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Construction of an Evaluation Index System for High-quality Development of Discipline Construction in Tertiary Public Hospital

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In this study, we aimed to develop an evaluation index system for assessing the high-quality development of discipline construction in China's tertiary public hospitals, referring to a literature review and empirical analysis of IoT-collected data. Through a combination of literature review and empirical analysis, we examined both domestic and international research studies on discipline construction evaluation and established a solid theoretical foundation and practical context for the study. By applying the analytic hierarchy process alongside the literature review, we created a comprehensive evaluation index system encompassing multiple dimensions. In this study, we elaborated on the construction of judgment matrices and methods for calculating the weights of various indicators at different levels, offering quantitative tools for scientific evaluation. For the empirical analysis, a large public hospital in China was chosen as a case study to analyze its discipline construction progress over the past five years. Specific criteria for evaluating high-quality discipline construction were developed. By comparing the discipline construction scores of 2018 and 2023, we revealed trends in discipline development, conducted in-depth analyses of key indicators, identified existing issues, and proposed recommendations for improvement.

1. Introduction

As China's disease spectrum continues to evolve and healthcare demands increase, competition in the medical market intensifies amid challenging economic and social conditions. In response, the requirements for scientific and technological research are becoming more stringent. These factors place new demands on hospitals to effectively manage complex diagnoses, treat major diseases, enhance scientific research capabilities, improve educational and teaching capacities, and cultivate high-level talents. Strengthening the construction of hospital disciplines from multiple perspectives is essential for enhancing overall hospital

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capabilities. Guided by policies such as "Healthy China 2030" and ongoing healthcare system reforms, hospitals must continually improve their comprehensive strength and core competitiveness. This transformation is aimed at driving hospitals toward high-quality development, thereby ensuring better services for the public—a crucial issue that hospitals must address. Discipline construction serves as an inexhaustible driving force for hospital development, with the quality of discipline construction being determined through scientific assessments. Establishing an effective discipline assessment system tailored to hospitals allows for a thorough understanding of the current status and issues within each discipline. This insight is pivotal for formulating development plans, rationalizing resource allocation, and promoting comprehensive hospital growth. Therefore, enhancing discipline construction is pivotal for hospitals to adapt to evolving healthcare demands and to meet the expectations of high-quality service provision, aligning with national health goals and healthcare system reforms.

1.1 Current research situation overseas

In developed western countries such as the USA, UK, and Canada, medical and healthcare technologies have consistently been at the forefront globally. This is largely attributed to their abundant healthcare resources, robust healthcare service systems, and advanced, comprehensive medical research capabilities. These factors represent key elements that serve as both reference points and models for emulation.[1–3] Take the USA as an example; it has established comprehensive medical centers that integrate outpatient care, research facilities, affiliated hospitals, and community-based healthcare. These centers are patient-centered, offering holistic and integrated care services. Leading global healthcare organizations such as the Mayo Clinic and the Beijing Health System exemplify these principles, excel in medical technology, operate efficiently, and rank among the top globally in professional development. They represent university-affiliated medical schools that hold prominent positions in healthcare, research, and innovation. Currently, foreign disciplines are mostly concerned with the analysis of the development of disciplines from the perspective of interdisciplinary integration and fusion. In today's rapidly advancing scientific and technological landscape, the intersections, permeations, and integrations between disciplines are becoming increasingly apparent.

Research studies on evaluation systems for medical institutions are limited in many foreign countries. Generally, assessments focus on outcome, process, and structural evaluations, conducted from multiple dimensions and perspectives centered around patients. Switzerland, for example, is a country where assessments are established and implemented by governmental authorities and other organizations.[4] These evaluations are typically led by healthcare professionals, with a strong emphasis on quality assurance in nursing services and the dissemination of comprehensive information to the public. In the United Kingdom, the approach begins with subject pre-assessment before subject setting, utilizing clinical and medical evaluations. Clinical evaluations focus on various areas such as medical work, nursing, medical technology departments, and healthcare quality. Medical evaluations encompass all phases of physician involvement in patient care processes, including disease diagnosis, treatment, examination, treatment plan selection, disease outcomes, and the evaluation of medical costs and

benefits to patients. The results of recent studies indicate that in evaluating hospital specialties, the UK emphasizes patient satisfaction and assesses the rational use of drugs and high-value consumables from the patient's perspective. In the USA, the healthcare sector is predominantly overseen by third parties.

