

The Nurse Informaticist role in preparing for Biomedical Device Integration in Partners eCare

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Keywords: Clinical Documentation, Meaningful Use, Patient Safety and Quality, Biomedical Device Integration, Physiologic Monitors EHR, Device Integration EHR, Device Integration EMR, Nurse Informaticist and Device Integration, Nurse Informatician Role

Introduction/Background: Brigham and Women's Hospital – BWH an Academic Medical Center in Boston is deploying Partners eCare (PeC), a Partners Healthcare customized version of an Electronic Health Record using the EPIC- Electronic Healthcare Record software. An integral part of that implementation will be an extensive network of interfaces to support biomedical device integration (BMDI). This integration will include the following devices: Physiologic Monitors, Ventilators, EKG machines, Fetal Monitors, Anesthesia Monitors and Cardiopulmonary Bypass Machines. BMDI has a profound impact on nursing documentation. The nurse informaticist has the responsibility to assure that the final product interfaces seamlessly into the nurse's workflow and that the biomedical device "BMD" documentation is appropriately displayed for users of the EHR.

Methods: The Production Readiness process involved a multidisciplinary task force that tested every BMD at the BWH that will be interfaced to the Partners eCare "PeC". This task involved testing over 1,000 devices. The team included representatives from BWH and PeC biomedical engineering, as well as representatives from the build and test team from PeC.

A Nursing Informatics Project Manager was assigned to the team as the Deployment Champion. The responsibilities of the Deployment Champion included communication and coordination with the clinical areas as well as identifying issues and impacts that would affect nursing implementation. The nurse Informaticist brought the clinical skills identifying workflows and knowledge of the clinical environment and the use of interfaced data.

Production readiness work included the following: 1) A physical review of every device was required to assure a DEV record was available. The DEV record is a unique number to identify and link the device in the interface to PeC. 2) Confirming that every device with the unique identifier for the biomedical device is mapped correctly. 3) Visually verifying that the physical mounting and connections are complete. 4) Confirming that each data variable has successfully been transmitted to the PeC test environment for two consecutive minutes. In addition the role required coordinating with PeC application teams, biomed vendors and information services to resolve issues

Results: During Production Readiness the Nurse Informatician was able to identify issues that would affect nursing workflow and documentation. Since these issues were identified early in the testing, corrections to PeC were made before final training and implementation. Primary impacts included those that affected the training and education plans as well as workflow changes required for correct association of the devices. Other impacts that were identified were setup issues which affected associating the device to the flowsheet and planning for support of the device integration.

Discussion/Conclusion: Participation in BMDI Production readiness resulted in the identification of impacts that will result in better planning for the successful implementation of Partners eCare. Training tools for education have been developed to assure the acquisition of information from the biomedical devices. Troubleshooting tips and FAQs were developed for the nursing staff as well as the support staff. The NI Project Manager worked to communicate with the Nursing Directors and Nursing staff to assure that the testers had access to all of the biomedical devices with a minimum disruption to the patients.

References

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