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# Research on the Standardized Construction of Teaching Supervision Teams in Local Medical Universities

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**Abstract**

**Objective:** To explore the effective model and implementation effects of the standardized construction of teaching supervision teams in secondary colleges of clinical medicine at local medical universities under the background of New Medical Science. **Methods:** A total of 60 teaching supervisors and 120 faculty members from 10 affiliated teaching hospitals of the School of Clinical Medicine at Shandong Second Medical University were enrolled. A self-designed questionnaire was administered to assess supervision quality and satisfaction before and after the implementation of standardized team construction. **Results:** Following the implementation of standardized construction, the supervision team demonstrated significant improvements in both professional competence and evaluation scores ($P < 0.001$). Concurrently, teacher satisfaction increased from 63.3% to 87.5% ($P < 0.001$). **Conclusion:** This study establishes an integrated "selection–training–implementation–evaluation" model for the standardized construction of teaching supervision teams. The model effectively enhances team professionalism and supervisory effectiveness, thereby providing robust quality assurance for medical education under the New Medical Science framework.

**Keywords** teaching supervision team; standardized construction; New Medical Science; medical education; quality assurance

## 1 Introduction

Under the New Medical Science initiative, local medical universities face new challenges and requirements in cultivating clinical medicine professionals. As an important means to enhance teaching quality and optimize educational management, teaching supervision plays a critical role in improving the quality of talent cultivation in higher education institutions[1]. In recent years, with increasing national demands for medical education quality, the Ministry of Education and other departments explicitly stated in the "Opinions on Strengthening Medical-Education Collaboration and Implementing the Excellent Doctor Education Plan 2.0" the need to develop world-class medical disciplines with Chinese characteristics, cultivate top-tier medical talents, and support the Healthy China initiative[2]. However, current teaching supervision in secondary colleges of local medical universities generally faces issues such as inconsistent supervision standards, insufficient professionalization of supervisors, ineffective feedback, and monotonous supervision methods. These problems constrain the effectiveness of supervision and hinder the improvement of medical

talent cultivation quality[3]. Studies indicate that teaching supervision in local medical colleges typically suffers from simplified evaluation indicators, fragmented assessment content, and traditional evaluation methods, which align with this study's findings[4]. Therefore, it is necessary to systematically study the teaching supervision teams in secondary colleges of medical universities and explore scientific and effective standardized development models, thereby providing support and guarantee for improving the quality of medical talent cultivation.

## 2 Materials and Methods

### 2.1 Study Subjects

Using multi-stage random sampling method, 60 teaching supervisors and 120 teachers from 10 affiliated teaching hospitals of Shandong Second Medical University were selected as research subjects. Inclusion criteria: (1) Worked in medical institutions for more than 3 years; (2) Familiar with teaching supervision related work; (3) Informed consent and voluntary participation in the survey. Exclusion criteria: (1) Part-time or temporary staff; (2) Unfamiliar with the research content; (3) Incomplete questionnaire filling.

### 2.2 Methods

A self-designed questionnaire titled "Questionnaire on the Current Status of Teaching Supervision Team Building in Affiliated Teaching Hospitals of Shandong Second Medical University" was developed based on the research objectives. The questionnaire included: (1) basic information; (2) evaluation of the current status of the supervision team; (3) satisfaction with supervision work; (4) analysis of existing problems; (5) suggestions for improvement. The questionnaire employed a Likert 5-point scale, with a Cronbach's $\alpha$ coefficient of 0.908, indicating good reliability. The survey was conducted using a combination of centralized and online distribution methods, achieving a questionnaire recovery rate of 95.6%.

Based on preliminary research findings, a standardized construction program for the teaching supervision team was designed and implemented, mainly including four aspects: (1) Standardized selection: establishing unified selection criteria for supervisors, including qualification requirements (professional title, teaching experience, academic achievements, etc.), competency requirements (teaching ability, evaluation ability, communication skills, etc.), and attitude requirements (responsibility, impartiality, proactiveness, etc.); (2) Standardized training: establishing a training system for supervisors, including training content (educational theory, supervision methods, evaluation techniques, etc.), training formats (centralized training, case studies, on-the-job learning, etc.), and training assessment (theoretical tests, practical operations, feedback analysis, etc.); (3) Standardized implementation: unifying the supervision workflow, including supervision plan formulation, supervision implementation procedures, supervision record specifications, supervision feedback methods, etc., to ensure standardization and consistency of supervision work; (4) Standardized evaluation: establishing a scientific evaluation system for supervision work, including self-evaluation, peer evaluation, evaluation by supervised objects, and evaluation by management departments, forming a comprehensive quality monitoring mechanism. The standardized construction program was implemented in 10 affiliated teaching hospitals of Shandong Second Medical University's clinical medicine program for a period of 12 months.

