Abstract:
The large quantity of alarms characteristic of clinical settings have resulted in nursing staff suffering from a phenomenon termed ‘alarm fatigue’. Alarm fatigue is desensitization via habituation – as these commonly heard noises cause caregivers to have delayed or no response to alarms. Alarm management was ranked number one on the annual top ten list of technology hazards afflicting healthcare institutions published by the ECRI Institute for 2012. Several healthcare organizations have established alarm fatigue as a priority concern, and are working to eradicate the issue from the healthcare environment by 2017. To better understand the problem, a simplified simulation model was created using Automod® to investigate the routine processes involved in responding to cardiac arrhythmia alarms in a telemetry unit as well as the sources of noise attributing to alarm fatigue. By quantifying these workflows and response strategies, this model can be utilized to aid administrators and managers in selecting alarm escalation times as well as modifying hospital protocols to minimize alarm response time and enhance nursing efficacy. The results also support the identification of hospital policy elements where clinical workflow could be augmented based on the physical layout of the telemetry floor, use of distributed alarm notification systems and staff roles and responsibilities.