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Measuring Acute Care Nurses' Electronic Health Record (EHR) Use Patterns, EHR Satisfaction, and Relationship to Nurse Burnout

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Significance: Since passage of the Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009, clinical information processes are more automated through the near universal adoption of the electronic health record (EHR). While information management is more efficient in this electronic environment, dissatisfaction with time spent on the computer has been expressed by nurses and other healthcare providers. Studies conducted during early EHR adoption, either found no significant difference in documentation time between EHR use and manual documentation, or longer documentation time for EHR use, but with less indirect care time spent. EHRs have evolved significantly during last decade. Therefore, studies measuring current EHR efficiencies are needed. Of concern is that poor EHR functionality leads to nurse dissatisfaction with EHRs. In a large international study, Topaz et al., (2016) found that nurses from 45 countries including the U.S. are generally dissatisfied with EHRs due to problems such as poor usability, lack of system integration, lack of interoperability, lack of standards, lack of functionality to meet clinical needs, poor accessibility, and poor training. More must be known about nurses' patterns of EHR use, and any potential relationship to EHR satisfaction and professional burnout. In a study of EHR use and satisfaction by Physicians, Shanafelt et al., (2016) identified a linkage to professional burnout. While no such connection has yet been identified in the nursing population, further exploration is warranted especially since nurses comprise the largest group of EHR end users. The purpose of this research is to explore EHR patterns of use by acute care nurses, and the relationship of EHR use to nurse satisfaction and burnout. **Methods:** A quasi-experimental cross-sectional study design was utilized. Acute care staff nurses employed in a large Midwestern health system were invited via email to complete an anonymous KLAS survey measuring EHR satisfaction and burnout. Additionally, data were collected on EHR use via EPIC report tools that aggregate nurse EHR utilization data. Descriptive statistics were calculated to determine EHR use patterns, nurse satisfaction with the EHR, and burnout. Survey and use data were matched across nine inpatient units that included data from 162 acute care nurses. Spearman's correlations were conducted using the matched data to determine the relationship between acute care nurses' EHR use and EHR satisfaction and burnout. **Results:** Acute care nurses in the study spent an average of 191 minutes in the EHR per 12-hour shift, with the most time spent documenting/reviewing flowsheets. Satisfaction with the EHR was measured at the 50th percentile overall. Interestingly, the only variable found to be correlated to nurse satisfaction with EHR was years practicing nursing; those with the most experience were the least satisfied with the EHR independent of age. **Discussion/Implications for Nursing:** Knowledge of acute care nurse EHR use patterns, and type and extent of EHR dissatisfaction are necessary to drive EHR improvements that not only impact care quality and efficiency, but have implications for nurse engagement, and reduction in burnout.