

# Systematic Evaluation of Current Humanistic Quality Education for Medical Students in China

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**Abstract:** Based on literature on humanistic quality education for medical students searched in China National Knowledge Infrastructure, qualitative analysis results show that medical humanities education had poor effectiveness, shortage of humanistic quality courses or unbalanced curriculum structure, weak application of teaching content in the curriculum system, backward educational concepts, disconnection between educational content and interests, similar teaching methods, unscientific assessment and evaluation methods, weak teacher qualification and strength. Most scholars believed that the optimization of strengthening the humanistic quality education for medical students should focus on education of ideals and beliefs, educational concepts, curriculum construction, teacher training, environment creation, social guidance, social practice, and online education. It is essential to promote rounded development of people, which organically integrates teaching medical professional knowledge and skills and cultivating humanistic qualities, to meet the requirements of a high-level quality education as well as of talent training for modern medical development.

**Keywords:** Medical students, humanistic quality, education, current status, systematic evaluation

Medical education is an important cornerstone for the development of health care. The humanistic quality education of medical students is an inherent requirement for the development of modern medical education and a practical need for the development of health care. The humanistic quality education of medical students must be given priority in the development of education and the cause of health care, thus strong talent guarantees for promoting the construction of a healthy China and ensuring people's health can be assured. *Standards for Basic Medical Education in China* promulgated by the Ministry of Education has made clear requirements for the humanistic qualities cultivation of medical students that an excellent doctor should not only gain expertise of professional knowledge and operating skills, but also have a benevolent heart, high humanistic quality and moral quality. *Guiding Opinions on Accelerating Innovative Development of Medical Education* issued by the General Office of the State Council of the People's Republic of China mentioned that it is necessary to strengthen the training of medical students with new connotations and to cultivate medical talents with benevolence and skills[1]. Many studies have analyzed and reported on humanistic quality education for medical students. In order to further improve the quality of medical education, a systematic review method was adopted to analyze the published literature.

## 1. Materials and Methods

### 1.1 Inclusion and Exclusion Criteria

#### 1.1.1 Inclusion Criteria

Cross-sectional survey study

#### 1.1.2 Research Objects

Chinese medical students

#### 1.1.3 Result Indicators

Connotation, current situation, dilemma, path, evaluation indicators, etc.

### 1.1.4 Exclusion Criteria

①Exclude editor's notes, conference reports, column introductions, etc. ②Special studies in higher vocational and technical colleges ③Repeatedly published documents ④Case studies

### 1.2 Literature Search Strategy

Literature on humanistic quality education for medical students was searched in China National Knowledge Infrastructure(CNKI) from the establishment of the database to September 20, 2023. The search terms included medical students, humanistic qualities, and education. The search strategy was article title-medical student AND article title-humanistic qualities AND article abstract-education. At the same time, supplementary searching was conducted on official government websites, such as the Ministry of Education, to include policies and regulations related to medical education.

### 1.3 Literature Screening and Data Extraction

Two researchers independently screened the literature, extracted data, and cross-checked. All the disagreements were discussed and determined. ENDNOTE was used to assist in the literature sorting work. After titles and abstracts were screened first, literature was classified as randomized controlled trials, cohort studies/survey studies, case analysis, professional experience, educational principles, expert judgment, etc. At the same time, after excluding irrelevant literature, the full text was further read to determine whether it was finally included.

Contents of data extraction

①Basic information such as title, author, journal, time, etc. ②Research area, research objects, etc. ③Content related to outcome indicators such as current situation, problems, measures, discussions, evaluation indicators, etc.

### 1.4 Statistical Analysis

Conduct a systematic review of the literature, and provide supplementary explanations based on relevant policy requirements and the actual situation of medical colleges.

## 2. Results

### 2.1 Literature Search Results

#### 2.1.1 Initial Inspection Results

150 relevant documents were obtained during the initial inspection, including 130 academic journals, 6 dissertations, 3 conference articles, 1 results article, and 12 foreign documents.

According to numbers of papers published (see Figure 1), in 2011, 18 studies were published, reaching the highest number of published studies in one year. And another peak of it is in 2015, when 16 articles were published. Then, a decreased tendency was shown.