1.2 Current domestic research situation

Since the 1990s, competition among comprehensive public hospitals in China's healthcare sector has intensified. Each hospital has progressively developed its own strengths and specialized disciplines, leading to the formation of distinct clusters of expertise.[5–7] Concurrently, efforts have focused on enhancing research and educational standards, strengthening innovation capabilities, and integrating developmental advantages to establish unique core competencies. This ongoing process is aimed at the steady improvement of overall institutional strength. In China, a significant influence is exerted by the "Occupational Assessment Organization" under the "Post-medical Appraisal Committee". This national-level informal evaluation organization primarily focuses on discipline assessments. For instance, it prioritizes methods like diagnosis-related groups for grouping therapy, emphasizing primary disease diagnoses, patient age, surgical history, and comorbidities. These factors ensure a certain degree of comparability in assessment outcomes.

In recent years, the high-quality development of many hospital disciplines has become closely intertwined with IoT. The application of IoT technology has made hospital management and medical services smarter and more efficient. The IoT system is also used in our study, primarily for the transmission of the following related signals.[8–11]

(1) Device monitoring and management: IoT devices enable the real-time monitoring of medical equipment, the prediction of potential failures, and the facilitation of remote maintenance. This not only enhances equipment reliability and lifespan but also reduces repair costs and downtime.
(2) Ward environment optimization: IoT sensors monitor factors such as temperature, humidity, and air quality in hospital wards, creating a more comfortable and safer environment that aids in faster patient recovery.
(3) Patient monitoring: Wearable devices and medical sensors can continuously monitor patients' vital signs like heart rate, blood pressure, and oxygen saturation. This improves treatment effectiveness and reduces the risk of medical incidents.
(4) Medication management: Hospitals utilize IoT to track the storage, distribution, and usage of medications, ensuring their safety and efficacy. Smart cabinets and tagging systems minimize errors and loss, enhancing the accuracy and efficiency of medication management.
(5) Data analysis and decision support: IoT technology collects and analyzes real-time and historical data, assisting hospital administrators in predicting ward utilization and resource needs. This optimizes hospital operations and resource allocation.

In this study, we focused on constructing an evaluation index system for the high-quality development of discipline construction in tertiary public hospitals in China. Through a literature review and empirical analysis of data collected via IoT, our aim was to explore and establish an

evaluation index system tailored to the needs of discipline construction in these hospitals. Our findings demonstrate that this evaluation system effectively assesses and guides the high-quality development of disciplinary construction in public hospitals. Specifically, it provides quantitative assessment criteria for enhancing the talent pool, strengthening research capabilities, and improving medical services. The outcomes emphasized the importance of constructing a discipline evaluation system tailored to local characteristics, which will be crucial for advancing continuous optimization and innovation in discipline construction at tertiary public hospitals in China. This system can serve as a valuable reference for related policy formulation and implementation.

2. Research Method

2.1 Literature review method

Using relevant sources, we categorize our disciplines into five groups on the basis of their unique characteristics: distinctive disciplines, key disciplines, advantageous disciplines, foundational disciplines, and essential development disciplines.

(1) Distinctive disciplines should have a strong systematic framework, foster innovation in research directions, establish a solid environment for talent cultivation, and expand their market share in the pharmaceutical industry. These factors are essential for achieving sustainable development. Distinctive disciplines are those that exhibit significant leadership in a specific field and maintain a competitive advantage over others.

(2) Representative key disciplines are closely related to specific periods, developments, and position within hospitals. They are poorly formed and less repeatable, yet exhibit unique, irreplaceable characteristics strongly correlated with the hospital's standing.

(3) Advantageous disciplines refer to professions within the current academic framework that play significant or leadership roles in universities or research departments. They exhibit significant developmental advantages or supportive roles and, to a certain extent, hold leading positions within their fields.

