

The Lived Experience of Providing Nursing Care without Computer Supported Technology following a Mal-ware Attack

Marcia Bosek DNSc, RN & Amber Snow MSN, APRN, AGPCNP-C

Purpose and Background: Computer assisted technology is incorporated into all aspects of nursing care. Following a mal-ware attack, nurses reported safety concerns related to loss of safety prompts, lack of experience with paper documentation, and interruption in patient care and other technologies. The purpose of this qualitative study was to develop a broader understanding of the perceptions of the professional nurses' lived experience of providing nursing care following a malware attack.

Methods: A phenomenology design was used. Data were collected through a confidential, electronic REDCap® survey. All professional nurses working at a rural academic medical center were invited to participate. IRB Exemption Category: (2)(i) applied. Qualitative data were analyzed using Colaizzi's (1978) method. Actions were taken to promote the trustworthiness of the findings, including creating an audit trail, bracketing and conducting a member check. Data saturation was experienced after reading 50 surveys. The use of an electronic survey promoted confidentiality, but also limited the researchers' ability to clarify answers.

Results: 106 (105 RNs and 1 APRN) nurses participated. 64 (60.4%) participants related working on the day the malware attack occurred. Many (n=67, 63.2%) reported being able to accurately document without the assistance of computer supported technology. Only 24 (22.9%) participants reported experiencing an ethical issue or dilemma, most (n=76, 74.5%) believed there were times when their nursing practice or patient safety were potentially compromised due to the loss of computer supported technology created by the mal-ware-attack. Five themes with sub-themes evolved from the data: (1) *Chaotic at first*; (2) *Care continued but workflow changed*; (3) *Grateful that everyone came together as a team*; (4) *Focused on safety*; and (5) *Transition back was easy/simple*.

“Chaos.... Staff were incredibly stressed at the thought of utilizing a charting system that they were completely unfamiliar with. The staff who had experience with our paper charting system were prepared.... The fact that our phone system was also lost and our ability to monitor our patient's heart rhythms felt very unsafe. However, I am confident that our staff are capable of caring for our patients regardless of the documentation used.”

Discussion and Conclusion: The results of this qualitative study suggest that nurses may have become too reliant computer assisted technologies. An extended period of providing nursing care without these systems following a mal-ware attack required nurses to adapt when workflow changes and perceived safety nets are missing. One overarching topic was the division of nursing time for documentation versus patient care and raises the question about how a nurse's time should be spent. By stepping up to assume leadership, remaining hypervigilant to promote safety, and educate less experienced nurses and physicians, nurses demonstrated their resilience and dedication to providing high quality nursing care.

Next Steps: What are the long-term (personal and professional) consequences experienced by nurses following a malware attack when nursing care was provide without computer assisted technology?