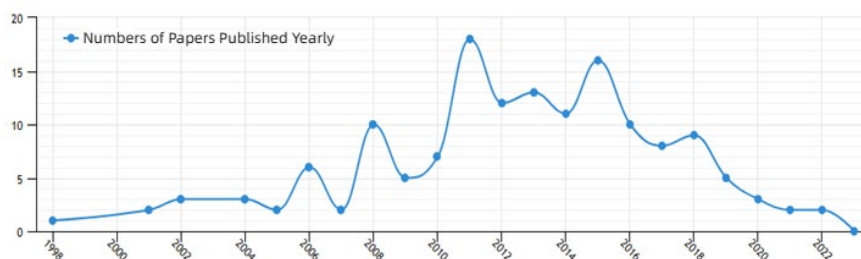


Figure 1: Numbers of Papers Published Yearly

For author's affiliation(see Figure 2), Jilin Medical University has published the highest number of studies with 11 articles, followed by Shenyang Medical College and Harbin Medical University, both

with 6 articles.

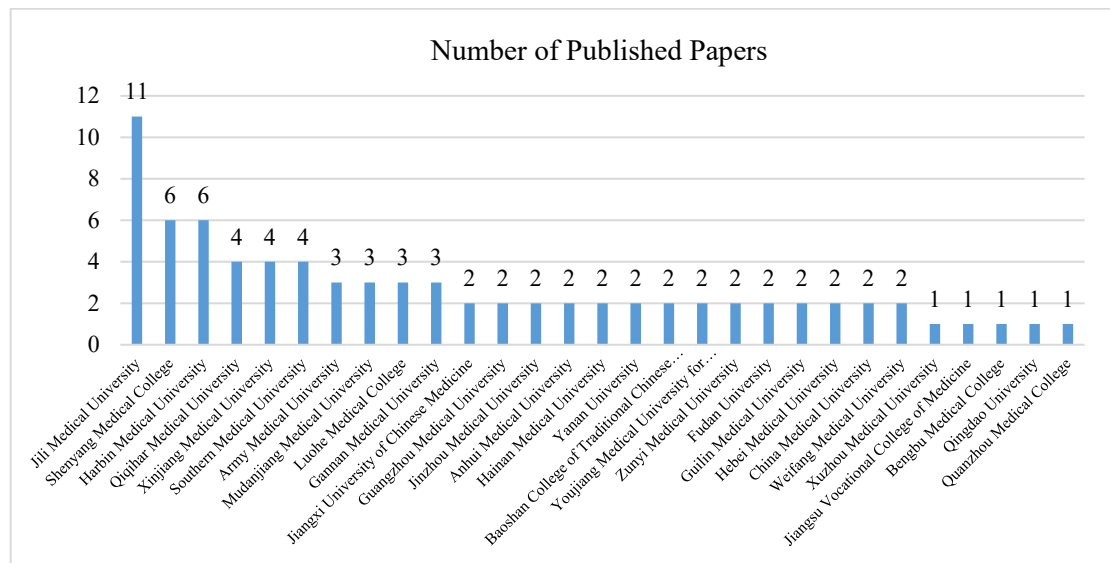


Figure 2: The Number of Published Papers for Different Author's Affiliation

For fund distribution, 15 papers were funded in total.

### 2.1.2 Literature Screening

35 studies were finally included after the following screening process and results shown in Figure 3