(4) Foundational disciplines have the capacity to establish their own knowledge systems and the potential to evolve into new fields of study. With the continuous advancement of science and technology, the growing demand for diverse needs leads to the interconnection and integration of foundational disciplines. Although these disciplines may not yet have a fully developed system, they exhibit significant developmental potential. For example, the application of stem cell technology holds the promise of generating new research directions across various fields, showcasing the potential of foundational disciplines to drive innovation and growth.

(5) Essential development disciplines refer to fields that are essential for national development priorities, stability, public health, and safety. They fulfill specific needs such as national economic development, collective security, and public health safety. These disciplines are deemed necessary for realizing development and construction based on industry responsibilities and demands.

2.2 Analytic hierarchy process (AHP): Constructing a judgment matrix for evaluating high-quality development indicators

The AHP is an evaluation method proposed by Saaty.[12] It is used to better compare the relative importance of similar factors and higher-level factors. On the basis of Saaty's 1–9 scale and incorporating data from expert surveys, a judgment matrix is constructed to improve the Saaty scale. Tables 1 and 2 provide descriptions of the specific ratios involved.

2.3 Calculate the weights of each evaluation criterion and their contribution to discipline construction

The calculation methods and steps in the AHP for computing the eigenvectors and weights of criteria at the same level, normalizing the eigenvectors, calculating the maximum eigenvalue, and performing consistency tests are as follows.

(1) The expression for calculating the values of each column in the judgment matrix M_i is

$$M_i = \prod_{j-1}^{n} a_{ij} \quad (i = 1, 2, \ldots, n). \tag{1}$$

(2) The expression for initially weighting indices at each level is

$$\overline{W_i} = \sqrt[n]{M_i} \quad (i = 1, 2, \ldots, n). \tag{2}$$

Table 1
Detailed explanation of Saaty's 1–9 scale.

Comparison of Importance	Scale	Explanation
$a_{ij} - a_{ik} = 0$	1	The two indicators are equally important.
$0.25 < a_{ij} - a_{ik} < 0.5$	3	The former indicator is slightly more important than the latter.
$0.75 < a_{ij} - a_{ik} < 1$	5	The former indicator is more important than the latter.
$1.25 < a_{ij} - a_{ik} < 1.5$	7	The former indicator is much more important than the latter.
$a_{ij} - a_{ik} > 1.75$	9	The former indicator is extremely more important than the latter.
Intermediate values of the above comparisons	2, 4, 6, 8	Intermediate values of the above judgments
Reciprocal	If the importance ratio between a_i and a_j is a_{ij}	Then the reciprocal is $1/a_{ij}$

Table 2
Judgment matrix A.

a	a_1	a_2	……	a_n
a_1	a_{11}	a_{12}	……	a_{1n}
a_2	a_{21}	a_{22}	……	a_{2n}
……	……	……	……	……
a_n	a_{n1}	a_{n2}	……	a_{nn}

(3) The expression for determining the final weighted values through normalization operations is

$$W_i = \frac{\overline{W_i}}{\sum_{i=1}^{n} \overline{W_i}} \ (i = 1, 2, \ldots, n). \tag{3}$$

(4) The maximum eigenvalue λ_{max} is calculated using the following formula:

$$\lambda_{max} = \sum_{i=1}^{n} \frac{(AW)_i}{nW_i}. \tag{4}$$

(5) The consistency index (*CI*) and consistency ratio (*CR*) are calculated using the following formulas:

$$CI = \frac{\lambda_{max} - n}{n-1}, \ CR = \frac{CI}{RI}. \tag{5}$$

The value of the random index (*RI*) is a statistical constant with the specific numerical values shown in Table 3. In general, $CR < 0.1$ indicates statistically significant consistency, and the calculated values are acceptable.

