Critical Reflections: Post-Implementation Challenges and Effective Strategies in Large-Scale Medical Equipment Deployments

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BACKGROUND

Certain clinical disciplines, within a regional or provincial service delivery model, usually opt for a standardized medical equipment. While the benefits and drawbacks of equipment standardization are well-known in the Healthcare Technology Management (HTM) community, challenges arise when a comprehensive evaluation of the selected equipment is not conducted in advance. This becomes especially crucial if shortcomings emerge post-implementation, raising the question of how Clinical Engineering can collaboratively strategize with other stakeholders to identify and address the root causes of issues.

In 2022, following the implementation of a substantial number of physiological patient monitors in four locations across three hospitals, reports in various formats highlighted frequent intermittent dropouts of SPO2 and ECG signals in critical areas. Some instances carried the potential for serious harm if immediate alternative solutions were not identified. In response to the unsatisfactory outcomes of unorganized attempts by users to address concerns with the vendor, a decision was made to establish a strategic ad-hoc committee, comprising key stakeholders such as Clinical Engineering, vendor(s), Value Analysis, and Users, aimed to formulate an effective approach to hold the vendor accountable and consistently monitor the outcomes and progress resulting from the committee's recommendations. While the committee led by Value Analysis, the involvement of Clinical Engineering was pivotal, as it served as the expert technical body in this comprehensive initiative.

PROPOSED PRESENTATION

The proposed presentation aims to provide a comprehensive overview of a strategized vendor-involved investigation and covers the following key aspects:

* Introduction on the ad-hoc committee: elucidating its composition, goal, role, and responsibilities. The goal is to address and resolve reported issues associated with the implemented physiological patient monitors.
* Details on Reported Issues and Area of Use: Presenting specific details regarding the reported issues and highlighting the areas of use where problems were identified.
* Investigation Process and Follow-Up Strategy: Outlining the systematic approach taken during the investigation, including the strategies employed to assess the reported problems, follow-up plan to ensure ongoing monitoring and resolution, collaborative efforts of the committee and stakeholders in investigating and addressing the issues.
* Result of the Investigation: Presenting the findings of the investigation. It will illustrate that the reported problems stemmed from a multifaceted range of shortcomings in various areas, including issues with the original installation and ergonomics provided by the vendor, the cleaning practice and materials used, staff training, and specific clinical practice issues in some areas. Inherent design problems with the equipment and accessories will also be discussed.
* Lessons Learned, Gaps, and Improvements: Identify gaps and areas for improvement (hospitals and the vendor), necessity for an executive summary report to conclude selecting of medical equipment for mass implementation, internal communication gaps on cleaning recommendations, user training, the necessity for a robust project management team on the vendor side for collaboration, and the establishment of a policy for external investigations by hospitals.

In essence, the presentation aims to provide a holistic understanding of the investigation process, the complexity of the identified issues, and the crucial lessons learned for enhancing HTM practices and vendor-community collaboration.