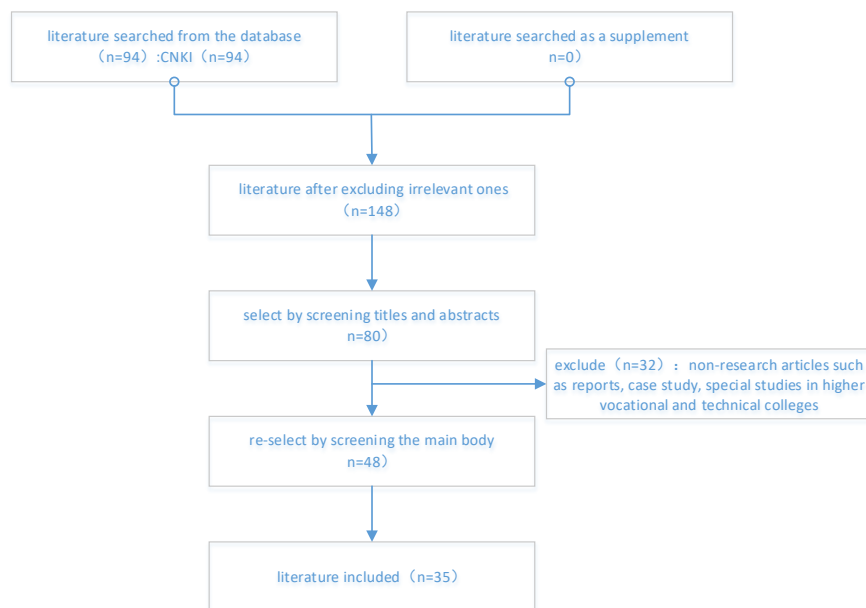


Figure 3: Literature Screening Process and Results

## 2.2 Analysis Results

After sorting out the research results related to the humanistic quality education of medical students, it was found that most of the studies mainly focused on the connotation, existing problems, educational paths, measures and necessity of humanistic quality education[2].

### 2.2.1 Connotation

#### 2.2.1.1 Definition of Connotation

Academician Liu Depei, President of Chinese Academy of Medical Sciences, pointed out that the humanistic spirit is the core of medicine, and the mission of medicine is to care for and cherish the whole process of people from birth to death.

The humanistic quality of medical students refers to the worldview, outlook on life, and value education formed and developed when medical students are receiving classroom teaching and participating in clinical practice activities[3]. Then they internalize and apply the value and connotation of medical humanities which is reflected in the maintenance and deep care of life[4]. As a result, students are able to develop good political qualities, bioethical awareness, discipline awareness, professional ethics, interpersonal and social qualities, psychological qualities, cultural qualities, etc.[3][5], solving problems that how to behave and what kind of person to be[6], as well as shaping an ideal personality with all-round development[7]. In conclusion, humanistic quality education for medical students is the integration of the spirit of medical science and the spirit of medical humanism, cultivating medical students to change from “disease-centered” to “patient-centered” humanistic care concepts and professionalism[8][9].

### **2.2.1.2 Medical Students' Understanding of Humanistic Qualities**

Zhou Zhixin and others conducted a survey of 16,862 undergraduates in a medical school in 2020. 93.7% of medical students believed that humanistic quality is definitely necessary for a doctor[10]. Some sample survey results show that the humanistic quality of medical students needs to be improved because of insufficient cultural heritage, inability to effectively communicate with patients, and fragile psychology[11]. Tian Lijuan et al. conducted a sample survey of medical students at Harbin Medical University in 2015 showed that up to 93.0 % of medical students had heard of humanistic concepts such as humanistic spirit. However, only 11.9 % of them could clearly understand the meaning of the relevant concepts. 38.8 % of medical students believed that Marxist political theory courses and ideological and moral courses played a greater role in cultivating their humanistic qualities. Only 46.3 % of medical students were satisfied with the actual effects of humanities courses[12]. A survey conducted by Xiao Songshu et al. on 900 medical students at Xiangya Medical College of Central South University in 2015 showed that most medical students agreed with the importance of humanistic quality education, but their understanding of the concept of humanistic quality was not deep and thorough enough. 74.0 % of the medical students who participated in the survey said they had heard of it, but didn't understand the concept[13]. Wang Yuansong et al. conducted a survey of medical students at Qingdao University School of Medicine in 2012 showed that more than 95.5% of medical students believed that medical humanistic quality education is very important. However, 67.8% of medical students knew nothing about the content of medical humanistic quality education in the hospital. 55.6% of medical students were not satisfied with the effect of medical humanistic quality education[14].

### **2.2.2 Current Situation**

According to literature analysis, most studies believe that the humanistic quality of medical students is not optimistic, which is difficult to adapt to the requirements of the development and reform of medical and health services. The effectiveness of medical humanities education is poor due to a lack of humanistic quality courses or an imbalanced curriculum structure, inapplicable teaching content of the curriculum system, backward educational concepts, disjointed educational content and interests, similar teaching methods, unscientific assessment and evaluation methods, weak teacher qualification and strength[6][8][15][16]. At the same time, the evaluation of the effects of humanistic quality education and the humanistic quality education in the clinical internship stage are weak[17], during which the training of professional ethics for medical students failed to make truly improvements. Neglecting to cultivate the humanistic qualities of medical students will lead to problems such as incomplete knowledge structure, imperfect professional personality, poor interpersonal communication skills, insufficient innovation ability and so on[18], which is manifested as relatively weak ideals and beliefs, a crisis in integrity awareness, lack of service consciousness, decreased social adaptability, etc[19]. Some research results also show that medical students are relatively satisfied with the school's humanistic literacy education measures. Most medical students believe that quality education is in place and approve of the current humanistic atmosphere and cultural life in the school[20].

