



# Connecting Professional Practice and Technology at the Bedside

## Nurses' Beliefs About Using an Electronic Health Record and Their Ability to Incorporate Professional and Patient-Centered Nursing Activities In Patient Care

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### Background

The implementation of the EHR is believed to improve patient safety and satisfaction while lowering the cost of care. However, various studies have demonstrated mixed reviews related to the implementation and actual use of EHRs due to potential disruptions in ease of communication and workflow.

With the Watson Caritas Processes and the Relationship-Based Care Model in mind, the Health System sought to understand the impact of EHR deployment on the amount of time registered nurses spent in direct professional, patient-centered nursing activities on medical-surgical units.

### The purposes of this study were to:

- 1) Identify EHR use attitudes and beliefs
- 2) Look for a change in professional nursing activities and nursing engagement pre- and post- implementation of EHR
- 3) Examine the relationship between time spent in the patient's room and professional nursing activities

### Methods

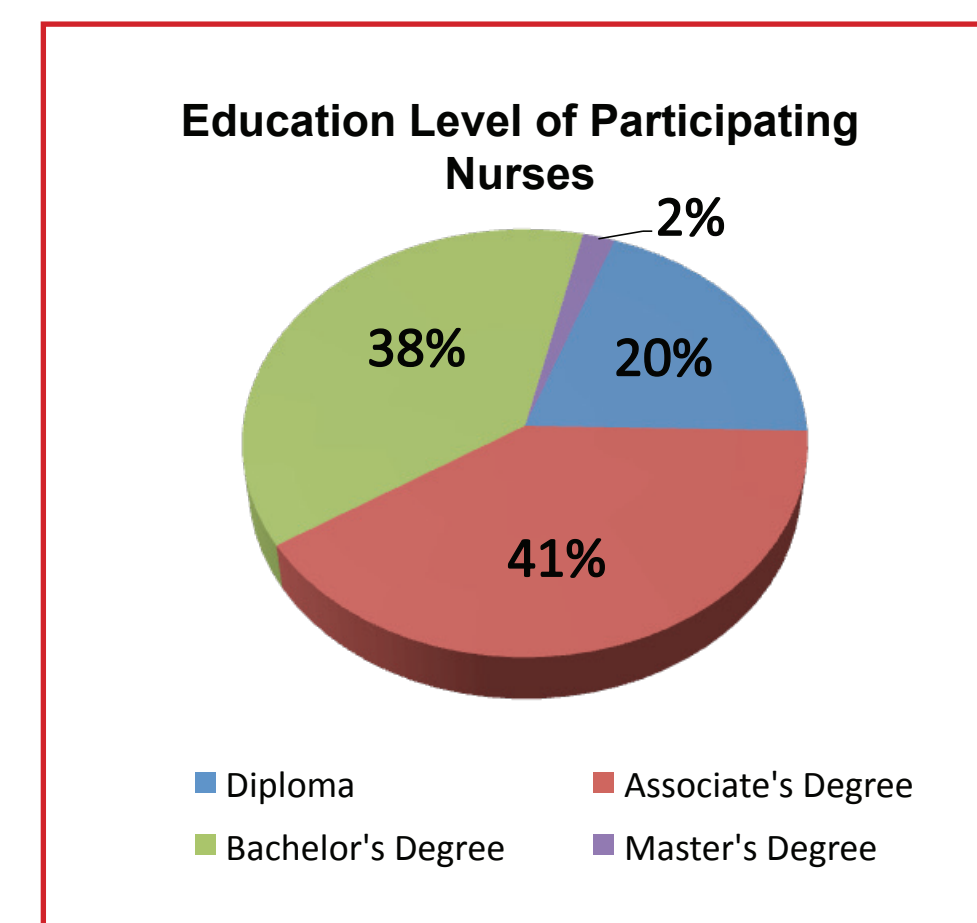
Guided by the Theory of Planned Behavior (TPB), and Theory of Human Caring (THC), a purposive sample of registered nurses (n=81) working full-time on medical-surgical units across 4 hospitals in 2 states was conducted to determine the impact of the nurses' attitudes and beliefs about EHR use on their ability to provide caring science-driven care.

A demographic survey and Attitudes and Beliefs Assessment was collected at baseline, while PDA professional practice activities assessment and location assessment was collected at baseline and six months post-EHR implementation. Gallup RN engagement scores were collected the year before EHR implementation.

A descriptive analysis was conducted to determine the sample characteristics and professional and caring practice findings.



