OMICS International
conferenceseries.com

2ⁿᵈ International Conference on
Health Informatics and Technology

July 27-29, 2015   Valencia, Spain

Value and challenges of using large clinical datasets from physiologic monitors to improve alarm systems safety: Suggestions for improvement

Azizeh Sowan
University of Texas Health Science Center at San Antonio, USA

Clinical Alarms are the 2015 top technology hazards. Thousands of clinical alarm-related deaths are reported. Cardiac monitors are associated with the highest number of deaths and alarms. To date, the most commonly used techniques to quantify alarm data are observation, surveillance cameras and middleware. Large datasets of the audit log of modern physiologic monitoring devices have not yet been used for predictive modeling, capturing unsafe practices or guiding initiatives on alarm systems safety. We utilized the cardiac monitors' audit log as an objective data source to quantify alarms rate in a 20-week interventional project that took place in an intensive care unit. Interventions include changing alarm logarithms and education on alarm management. The audit log of the cardiac monitors is a very complex chronological record of all alarms data (e.g., priority, limits, time generated vs. ended) and 21 clinician actions (e.g., limit change). Results showed a total of 139,452 alarms (190 alarm/patient day) in the pre-intervention period compared to 136,104 alarms (163.4 alarm/patient day) in the post-intervention period (P>0.05). This presentation provides data-driven discussions of the advantages of the audit log, challenges of using it in alarm safety studies, critical considerations in presenting alarm data and suggestions for improving the logged data to be a useful source for clinicians, researchers, vendors and policy makers. Despite current challenges, large digitalized clinical datasets provide an objective, detailed data source of recorded alarms' events and types and user actions and hold a great promise in performance improvement.

Sowan@uthscsa.edu

Advanced practice nurses' meaningful use of Electronic health records

Narcisse M R, Kippenbrock T A, Odell E and **Buron B**
University of Arkansas, USA

Aim: The aim of this study was to better understand electronic health records (EHRs) use among advanced practice nurses (APNs).

Background: EHRs are becoming an integral part of the U.S. health care system. Federal law was enacted with provisions that offer incentive payments to eligible professionals and hospitals who use EHRs. Little is known about APNs' EHR use.

Methods: A quantitative, non-experimental research design was used. Descriptive and multiple logistic regression analyses were performed.

Results: Two thirds of the APNs were EHR-user. Statistically significant differences between EHR-users and non-users were found in age categories, practice setting, practice size, and in tasks related to imagery report review and care coordination. EHR use was associated with higher odds of practicing in hospital, and employment longevity, but with decreased odds in the number of patients seen per day.

Conclusions: With one third of the APNs being EHR non-users, more efforts are needed to help and guide the adoption and diffusion of EHRs in practice.

zxl125@case.edu

J Health Med Inform
ISSN: 2157-7420 JHMI, an open access journal

Health Informatics-2015
July 27-29, 2015

Volume 6, Issue 4

Page 75