Most research focuses on curriculum. In terms of medical humanities education, the United States and Germany account for the largest proportion of humanities courses in the total credit hours in foreign medical schools, reaching 20%-25%, while the proportion of humanities courses in British, French and Japanese medical schools accounts for about 10%-15%. The proportion of humanities courses in medical majors accounts for about 8% of the total class hours in China[21]. The curriculum is generally offered with mainly political theory courses in the first and second academic years[22]. *Medical Ethics*, *Health Law* and other optional courses are generally 16 credit, offered in the evening or on weekends. Under the credit background system, students may not take such courses[3]. A military medical university has opened compulsory courses such as *College Chinese*, *History of Medicine*, and *Introduction to Medical Humanities*, and established an elective course system consisting of 8 modules, including humanities and

social sciences, arts and sports, and information technology. Meanwhile, a series of cultural lectures such as Excellent Lectures, Humanities and Social Sciences Lecture, and Famous Teacher Forum[17]. Qin Xiaolong and others investigated the curriculum of clinical medicine majors in three undergraduate medical schools in Guizhou. Only one school offered *Medical Ethics* and *Medical Psychology* as compulsory courses, while the other schools offered them as limited elective courses. Courses related to health regulations are all offered as elective courses. Judging from the distribution of credit hours, humanities credit hours account for 20% -54.3% in elective courses and 1.7% -15.6 % of total credit hours in the course plan. The situation varies from different schools, and the actual opening rate of humanistic quality courses is not high, ranging from 13.6% to 23.7%[23]. Compared with the needs of medical students for humanistic quality and professional ethics education, single and similar humanities courses of schools and teacher level at present cannot meet the expectation of students[13].

### 2.2.3 Paths and Measures

Regarding the optimization paths, most scholars believe that the humanistic quality education of medical students should be strengthened from ideal and belief education[19], educational philosophy, curriculum construction (curriculum composition, teaching content, teaching methods, teaching links[2], teacher training, environment creation, and social guidance[24], social practice, online education[25] and some others.

The education of ideals and beliefs are mainly strengthened from traditional culture, social responsibility, professional honor, etc., by enhancing national self-confidence and national pride, cultivating a sense of social responsibility, and forming professional ethics[19]. Education concepts should comply with a systematic, open and coordinated education system that natural sciences coordinate with humanities and social disciplines. Curriculum construction mainly focuses on increasing the proportion of humanistic quality courses, integrating professional courses and humanities courses, and strengthening humanistic guidance in internship practice[3][6]. In terms of teacher training, more medical teachers are encouraged to participate part-time teaching of medical humanities, while more medical humanities teachers are encouraged to learn more about the growth paths and needs of medical students[10][17][26]. Cultivation of psychological quality demands for better awareness of mental health and psychological adjustment of medical students. Construction of campus cultural facilities contributes to create a humanistic quality education environment. High-quality humanistic quality education activities and practical activities stimulate medical students' initiative and consciousness in learning, and improve their aesthetic ability and expression ability[3][19][26][27]. Guidance for medical students on how to truly apply their learning to clinical practice beneficial to cultivate more comprehensive and outstanding medical talents.

Systematic reviews and evidence-based research on medical education research mainly focus on curriculum design, teaching methods, etc[28]. Chen Jie and others believe that the curriculum system of humanistic quality education in medical schools should be composed of explicit courses and implicit courses. Explicit courses can be composed of four sub-modules, namely, ideological and political theory courses, general humanities courses, medical humanities interdisciplinary courses and humanities skills courses, while the implicit courses can be divided into two sub-modules, namely, activities and campus culture[29]. According to the survey results of Xiao Songshu et al., medical humanities courses that students list as the most necessity are medical ethics, health law, medical psychology, behavioral medicine, etc. The three most popular teaching methods are the second classroom, such as humanities lectures and introduction to classics, social practice teaching, and artistic performances or salons[13]. Although the medical humanities courses offered by various medical schools are different, according to the survey of the Guiding Committee of Medical Humanistic Quality and General Practice Teaching in Colleges and Universities of the Ministry of Education, medical psychology, medical ethics, doctor-patient communication, medical aesthetics, medical sociology, medical logic, health law, medical history, and medical philosophy are the most commonly taught nine subjects in colleges and universities at present[30]. Zhang Peiyao reminds that in the training process, it is also necessary to strengthen the construction of the curriculum system, the pertinence of humanistic quality education, and the management of practical teaching[8]. At the same time, the courses must be managed in sections. Basic humanities courses, such as medical ethics, medical psychology, medical sociology, health law, introduction to medicine, medical history, etc. should be mainly arranged in the lower grades. Applied courses, such as behavioral medicine, social medicine, hospital administration, health promotion and management, etc., should be arranged in the upper grades[31].