### Findings



#### Nurses with Less Than 15 Years' Experience

Perceived Beliefs and Intentions About Using an EHR

	Mean Score	Standard Deviation
Perceived Beliefs About Using an EHR	8.3	1.3
Normative Beliefs About Using an EHR	8.1	1.4
Intentions to Use EHR	7.9	1.6

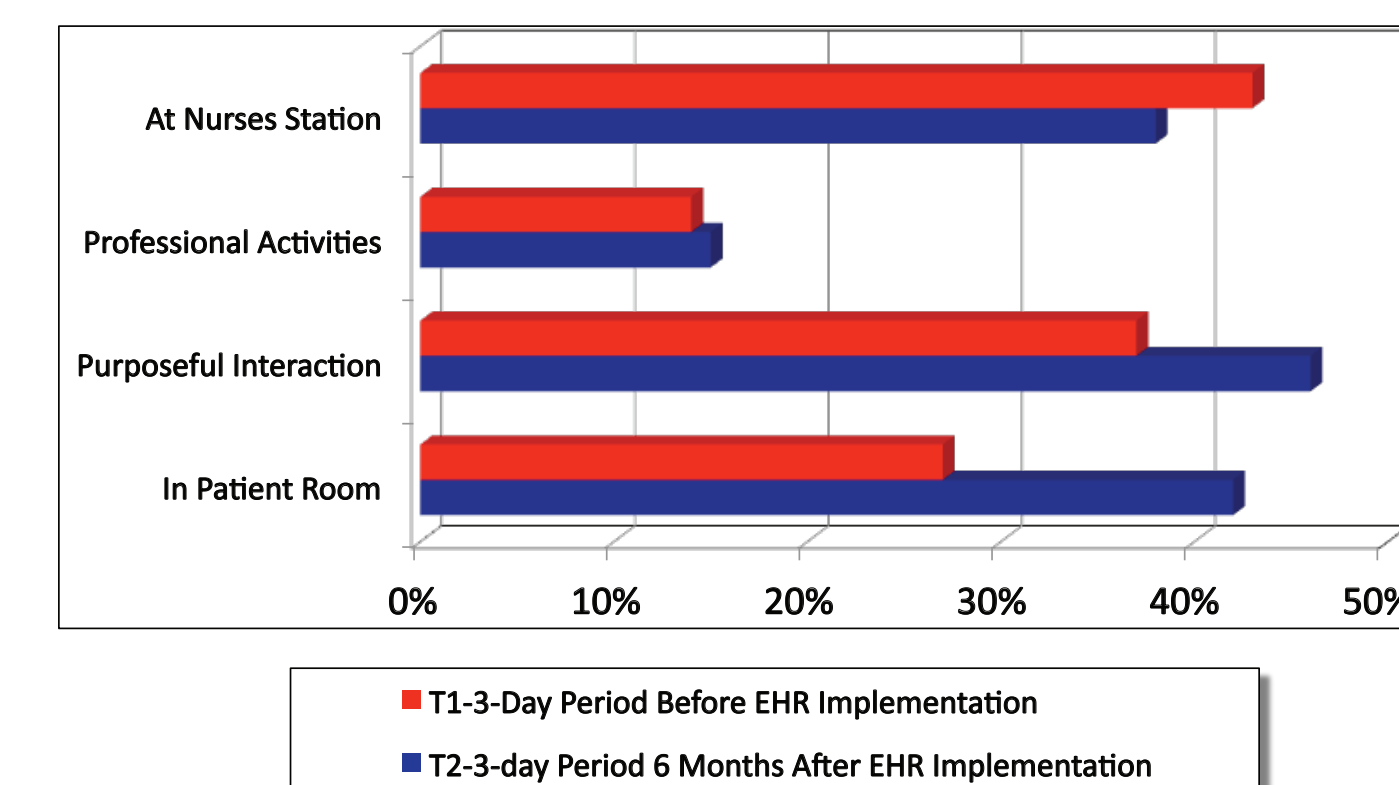
#### Nurses with More Than 15 Years' Experience

Perceived Beliefs and Intentions About Using an EHR

	Mean Score	Standard Deviation
Perceived Beliefs About Using an EHR	7.9	1.6
Normative Beliefs About Using an EHR	7.2	1.1
Intentions to Use EHR	7.4	1.9

