The Use of Information Technology in the Construction of a Nursing Communication Platform System

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Abstract. In order to effectively connect patient care information and reduce the amount of administrative work, a nursing care communication platform can effectively achieve 1. Real-time display of patient information while protecting patient privacy; 2. Integration of hospital information system, with individualized medical care team information; 3. Accurate and timely delivery of need for patient report; 4. Increase of interaction between the patient's family and staff and breakthrough from the limit of paper-based health education information.

Keywords. Information technology, nursing communication platform system

1. Introduction

In order to facilitate the identification of each inpatient, nurses must make a bedside card and the other information cards. Addition or deletion of bedside card information, must be recorded manually by a nurse coming to the bedside. And too many information cards often stack together and in turn fail to serve the purpose of reminding or notifying. All of the above procedures are done manually by the nursing staff. Cumbersome administrative procedures are time-consuming, increasing workload while reducing service quality.

2. Approach

The ad hoc team consisting of the Nursing Department and the Information Department. The first nursing care communication platform demand assessment meeting on August 14, 2015. On December 31, 2017, 1,215 bedside care tablets and software and hardware for 581 work mobile phones were completed for acceptance.

  The system function diagram was determined: First part is Bedside care platform (Fig. 1). It mainly displays the basic patient information, the name list of medical team, warn contact isolation, fall high-risk groups...etc. The second part is Mobile nursing care APP. It is featuring common nursing care functions such as: communications, entering medical records (vital signs, pain assessment, GCS, etc.), and setting up push reminders info for the responsible nurse like the timing of special medicine (Fig. 2). Patient-related

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information is integrated with HIS through data interface and stored in the HIS system database to ensure the integrity and security of the data.

3. Body

The following three aspects are used to check the effectiveness of the introduction of this care system. The figures used are from January 1 to January 31, 2019. First aspects is process simplification and optimization can reduce nurse's workload and manual work hours. 40 nursing units can each save 2.7 hours a day. Second aspects is elevating patient satisfaction. For immediate response when the patient calls, from 89.5% to 90.5%. For clear and complete information on preparations before checking in or out of the hospital, from 87.5% to 88.5%. Third aspects is elevating nursing staff's satisfaction. The satisfaction rate on "the accuracy and timeliness of basic patients info when they check in" is 95.62%. For "estimated time saved for switching bedside cards and nurse shift cards," the rate is 97.02%.

Figure 1. Bedside care platform.

Figure 2. Mobile nursing care APP and EMR.

4. Conclusions

The benefits of streamlining nursing procedures can improve nursing staff's workload and job satisfaction [2]. The streamlining process focus on excluding inaccurate and time-consuming items [1]. The use of electronic bedside card system in the nursing care communication platform not only effectively saves work hours, but can also increases instant interactive function. There are four tangible or intangible benefits: 1) Real-time display of patient information. 2) Integrating the HIS which automatically updates directly at the patient's bedside. 3) Make nursing care more efficient and accurate delivery of reports. 4) Increase of info exchanges between the patient's family and the nurse.

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