### 2.2.4 Evaluation Indicators

The Guiding Committee of Medical Humanistic Quality and General Practice Teaching in Colleges

and Universities of the Ministry of Education conducts a survey on the current status of medical humanities education and teaching among 18,326 medical students in 48 colleges and universities. In the process of studying medical humanities courses, 80.96% of students are satisfied or relatively satisfied with their results[30]. In a questionnaire survey of medical students at Jinzhou Medical University by Ji Lijun and others in 2017, 28.28% were satisfied with the humanistic quality education courses when it comes to course evaluation, while 51.85% were average and 19.87% were dissatisfied. In different schools, different survey results come out of different evaluation indicators. A unified evaluation system for the evaluation of the effects of humanities education is still lacked nowadays. The assessment standards are not scientifically designed, thus it is impossible to correctly and objectively evaluate the results of education, which makes it difficult to provide experience for future improvements[22]. Some medical schools have initially established an assessment indicator system for medical students' humanistic quality education based on the connotation of medical students' humanistic qualities and the results of literature review. The system includes 4 first-level indicators, namely, moral cultivation, empathy for others, good communication and interaction, and continuous learning ability, 12 second-level indicators and 48 third-level indicators[32]. It is necessary to pay attention to the formative evaluation or process evaluation of medical students, which is a developmental evaluation based on continuous observation, recording, and reflection of the entire learning process of students. Its purpose is to motivate students to learn and help students control their own learning process effectively, so that students can gain a sense of accomplishment, enhance self-confidence, and cultivate a spirit of cooperation[33].

### 3. Discussion

In the summary of the most basic requirements for global medical education medical professional values, attitudes by Institute for International Medical Education, medical professional values, attitudes, behaviors and ethics are the first area, which is the primary requirement for basic quality. *The Guiding Opinions on Accelerating the Innovative Development of Medical Education* issued by the General Office of the State Council proposed to strengthen student training with new connotations. By strengthening the education of Taoism of saving lives, healing the wounded with love in the heart, solid academic knowledge, professional expertise and skills, and scientific methods of art, people's health guardians with noble medical ethics and superb medical skills can be cultivated. Facing the new tasks of implementing the Healthy China strategy and the new requirements of world medical development, there are still many arduous tasks to cultivate medical talents and improve the quality of humanistic education.

#### 3.1 Development of Medical Humanities

The construction and development of medical humanities is a mechanism guarantee for improving the humanistic quality of medical students, promoting professionalism, and cultivating new medical talents. The subject affiliation of medical humanities is still unclear, on which is no consistency among colleges and universities across the country. Some colleges independently set up secondary disciplines in humanities and medicine based on the first-level medical disciplines[34]. Taking "medical humanities" as the core content of this discipline has yet to reach consensus among domestic and foreign academic circles in terms of research objects, theoretical systems, core concepts, research methods, and relationships between related disciplines[35]. In fact, there are medical schools that have determined medical humanities graduate training plans and carried out medical humanities graduate training with reference to their own graduate training programs and existing majors, teachers, and teaching conditions. However, the system is not mature enough, and there is still great room for discipline development.

#### 3.2 Cultivate Professional Teachers

A high-quality professional and innovative teaching team is the key to accelerating the modernization of education, and the construction of the teaching team should be treated as a basic task. From the perspective of humanistic quality education for medical students, medical humanities teaching and research workers are the subjects of course teaching, so do the clinical workers in some medical schools. For example, doctors and nurses in hospitals affiliated to medical schools consist of main force in course teaching, clinical teaching and clinical practice for undergraduate and postgraduate students. Teachers of professional courses should consciously infiltrate and permeate the humanistic spirit throughout the teaching of clinical practice and professional courses by organically integrating the teaching of professional knowledge with the cultivation of humanistic qualities. Humanities teachers should design

teaching based on the actual conditions of medical students, strengthen the connection with clinical practice, fully mobilize students' initiative and enthusiasm for learning to arouse their interest in humanities courses.