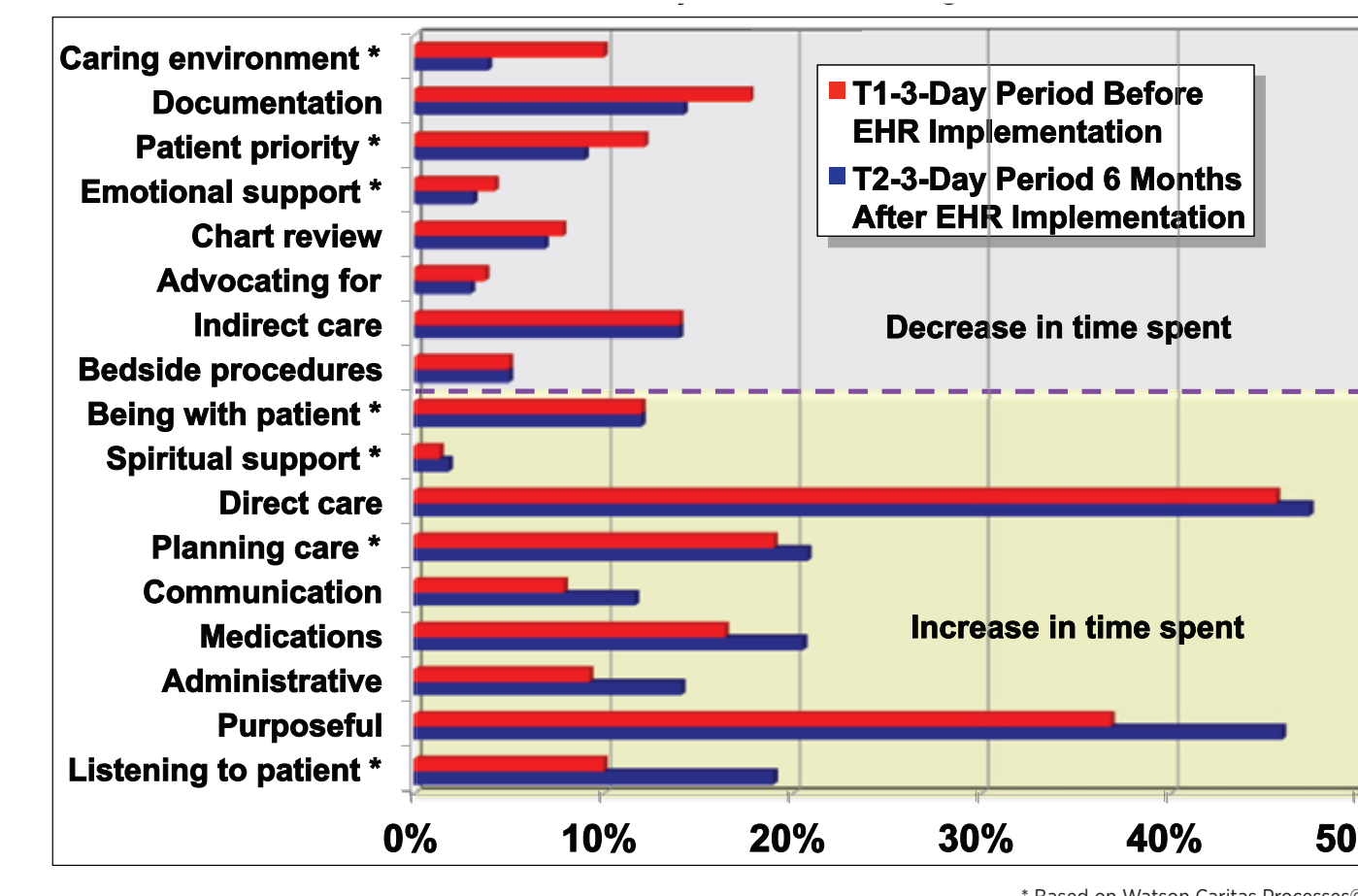
#### Nurses Hospital Professional Activities

Comparing a Three-Day Period Before EMR Implementation with a Three-Day Period Six Months After EMR Implementation. Ranked by Percent Change.



#### Nurses Hospital Professional Activities

Comparing a Three-Day Period Before EMR Implementation with a Three-Day Period Six Months After EMR Implementation. Ranked by Percent Change.



Gallup RN Engagement Scores showed no significant difference between pre- and post- EHR deployment.

\* Based on Watson Caritas Processes®

### Discussion

Diploma, associate-prepared nurses, and nurses with more than 15 years experience were less positive than baccalaureate prepared nurses and nurses with less than 15 years experience about using an EHR. The researchers believe it was more likely the nurses' age and level of familiarity with computers than their education level that were associated with their attitudes and beliefs about EHR use. As increasing percentages of younger nurses enter the workforce, more nurses are likely to be more comfortable using an EHR. Significant increases in time listening to the patient accounted for the largest rise in purposeful interaction. However, it was surprising that the increased time available to focus on patients' concerns did not lead to increases in time spent in relationship-based caring behavior categories.

Also surprising was the lack of time spent by registered nurses in a faith-based health system giving spiritual support or providing emotional support. Nurses' understanding of what comprised spiritual support may have been narrow and defined as solely praying with the patient. To inform high-quality nursing care and improve patient satisfaction, more attention is needed concerning the utility and applicability of caring-based science to fully impact nurses' professional practice and subsequent patient outcomes. While overall RN engagement scores did not significantly increase after EHR deployment, they remained at a high level.

### Study Limitations

Although staff nurses' identities were carefully protected, nursing managers knew which of their units were participating in the study and it may have been obvious which nurses were participating due to the presence of PDAs in their hands.

RFID technology was not available due to lack of consistent Wi-Fi access at all sites. As a result, the nurses self-reported the time they spent in activities.

Asking nurses to self-report on PDAs for three consecutive scheduled shifts appeared to be burdensome. About 10% of the nurses were able to provide PDA responses on only two out of the three days. Researchers averaged the data between consistent PDA responders and non-consistent PDA responders.