

# Design and development of intelligent nursing document quality control decision support system

Yaping Bai, RN,MD; Lijuan Yan,RN,MD;Yuan Chen,RN,MBA;Hong Fang,RN,BD;Haiyan Yu,RN,BD; Polun Chang,PhD,FIAHSI  
Xiamen Cardiovascular Hospital Xiamen University

## Background

Nursing document [1] is an objective reflection of the actual changes in the patient's condition, the theoretical level and professional ability of the nurse. Studies have shown that [2, 3]the irregular writing of nursing documents may cause a series of medical disputes or legal problems, and even threaten clinical safety. Improving nursing documents is an important area of current research. In recent years, electronic nursing documents have gradually replaced traditional paper nursing documents. Although they have advantages over traditional documents in terms of process and structure, there are problems such as improper written records, irregular standards and lack of consistency or integrity of records,which bring a lot of quality control burden to nurse[4]. The clinical decision support system (Clinical Decision Support System, CDSS) can transform data into knowledge, assist decision makers in making scientific decisions, reduce decision errors, and improve medical service quality [5].

## Objectives

To design and develop an intelligent nursing document quality control decision support system with the help of information platform.

## Development

- 1.Carry out the reason analysis based on the writing time of previous documents.
- 2.The research team sorted out nursing document writing specifications, quality control standards and assessment standards according to the national nursing document writing standards;
3. Nursing document quality control electronically

## Methods

The members of the research team investigated the irregularity of 32,084 nursing documents in the intensive care unit of the Department of Cardiology of our hospital in November 2019. There were 723 incomplete fillings(2.25%) , 531inaccurate records (1.66%) , and filling contents non-compliance with medical regulations93(0.29%) and other problems. The main reasons for the defects in nursing documents include the workload of nurses, the existence of a large number of paper writing tasks, and the young nurses' unfamiliarity with medical record writing requirements. The research team combed the rules of nursing documents according to the "Basic Specifications for Writing Medical Records" of the Medical Administration and hospital requirements for writing medical records in hospitals, such as the rules for writing temperature records, the rules for writing assessment sheets, and the rules for writing nursing records to improving the writing standards, quality control and assessment standards of hospital nursing documents.

## Figures

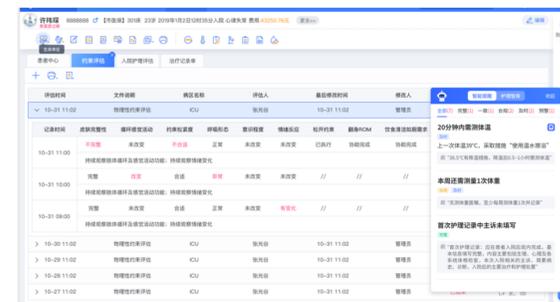


Figure 1.Interface of intelligent nursing document quality control decision support system

## Results

The rules of 5 dimensions of integrity, consistency, compliance, timeliness, and early warning were formed, and an intelligent decision support system was formed through tasks scheduling, inverted display, task reminders and bay windows (see Figure 1). In order to achieve quality control before, during, and after the writing of medical records.

## Conclusions

The information-based and intelligent quality control decision-making system for intelligent nursing documents led by nursing staff has the following advantages: ①It helps nurses to avoid problems such as incomplete nursing documents, inaccurate records, and inconsistent medical regulations; ②The reminder interface adopts a bay window design, which is friendly and suitable for clinical use. However, the system rules need to be updated regularly according to the relevant regulations of the state or the health department. At the same time, the stability and operating speed of the system need to be regularly maintained by information personnel to better serve clinical work.

## Bibliography

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## Notes

None.