### **3.3 Pay Attention to Teaching Reform**

**Demand-based teaching goals:** *Standards for Basic Medical Education in China (The 2022 Revision)* mentions that medical schools should integrate humanities and social sciences into medical professional training and pay attention to the cultivation of professionalism and literacy, which also specially emphasize on contents of humanities and social disciplines such as moral cultivation, medical ethics, and health laws and regulations[1]. Teaching goals should be set as to cultivate medical talents with benevolence and expertise, according to the requirements for medical talents due to scientific and technological development, industry progress and professional needs.

**Advanced course design:** Based on the actual setting situation of the majors, humanities courses are sorted as important courses (designated electives for undergraduates and graduate students) and secondary important courses (electives with special emphasis for undergraduates and graduate students), general courses (elective courses offered by qualified institutions)[36]. Important courses are ideological and political courses, medical history, introduction to medicine, medical ethics, introduction to humanistic qualities, etc. Secondary important courses are medical psychology, health law, medical sociology, behavioral medicine, etc. General courses are basics of health management, hospital management, health promotion and management, medical aesthetics, etc.

**Rich teaching scenarios:** First of all, attach importance to the invisible courses such as student clubs in the humanistic quality education of medical students. 92.86% of students participate in club activities, so student clubs should be regarded as an essential way and carrier to cultivate students' humanistic qualities[37]. Secondly, the embodiment and application of humanistic qualities in clinical practice should be repeatedly taught to students in the process of early clinical practice, frequent clinical practice, and repeated clinical practice. For example, during the trainee and internship stages, medical students will be exposed to many typical cases inevitably. Therefore, teachers can organize some humanities lectures and case studies that are closely related to clinical practice. Thirdly, to create a humanistic environment on campus, humanistic literacy education is carried out through representative key places such as the museums of university and college, and medical corridors, as well as key ceremonial nodes such as entrance ceremonies, graduation ceremonies, and entrance training.

### **3.4 Promote Three-round Education**

Medical colleges and universities must always adhere to and strengthen the Party's overall leadership. The effectiveness of cultivating moral character should be regarded as the fundamental criterion for testing all work. Taking ideals and beliefs the core of education, Core Socialist Values as the guidance, educate people with culture and morality to comprehensively improve talent training capabilities[38]. To promote the competency and overall improvement of medical students, educational resources and educational power in all aspects should be coordinated, and the educational function should be given full play through curriculum, scientific research, practice, culture, network, psychological education, and management, services, funding, and organization. Thus an integrated work system of Three-round Education can be constructed and an all-round education structure for all can be created.

### **3.5 Scientific Evaluation System**

As a medical student, high quality is not only a personal pursuit, but also a professional requirement. The important role of cultivating humanistic qualities in the quality education of medical students is also recognized by the majority of medical students. 85.71% of students said that humanistic qualities are very important to the growth of college students[37]. According to the classification statistics of Group A (core quality education is carried out) and Group B (core quality education is not carried out), compared with the beginning of the internship period after the one-year internship period, the humanistic quality status of Group A has been significantly improved, and the clinical work evaluation score is higher than that of Group B, indicating that core quality education can significantly improve the humanistic quality of interns, thereby improving the clinical work ability of interns[39].

To clarify the educational goals of humanistic quality education for medical students, it is necessary to conduct a systematic evaluation of the training process itself, and to evaluate the after-effects of the

training results of medical students. It is necessary to establish a three-round education acceptance and assessment mechanism, a humanistic quality education course teaching quality evaluation mechanism, the assessment mechanism for practical activities in the second classroom and the competency evaluation mechanism for medical students have formed a high-level talent training system to continuously improve the effectiveness of education[40].

Medical talents are one of the keys to implementing the Healthy China strategy and one of the foundations for running a medical and health service that satisfies the people. The new era has put forward higher requirements for medical education. When medical colleges and universities respond to the severe challenges faced by medical students' humanistic quality education, they must always adhere to and strengthen the Party's overall leadership, insist on fostering integrity and promoting rounded development of people, organically integrates the teaching of medical professional knowledge and skills with the cultivation of humanistic qualities from the aspects of subject development, curriculum construction, teaching staff construction, teaching reform, evaluation system, etc. Only in this way can we adapt to the new requirements for talent training put forward by the development of modern medicine and the requirements for the healthy development and reform of medical as well as health undertakings.

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