임을 다한다.</p> <p>(26) 팀원의 직무 전문성을 존중하며, 맡은 역할을 협력적으로 수행한다.</p> <p>(27) 팀 내의 갈등상황과 이해상충 상황을 인지하고 이를 해결하기 위해 노력한다.</p> <p>(28) 의료의 질 향상을 위해 지속적인 개선 활동을 한다.</p>	<p>최선의 치료를 위해 적절하게 협진과 의뢰에 협력한다.</p> <p>안전한 협진과 의뢰를 위해 상대 의료인을 존중하며 충분한 정보를 공유한다.</p> <p>(29)번 역량과 합쳐짐</p> <p>진료 팀의 리더로서 역할과 책임을 다한다.</p> <p>팀원의 직무 전문성을 존중하며, 맡은 역할을 협력적으로 수행한다.</p> <p>팀 내의 갈등상황과 이해상충 상황을 인지하고 이를 해결하기 위해 노력한다.</p> <p>의료의 질 향상을 위해 지속적인 팀평가 및 개선활동을 한다.</p>

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Appendix 3. Continued

텔레이조사 전 한국의 환자 중심 의사 역할		텔레이조사 후 한국의 환자 중심 의사 역할	
핵심 역량	세부 역량	핵심 역량	세부 역량
의사는 건강 수호자 (health advocate)로서 사회를 향하여 다음과 같은 역할을 가진다.	건강증진을 위한 사회적 참여	의사는 보건의료 리더 (healthcare leader)로서 사회를 향하여 다음과 같은 역할을 가진다.	건강증진을 위한 사회적 활동
	지역사회 보건 개선	(29) 환자가 보건의료 자원과 서비스를 통해 건강을 증진할 수 있도록 협력한다. (30) 환자의 건강을 보호하고 증진하기 위한 법, 제도, 정책수립에 참여한다. (31) 지역사회와 협력하여 주민의 건강 결정 요인과 요구를 파악하여 대응한다. (32) 지역사회의 공중보건 활동을 통해 주민의 건강을 수호한다. (33) 보건의료 조직의 비용-효과적 관리체계를 통해 효율성을 높인다. (34) 보건의료 취약계층의 건강문제를 파악하여 개선한다. (35) 의료자원의 공정한 분배와 공평한 활용을 통해 의료불균형 해소에 기여한다. (36) 보건의료사회의 미래변화에 전향적으로 대응한다.	환자의 건강증진을 위해 사회가 가진 다양한 자원과 서비스를 활용한다. 주민의 건강 및 의료 관련 필요에 대응하여 지역사회에 적절한 공중보건 의료활동에 참여한다. 국민의 건강을 증진하고 보호하는 정책, 법, 제도 수립에 의료의 전문성을 발휘한다. (30번 역량과 합쳐짐)
			(삭제)
	사회적 책무 이행		보건의료 취약계층의 건강문제를 파악하고 개선한다. 의료자원의 공정한 활용을 통해 불균형 해소에 기여한다. 미래의 보건의료 변화에 대응할 수 있는 준비를 한다.

(Continued on next page)

Appendix 3. Continued

텔레이조사 전 한국의 환자 중심 의사 역량		텔레이조사 후 한국의 환자 중심 의사 역량	
핵심 역량	세부 역량	핵심 역량	세부 역량
의사는 전문직업인 (professional)으로서 자신에 대하여 다음과 같은 역량을 가진다.	직무윤리 준수	의사는 전문직업인 (professional)으로서 자신에 대하여 다음과 같은 역량을 가진다.	직무윤리 준수
	실행 역량		실행 역량
	(37) 진료과정에서의 윤리적 측면을 인식하고 윤리적 문제가 발생했을 경우 적절한 대응을 한다. (38) 의사윤리강령 및 의사윤리지침을 숙지하고 이를 바탕으로 둔 진료를 수행한다. (39) 진료과정에서 발생할 수 있는 이해상충을 인식하고 이를 적절하게 관리한다. (40) 진자 정보화된 의료정보는 개인정보 보호와 공익 목적에 부합하게 다룬다. (41) 환자 비밀 보호의 원칙을 알고 이를 준수한다.		진료과정에서의 윤리적 측면을 인식하고 윤리적 문제가 발생했을 경우 적절한 대응을 한다. 의사윤리강령 및 의사윤리지침을 숙지하고 이를 바탕으로 둔 진료를 수행한다. 진료과정에서 발생할 수 있는 이해상충을 인식하고 이를 적절하게 관리한다. 진자 정보화된 의료정보는 개인정보 보호와 공익 목적에 부합하게 다룬다. 환자 비밀 보호의 원칙을 알고 이를 준수한다.
	의사 주도의 자율 규제 참여		의사 주도의 자율 규제 참여
	(42) 자율규제를 위한 전문직 단체 및 관련 기구 활동에 동참한다. (43) 자신의 의료행위에 대한 외부 비판을 수용하고 자율적으로 규제한다. (44) 동료 의료인의 비전문적이고 비윤리적인 행위에 대하여 책임있게 대응한다.		전문가로서 책임 있는 의료 활동을 위한 의사의 자율 규제 원칙을 이해하고 관련 기구 활동에 참여한다. 자신의 의료행위에 대해 사회의 객관적이고 합리적인 비판이 있을 때 성찰하고 조정한다. 동료 의료인의 비전문적이고 비윤리적인 행위에 대하여 의사윤리 지침에 따라 대응한다.
	자기관리 및 동료 보호		자기관리 및 동료 보호
	(45) 진료 수행을 위한 최적의 신체적, 정신적 건강상태를 유지한다. (46) 자신과 동료 의료인의 안전한 진료환경을 조성하기 위해 노력한다.		진료 수행을 위한 최적의 신체적, 정신적 건강상태를 유지한다. 자신과 동료 의료인의 안전한 진료환경을 조성하기 위해 노력한다.

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Appendix 3. Continued

텔피이조사 전 한국의 환자 중심 의사 역량		텔피이조사 후 한국의 환자 중심 의사 역량	
핵심 역량	세부 역량	핵심 역량	세부 역량
의사는 학문을 다루는 사람(scholar)으로서 학문에 대하여 다음과 같은 역량을 가진다.	<p>지속적 전문성 개발</p> <p>의료인의 교육 촉진</p>	<p>의사는 의학의 발전에 기여하는 사람(scholar)으로서 학문에 대하여 다음과 같은 역량을 가진다.</p>	<p>지속적 전문성 개발</p> <p>의료인의 학습 촉진</p>
	<p>(47) 학문적 전문성에 대한 성찰을 통해 새로운 학습이 필요한 부분을 찾아낸다.</p> <p>(48) 전문성 향상에 필요한 정보와 지원을 학습하고 활용한다.</p> <p>(49) 학습환경을 조성하고 동료, 후배 의사, 학생을 효과적으로 교육한다.</p> <p>(50) 동료, 후배의사, 학생의 수행을 객관적으로 평가하고, 건설적인 피드백을 제공한다.</p>	<p>새로운 지식과 기술을 학습하고 활용한다.</p> <p>(47번 역량과 합쳐짐)</p> <p>효과적 교육, 객관적 평가와 건설적 피드백을 통해 의료인의 학습을 지원한다.</p> <p>(49번 역량과 합쳐짐)</p>	
	<p>연구에 기여</p>	<p>의학 발전에 기여</p>	<p>의료현장 속에서 학문적 질문을 제기하고, 과학적 해결방법을 도출한다.</p> <p>(삭제)</p>
			<p>연구활동 시 연구윤리 원칙과 지침을 준수한다.</p>