



Johns Hopkins University School of Nursing - Motion™ C5 MCA Case Study

Challenge: Current studies are revealing that HIT, when implemented without a strong understanding of the information needs, workflow of users, and attention towards human-centered design, are actually increasing medical error instead of reducing it as planned. It is important that clinicians and system developers work in concert to assure that new technologies are designed to support workflow and do not encourage technology “workarounds” which, in of themselves, may increase the chance of medical error. Additionally, it is important when hospital organizations consider deploying new technologies, they have an understanding of adoption across the organization. Johns Hopkins was interested in understanding if mature nurses, often responsible for management functions, would accept and adopt the mobile point of care computing solution as rapidly as the younger nursing staff.

Solution: With this trend in mind, Johns Hopkins, Motion and Intel arranged a study to evaluate the usability of the C5 MCA in a 137 bed simulated nursing lab setting. The goal of the study was to evaluate the usability, manageability, and satisfaction when experienced nurses used the C5 device in a simulated environment performing three normal clinical work processes. These included intake assessment of a newborn, documentation of wound assessment using the C5 built-in digital camera, and a medication administration exercise using the C5 bar-code scanner.

Results:

- 85% rated the C5 as easy to use
- Built in digital camera highly rated and judged to be significant contributor to:
 - Real time, objective documentation
 - Reducing time spent in documenting abstract and subjective text description of visual observations
- Bar code scanner viewed as:
 - Enhancement to care delivery efforts
 - Extremely beneficial particularly due to design as “all in one” device
- Importance of portability and workflow supported HIT
 - Easily incorporated by nurses into workflow – “new age clipboard”
 - 90% cited enhanced mobility by C5 very important
- 90% of sample rated ease of cleaning and disinfection as an efficiency gain and as an important care-related feature
- 85% rated C5 as important to:
 - Helping improve nursing practice
 - Increasing efficiency
- Intuitiveness of C5 ranked highly, particularly by experienced nurses
 - Experienced users were older nurses: average age 45