3. Empirical Analyses of Discipline Development in a Tertiary Public Hospital in China

3.1 Data and information collection

In this study, we focused on a tertiary Grade A comprehensive hospital in China, specifically examining 34 departments within it. The data primarily consist of comprehensive information from medical institutions, including annual work summaries, research activities, educational work summaries, scientific and technological project summaries, patent summaries, medical achievement summaries, and overall medical reports. The data collection covers the period from 2018 to 2023, with a retrospective focus.

3.2 Principle of the AHP

The AHP involves a series of analytical steps in which qualitative evaluations provided by decision-makers are used to assign weights to each alternative. These weight vectors are then

Table 3
RI values.

N	1	2	3	4	5	6	7	8	9	10
RI	0	0	0.52	0.89	1.12	1.26	1.36	1.41	1.46	1.49

placed into a final matrix that is used to rank the alternatives in order of priority. The AHP combines both qualitative and quantitative analysis methods in decision-making, with the goal of evaluating and selecting decision behaviors, options, and decision objects and ranking them on the basis of their relative importance. It has been widely applied across various fields, including economics, politics, and engineering. The principle of the AHP involves structuring the problem into a hierarchical, treelike model. At the top of this structure is the main objective, serving as the first level. After establishing the first level, some objectives that meet the main objective are placed in the second level. Objectives decomposed from the parts of the second-level main objectives are placed in the third level, with each set in each level meeting the objectives of the level to which they belong. Using these subobjectives as criteria, alternative solutions for achieving objectives are listed in the next level, and then paired and compared regarding their contributions to achieving the objectives of the lower levels. In the theory of assigning weights to indicators, the AHP establishes an ordered hierarchical indicator system. It uses pairwise comparisons subjectively to judge the comparative situation between indicators within the system. After calculating and testing for consistency, it derives ranking coefficients for the importance of each indicator—the indicator weight coefficients.

3.3 Specific steps of the AHP

The AHP begins with the construction of a hierarchical model diagram of all indicators, where the indicator system is divided into three levels: the goal level, the criterion level, and the alternative level. The objective of this study is to establish a three-level evaluation indicator system for assessing the high-quality development of tertiary public hospitals. The criterion level consists of primary and secondary indicators, while the alternative level comprises tertiary indicators. Following this, the construction of judgment matrices takes place. These matrices represent the relative importance of each indicator within the same level, as assessed by several experts. The initial weight coefficients are derived from the arithmetic mean of experts' scores on the importance of elements within each level. Following Saaty's 1–9 scale, experts conduct pairwise comparisons of items to establish judgment values, forming the judgment matrix. Normalizing the geometric mean of each row of the judgment matrix yields the weights of each indicator. The Saaty scale proportions are shown in Table 1.

Next, the calculation of indicator weights and consistency testing are conducted. Indicator weights are computed on the basis of constructed judgment matrices, followed by consistency testing. Consistency testing includes within-level consistency testing and overall hierarchy consistency testing. Within-level consistency testing ensures consistency within each level. Ideally, judgment matrices should exhibit complete consistency, but because judgments from experts are subjective, complete consistency is often unattainable in practice. Generally, as long as the constructed judgment matrix achieves relative consistency, its results will be acceptable, necessitating consistency testing. Overall hierarchy consistency testing involves sequential consistency testing across the entire evaluation indicator system, starting from the criterion level through each subsequent level. The AHP is fundamentally based on judgment matrices. Using sorting methods based on the constructed judgment matrix, rankings of indicator importance

can be derived. By finding the eigenvector and maximum eigenvalue of matrix B and solving $BW = \lambda_{max}W$, ranking values can be obtained, where λ_{max} represents the maximum positive eigenvalue of matrix B and W is the ranking vector. Specific steps are illustrated in Fig. 1.

4. Application of High-quality Development Evaluation System in Hospital Discipline Construction

In this study, we focused on a prominent medical institution in China, which is a comprehensive tertiary hospital integrating medical care, scientific research, and education. The hospital has cultivated a cohort of medical experts who meet international standards. In 2019, the hospital treated over 382000 outpatient and inpatient cases, with 121800 patients discharged. The average length of hospital stay was 8.31 days, and the average bed occupancy rate was 96.14%. The hospital performed 73900 surgeries, with 84.66% of them being at levels three and four. Between 2018 and 2023, the hospital made significant progress in discipline construction. Currently, the hospital hosts one national key discipline, eight national key specialties, three provincial clinical medical centers, eight provincial specialty diagnosis and treatment centers, 29 provincial clinical key specialties, and 33 municipal key medical specialties. The diverse and numerous key specialties have formed a subspecialty system with distinct technological characteristics.

