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## Development of a Core Competency Framework for Oral Specialty Nurses (Post-Print)

**Authors:** Wu Hong, Feng Zhi'en, Feng Zhien

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### Abstract

**Objective:** To construct a domestic core competency framework for oral specialty nurses, providing a basis for promoting the professional development, training, and evaluation of their competencies. **Methods:** Based on a literature review, the Delphi method was employed to conduct two rounds of expert consultation to construct the core competency framework for oral specialty nurses. **Results:** The response rate for both rounds of expert consultation was 100%, with an average authority coefficient of 0.891, an expert opinion coordination coefficient of 0.13, and a coefficient of variation  $<0.25$ . The final framework comprised 4 first-level indicators and 22 second-level indicators. The first-level indicators included clinical practice competency, nursing consultation competency, research competency, and management competency. The second-level indicators included correct application of nursing procedures, specialized theoretical knowledge, exploration of new theories and knowledge, and communication skills with patients, among others. **Conclusion:** A scientific, rational, and reliable core competency framework for oral specialty nurses was constructed, providing an objective basis for promoting the comprehensive development of nurses' competencies.

### Full Text

## Development of a Core Competency Framework for Stomatological Nurse Specialists

(Department of Oral and Maxillofacial-Head and Neck Tumors, Beijing Stomatological Hospital, Capital Medical University, Beijing)

### Abstract

**Objective:** To develop a core competency framework for stomatological nurse specialists in China, providing an objective basis for the professional develop-

ment, training, and evaluation of specialized nursing competencies.

**Methods:** Based on a comprehensive literature review, the Delphi method was employed to conduct expert consultations across multiple rounds, thereby constructing a core competency framework for stomatological nurse specialists.

**Results:** The expert enthusiasm coefficient for each round of consultation was high, with variation coefficients below the established threshold. The final framework comprised [NUMBER] primary competency indicators and [NUMBER] secondary indicators. The primary indicators included clinical practice ability, nursing consultation ability, research ability, and management ability. Secondary indicators encompassed correct application of nursing procedures, specialized theoretical knowledge, exploration of new theories and knowledge, and effective communication with patients.

**Conclusion:** A scientific, rational, and credible core competency framework for stomatological nurse specialists was successfully developed, providing an objective foundation for promoting the comprehensive development of nursing competencies.

**Keywords:** stomatological nurse specialist; core competency framework; expert consultation; Delphi method

## Introduction

As living standards continue to improve in China, oral diseases and oral health have garnered increasing attention from the public. Stomatological nurse specialists play an irreplaceable and vital role in this context. Oral nursing requires nurses to possess exceptional professional capabilities. Beyond mastering general nursing knowledge and clinical skills, they must also acquire specialized knowledge, technical competencies, management abilities, communication skills, and collaborative capacities essential for delivering high-quality nursing services. Only through the establishment of a scientific and rational core competency framework for stomatological nursing can nurses' core competencies be continuously enhanced, thereby enabling them to provide better patient care and contributing significantly to the specialization of stomatological nursing practice. This study aims to construct a core competency framework for stomatological nurse specialists to promote their professional development.

## 1. Materials and Methods

### 1.1 Expert Selection

To minimize regional disparities and ensure data controllability and validity, this study employed convenience sampling to select experts from Beijing based on established inclusion criteria, given that training standards vary across regions. The inclusion criteria for consulting experts were: (1) over [NUMBER] years of clinical experience in oral-related fields, including clinical nursing, medical prac-

tice, nursing management, or nursing education; (2) intermediate professional title or above; and (3) bachelor's degree or higher.

presents the positions, professional titles, educational backgrounds, years of experience, and age distribution of the consulted experts.

### 1.2 Data Quality Control

An importance scoring method was implemented for quality control. During data calculation and compilation for each round of expert consultation, the maximum and minimum values for each item were first removed before calculating the mean importance score. After questionnaire collection, dual review, screening, coding, and data entry were performed to ensure accuracy.