### 2.3 Evaluation Metrics

Supervision quality assessment primarily employed two indicators: supervision team professional competence and supervision effectiveness evaluation, both scored on a 100-point scale. The professional competence evaluation included four dimensions: professional knowledge level (20 points), supervision skills (30

points), evaluation ability (30 points), and communication skills (20 points), with higher scores indicating stronger professional competence. The supervision effectiveness evaluation encompassed four aspects: accuracy in diagnosing teaching problems (25 points), scientific validity of supervision feedback (25 points), feasibility of improvement measures (25 points), and standardization of supervision reports (25 points), with higher scores indicating better supervision effectiveness. Teacher satisfaction was assessed using a five-level classification: very satisfied, satisfied, neutral, dissatisfied, and very dissatisfied. The satisfaction rate was calculated as:

$$\text{Satisfaction rate} = \frac{\text{Very satisfied} + \text{Satisfied}}{\text{Total}} \times 100\%$$

with higher percentages indicating greater satisfaction.

### 2.4 Statistical Analysis

Data analysis was performed using SPSS 23.0 software. Measurement data are presented as mean ± standard deviation ($\bar{x} \pm s$) and were compared using $t$-tests; count data are expressed as rates (%) and were compared using $\chi^2$ tests. A $P$-value $< 0.05$ was considered statistically significant.

## 3 Results

### 3.1 Analysis of the Current Status of the Teaching Supervision Team

The survey revealed significant variations in the composition, selection criteria, training methods, and workflow of the teaching supervision teams across the 10 affiliated teaching hospitals of Shandong Second Medical University's Clinical Medicine program. Among the supervisors, 43.3% (26/60) held the professional title of Professor, 46.7% (28/60) were Associate Professors, and 10.0% (6/60) were Lecturers or below. The distribution of teaching experience among supervisors was as follows: 55.0% (33/60) had over 20 years of experience, 36.7% (22/60) had 10  20 years, and 8.3% (5/60) had less than 10 years.

### 3.2 Major Issues Identified in the Teaching Supervision Team

Questionnaire surveys and interview analyses revealed the following primary issues in the current teaching supervision team: inconsistent supervision standards (81.7%, 49/60), insufficient professionalization of supervision personnel (76.7%, 46/60), inadequate effectiveness of supervision feedback (75.0%, 45/60), and monotonous supervision methods (73.3%, 44/60). Details are presented in Table 1.

Table 1: Primary Issues Identified in the Teaching Supervision Team [n(%)]

| Primary Issues | Participants (n=60) | Proportion (%) |
|---|---|---|
| Inconsistent supervision standards | 49 | 81.7 |
| Insufficient professional expertise among supervisors | 46 | 76.7 |
| Limited effectiveness of supervision feedback | 45 | 75.0 |
| Monotonous supervision methodologies | 44 | 73.3 |
| Outdated supervision content | 38 | 63.3 |
| Inadequate application of information technology | 37 | 61.7 |
| Underdeveloped incentive mechanisms for supervision teams | 35 | 58.3 |
| Insufficient interdisciplinary supervision | 30 | 50.0 |

### 3.3 Comparison of Supervision Quality Before and After Standardized Implementation

Following the implementation of standardized protocols, significant improvements were observed in both the professional competence scores of the supervision team and the overall evaluation of supervision effectiveness, with statistically significant differences ($P < 0.001$). For detailed results, refer to Table 2.

Table 2: Comparison of Supervision Quality Before and After Standardized Implementation ($\bar{x} \pm s$, points)

| Group | n | Supervision Team Professional Competence | Supervision Effectiveness Evaluation |
|---|---|---|---|
| Pre-implementation | 60 | $75.62 \pm 6.83$ | $71.38 \pm 7.45$ |
| Post-implementation | 60 | $83.45 \pm 5.28$ | $82.76 \pm 5.12$ |
| $t$ | | 7.325 | 10.263 |
| $P$ | | $< 0.001$ | $< 0.001$ |

### 3.4 Comparison of Faculty Satisfaction Before and After Standardized Implementation

Following the implementation of standardized protocols, faculty satisfaction with supervision increased from 63.3% to 87.5%, showing a statistically significant difference ($\chi^2 = 19.473, P < 0.001$). Detailed data are presented in Table 3.