4.1 Establish high-quality development evaluation standards for discipline construction

First, we establish high-quality development evaluation standards for discipline construction. On the basis of practical experience in hospital work, expert consultations, and literature research, detailed three-level scoring criteria have been formulated in accordance with the principles of qualitative and quantitative analyses. Among the 48 three-level indicators, 45 are quantitative, accounting for 93.75%. Data for scoring are sourced from our hospital's medical records department, electronic medical records system reports, basic management assessment

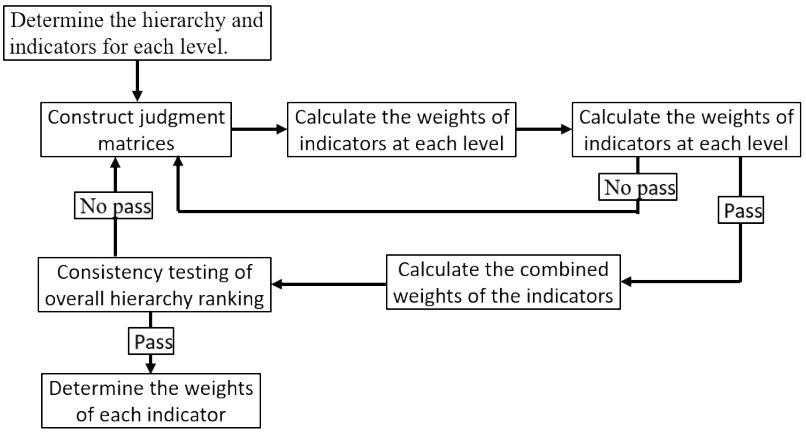

Fig. 1. Operational steps of the AHP.

results, awards received, and other relevant information. Next, a comprehensive comparison of discipline construction scores between 2018 and 2023 was conducted. Using the developed "Discipline Construction Evaluation Analysis Form", evaluations were carried out for 36 hospitals, encompassing data from years 2018 and 2023. Scores were assigned to all the data, resulting in total scores and rankings for each department, as shown in Table 4. From the table, it is evident that apart from the two new departments added in 2023—Dentistry and General Practice Medicine—making it impossible to compare discipline data from 2018, out of the remaining 32 departments, 26 showed better discipline evaluations in 2023 than in 2018, accounting for 81.25%. This demonstrates significant progress in discipline construction across the entire hospital during these five years.

Table 4
Discipline scores and rankings of the hospital in 2018 and 2023.

Department	2018 score	2023 score	2018 ranking	2023 ranking
Orthopedics	63.551	63.839	1	1
Neurology	29.375	54.045	12	2
Medical Oncology	38.411	50.338	5	3
Rheumatology and Immunology	39.211	44.488	4	4
Gastroenterology	38.379	43.792	6	5
Cardiology	32.697	42.588	7	6
Reproductive medicine	30.63	39.435	9	7
Urology	31.265	39.149	8	8
Cardiothoracic surgery	29.218	38.387	13	9
Endocrinology	40.87	38.295	3	10
Hematology	29.628	34.157	10	11
Anesthesiology	26.453	33.951	15	12
Obstetrics	29.375	33.763	11	13
Gynecology	22.99	31.727	21	14
Neurosurgery	27.672	31.365	14	15
General surgery	42.622	31.050	2	16
Otolaryngology	23.64	30.050	20	17
Vascular surgery	24.662	29.504	17	18
Intensive care medicine	18.76	26.851	23	19
Urology (Men's health)	19.357	24.890	22	20
Plastic surgery and burns	24.347	24.810	18	21
Respiratory and critical care medicine	26.129	24.337	16	22
Traditional Chinese medicine	18.718	23.376	24	23
Infectious diseases	24.22	20.824	19	24
Geriatrics	17.563	20.427	26	25
Emergency medicine	17.304	20.384	28	26
Pain management	17.436	20.193	27	27
Rehabilitation medicine	12.743	17.230	31	28
Nephrology	17.745	16.979	25	29
Medical psychology	12.31	16.074	32	30
Health management center	14.794	14.335	29	31
Dermatology	13.386	13.998	30	32
General medicine	—	13.736	—	33
Dentistry	—	11.452	—	34
Mean	27.004	29.995		