### 1.3 Statistical Methods

SPSS software was used for data entry and analysis. Based on expert ratings of importance, familiarity, and judgment criteria for each indicator, the expert enthusiasm coefficient, authority coefficient, mean scores, standard deviations, and variation coefficients were calculated.

## 2. Results

### 2.1 Expert Participation

Expert participation was measured by the expert enthusiasm coefficient, represented by the questionnaire response rate. Both rounds of expert consultation achieved a [PERCENTAGE]% effective response rate, indicating high enthusiasm. Among the [NUMBER] experts, [NUMBER] provided modification suggestions for relevant indicators, demonstrating strong engagement and commitment to the study.

### 2.2 Expert Authority

Expert authority reflects the credibility of the survey process, calculated using the formula  $Cr = (Ca + Cs)/2$ , where Cr represents the expert authority coefficient, Ca represents the basis for expert judgment, and Cs represents expert familiarity with the indicators. A Cr value greater than 0.7 indicates high expert authority and credible research findings. This study yielded an average expert authority coefficient of Cr = [VALUE], demonstrating satisfactory expert authority and reliable consultation results.

### 2.3 Expert Consensus

Expert consensus was represented by the variation coefficient for each indicator, calculated as: variation coefficient = standard deviation / mean importance score. This indicator reflects the consistency of expert evaluations. Following

two rounds of consultation, variation coefficients decreased, with mean importance scores exceeding [VALUE] and variation coefficients below [VALUE], indicating clear expert consensus and a stable indicator system framework.

presents the expert consensus regarding the core competencies for stomatological nurse specialists.

### 3. Discussion

#### 3.1 Framework Content

Through two rounds of Delphi expert consultation, this study developed a core competency evaluation framework for stomatological nurse specialists comprising four primary indicators (clinical practice ability, nursing consultation ability, research ability, and management ability) and [NUMBER] secondary indicators. Among these, clinical practice ability received the highest recognition from experts, with a mean importance score of [VALUE], surpassing other competencies and underscoring its centrality to the framework. To effectively fulfill the role of stomatological nurse specialists, nurses must possess specialized clinical practice capabilities. The consultation results also highlighted the importance of nursing consultation ability, with a mean importance score of [VALUE]. Specialized theoretical knowledge forms the foundation of professional practice, while clinical practice ability reflects the mastery of theoretical knowledge. In patient care, professional knowledge and clinical practice are intertwined and mutually reinforcing. Additionally, research and management abilities were incorporated into the framework, indicating that nurses are no longer merely providers of nursing services. To maintain vitality and competitiveness, stomatological nursing services must embrace innovation and scientific management. This requires nurses to transcend traditional perspectives, draw upon advanced domestic and international experiences, and continuously enhance their abilities to identify problems, solve problems, and conduct research activities. Healthcare institutions should also create favorable environments for research and learning to improve technological innovation and management levels, ultimately delivering optimal medical services to patients.

#### 3.2 Framework Significance

With the dramatic increase in demand for oral health services and ongoing healthcare system reforms in China, patients have placed higher expectations on stomatological nurse specialists. Nurses must not only perform specialized oral nursing procedures but also undertake responsibilities in patient education, infection prevention and control, and technological innovation. As core competencies represent essential capabilities for clinical nursing professionals, they have garnered widespread attention. While systematic research on core competency frameworks has been conducted for specialized nurses in obstetrics, traditional Chinese medicine surgery, and blood purification, stomatological nursing in China started relatively late with an incomplete system, and research on

core competency frameworks remains limited. This study employed the Delphi method to conceptualize, theorize, and scientize the core competencies of stomatological nurse specialists, establishing an objective evaluation system. This framework provides an objective, scientific, and rational basis for healthcare institutions to assess and employ stomatological nurse specialists. It also offers direction and reference for developing training programs, setting curricula, and evaluating training outcomes, thereby promoting the specialization and refinement of stomatological nursing practice. Furthermore, emphasizing and developing the core competencies of stomatological nurse specialists enhances nurses' social adaptability, professional quality, and sense of achievement, laying the foundation for delivering safe, high-quality, and ethically sound nursing care in clinical practice.

**Conflict of Interest Statement:** The authors declare no conflicts of interest.

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