Table 3: Comparison of Faculty Satisfaction Before and After Standardized Implementation [n(%)]

| Group | n | Very Satisfied | Satisfied | Neutral | Dissatisfied | Very Dissatisfied | Satisfaction Rate |
|---|---|---|---|---|---|---|---|
| Pre-implementation | 120 | 18 (15.0) | 58 (48.3) | 32 (26.7) | 10 (8.3) | 2 (1.7) | 76 (63.3) |
| Post-implementation | 120 | 42 (35.0) | 63 (52.5) | 11 (9.2) | 4 (3.3) | 0 (0.0) | 105 (87.5) |
| $\chi^2$ | | | | | | | 19.473 |
| $P$ | | | | | | | $< 0.001$ |

## 4 Discussion

Our analysis of teaching supervision practices across 10 clinical teaching hospitals at Shandong Second Medical University reveals systemic challenges in quality assurance mechanisms. The data demonstrate four critical pain points: 1) absence of standardized evaluation protocols, 2) variable competency levels among supervisory staff, 3) ineffective feedback implementation, and 4) overreliance on conventional observation methods. These findings align with broader concerns in medical education accreditation literature[5]. The evidence suggests these operational deficiencies directly compromise supervision outcomes, creating measurable impacts on educational quality. Specifically, the lack of standardized metrics and specialized training undermines the reliability of assessment data, while inefficient feedback systems hinder continuous improvement cycles essential for maintaining educational standards.

This study developed and implemented an integrated "Selection - Training - Implementation - Evaluation" model for standardizing teaching supervision teams. The standardization of selection established unified criteria specifying qualification requirements, competency expectations, and professional attitude standards, thereby enhancing the overall quality of the supervision team. For training standardization, we created a systematic program that strengthened both theoretical knowledge and practical skills in supervision, advancing supervisors' professional capabilities. Implementation standardization involved unifying

supervision workflows through standardized procedures and documentation methods, ensuring consistency and normative practice. Finally, evaluation standardization established a scientific assessment system incorporating multi-dimensional, comprehensive quality monitoring mechanisms.

Results demonstrate that following the implementation of standardized protocols, significant improvements were observed in supervisory competence assessments, effectiveness evaluations, and faculty satisfaction rates ($P < 0.001$), confirming the efficacy of standardization. These findings establish standardized framework implementation as an effective approach for enhancing both professional capability and operational efficiency in teaching supervision systems[6]. The successful implementation yielded four primary benefits: First, unified selection criteria elevated overall workforce quality and professional standards. Second, systematic training enhanced supervisors' specialized competencies and practical skills. Third, standardized workflows ensured operational consistency and normative practice. Fourth, scientific evaluation mechanisms facilitated continuous quality improvement through data-driven refinement of supervision practices.

Further analysis reveals that while the standardized framework has positively impacted supervision quality, certain limitations require addressing. Notably, inadequate integration of information technology remains a significant constraint. Recent studies propose a "ubiquitous supervision" model that leverages digital tools to transcend traditional site-based evaluation limitations[7]. Furthermore, insufficient interdisciplinary supervision persists as a challenge. A faculty learning community-based approach offers a promising alternative for enhancing cross-disciplinary evaluation practices[8].

Based on the findings of this study and insights from previous research, we recommend three key improvements for future teaching supervision team development: First, strengthen the application of information technology by promoting blended online-offline supervision models to enhance evaluation efficiency and coverage. Second, enhance interdisciplinary supervision by integrating evaluators from diverse academic backgrounds to improve the comprehensiveness and systematic nature of assessments. Third, refine incentive mechanisms for supervision teams to motivate active participation and innovation, thereby facilitating continuous optimization of supervision practices.

In conclusion, the standardized development of teaching supervision teams in affiliate colleges of local medical universities represents a critical measure for enhancing medical education quality within the New Medical Science framework. This study has designed and validated an integrated "selection - training - implementation - evaluation" model that demonstrably improves supervisory competencies, operational efficacy, and faculty satisfaction. Evidence confirms that systematic standardization effectively addresses existing limitations in teaching supervision while establishing robust quality assurance mechanisms for medical education. We recommend medical institutions prioritize supervisory team development through evidence-based standardization strategies to sustainably advance educational quality and cultivate excellence in medical training.

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