4.2 Conduct in-depth analysis of key indicators for subject development across different-years statistics of first-order indices

Next, we conducted a thorough analysis of key indicators for subject development across different years. Using SPSS 21.0, we performed paired *t*-tests on primary indicators from 2018 and 2023, revealing statistically significant differences ($P < 0.5$) in average scores for four indicators: subject development index, talent index, medical index, and teaching index. The following conclusions were drawn. (1) Starting from 2023, significant improvements were observed in subject development, medical quality, subject talent index, and teaching capabilities across all disciplines compared with 2018. (2) There were no significant differences in scientific research among various research projects, but on average, the research quality in each specialty was higher in 2023 than in 2018. Specific numerical and statistical data are provided in Tables 5 and 6.

4.3 Conduct in-depth analysis of key indicators for subject development across different-years statistics of secondary indices

Here, we also utilized the SPSS 21.0 statistical analysis tool to conduct paired *t*-tests on 17 secondary variables from 2018 and 2023, revealing that the average levels of 13 variables show statistical significance ($P < 0.5$). The following conclusions were drawn.

(1) In the year 2022, significant improvements were observed in 11 aspects including comprehensive departmental development, overall departmental ranking, fulfilling social

Table 5
Paired sample statistics.

Topic	Mean value	*N*	Standard deviation	Standard error of mean value
Subject development index 2023	7.68546	32	4.71324	1.020170
Subject development index 2018	4.41988	32	4.11682	.913671
Talent index 2023	7.54912	32	3.55826	.635371
Talent index 2018	4.88827	32	4.87127	.869826
Medical index 2023	10.16743	32	2.59323	.463053
Medical index 2018	8.83949	32	1.76798	.315695
Research index 2023	3.42488	32	1.01241	.180778
Research index 2018	3.03305	32	0.71726	.128076
Teaching index 2023	4.21653	32	3.23992	.578528
Teaching index 2018	2.19195	32	0.07214	.012881

Table 6
Paired sample correlation coefficients.

Topic	*N*	Relative coefficient	Sig.
Subject development index 2023 and 2018	32	.860	*.000
Talent index 2023 and 2018	32	.559	*.000
Medical index 2023 and 2018	32	.668	*.000
Research index 2023 and 2018	32	.281	.119
Teaching index 2023 and 2018	32	−.517	*.002

responsibilities, patient satisfaction, medical quality, medical operational efficiency, medical safety, behavioral norms, faculty resources, continuing education, and teaching work. These advancements have significantly enhanced the discipline's development in these three areas.

(2) In 2023, among the two indicators, leadership in disciplines and research outcomes showed declines. However, there were no statistically significant differences in four dimensions—talent introduction, talent echelon, research outcomes, and academic affiliations—indicating insufficient progress and less notable improvements. The examination of a category of indicators reveals significant effectiveness in talent and research indicators over the past five years, promoting the development of key disciplines.

(3) Moving forward, hospitals should increase investment in talent and research to address internal shortcomings and enhance the hospital's level of discipline construction. Table 7 below shows specific results.

Table 7
Sample statistics of secondary indices.

Department	Year	Mean value	*N*	Standard deviation	Standard error of the mean value
Department comprehensive development	2023	3.36128	32	2.714853	.479923
	2018	2.45469	32	2.360557	.417291
Department overall ranking	2023	3.23288	32	2.603634	.460262
	2018	2.34813	32	2.258213	.399199
Fulfilling social responsibilities	2023	.77050	32	.631185	.111579
	2018	0.52419	32	.487495	.086178
Patient satisfaction	2023	.43466	32	1.964333	.347248
	2018	.14772	32	.278480	.049229
Discipline leader	2023	4.42622	32	3.162886	.559125
	2018	4.92216	32	4.978641	.880108
Talent introduction	2023	.36144	32	.263540	.046588
	2018	.93294	32	.109699	.019392
Talent structure	2023	.25150	32	.179718	.031770
	2018	1.07116	32	.126019	.022277
Medical quality	2023	6.55994	32	1.679285	.296859
	2018	4.69247	32	1.138453	.201252
Medical operational efficiency	2023	1.17291	32	.322118	.056943
	2018	1.00078	32	.200082	.035370
Medical safety	2023	1.64213	32	.420571	.074347
	2018	1.41134	32	.282317	.049907
Behavioral norms	2023	.96691	32	.268907	.047536
	2018	.82434	32	.164780	.029129
Research achievements	2023	2.38050	32	.812580	.143645
	2018	2.64916	32	.554586	.098038
Research transformation	2023	.49706	32	.199290	.035230
	2018	.51884	32	.108558	.019191
Academic engagements	2023	.27369	32	.112262	.019845
	2018	.29138	32	.061049	.010792
Faculty resources	2023	2.36413	32	1.430290	.252842
	2018	.97897	32	.032331	.005715
Continuing education	2023	1.04131	32	.621199	.109814
	2018	.41403	32	.013994	.002474
Teaching work	2023	1.97119	32	1.205095	.213033
	2018	.82175	32	.027023	.004777

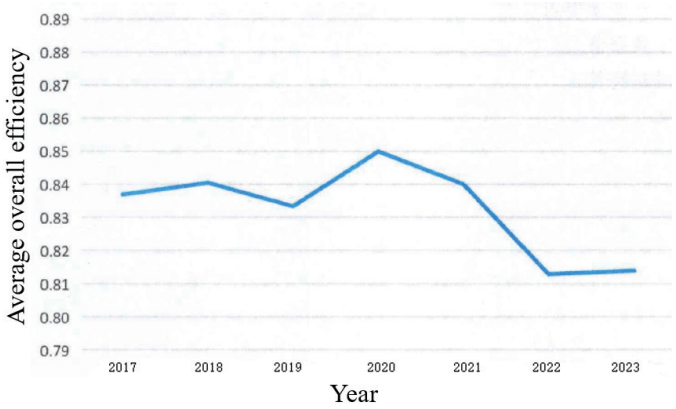

Fig. 2. (Color online) Trend of overall efficiency in discipline construction of sample public hospital from 2017 to 2023.

During the period from 2017 to 2023, the average overall efficiency of the sample hospital ranged from 0.8127 to 0.8499, indicating that the average level of overall efficiency fluctuated within the moderate efficiency range. Regarding the trend in changes in average overall efficiency, as depicted in Fig. 2, the average overall efficiency of sample hospitals showed slight fluctuations from 2017 to 2019, peaked in 2020, and then experienced a significant decline from 2021 to 2022. From 2022 to 2023, there was a gradual increase in the average overall efficiency of sample hospitals.

5. Conclusions

Through the statistical analysis of data from 2018 and 2023, several findings emerged.

(1) Compared with 2018, by 2023, there had been significant overall improvement in the level of discipline construction in the hospital. Indicators related to discipline construction, medical care, talent, and education had all shown considerable enhancement.

(2) In contrast to 2018, while there had not been substantial progress in scientific indicators by 2023, there had been a notable increase in the number of disciplinary leaders. This suggests that achievements in these two areas are moderate, necessitating continued effort, strategic replanning, and increased attention in policy and manpower allocation. The optimization of medical resources, the reinforcement of talent and research capabilities, and the comprehensive enhancement of the hospital's overall disciplinary construction capacity are recommended.

(3) With the application and validation of departmental and hierarchical indicators from 2018 to 2023, the newly developed discipline evaluation index system demonstrates good stability and scientific rigor. Its evaluation outcomes better reflect the hierarchy and development of hospital discipline construction.

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