Developing a Nurse Driven Telemetry Protocol Using a Sociotechnical Model
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ABSTRACT
Centralized cardiac monitoring using portable telemetry devices is an important, but costly approach to monitoring at risk patients. Telemetry is highly resource dependent requiring specialized staff and equipment. This safety net is often ordered inappropriately with delays in discontinuation for both adult and non-ICU patients (Bubb, 2011). This in turn creates delays in care for those who most need it.

At our medical center, the decision was made to develop a CPOE orderset with criteria for telemetry placement algorithmic support for a nurse-driven discontinuation protocol. Analysis of the people, process and technology issues using the sociotechnical model developed by Sittig, et.al. (2010) helped to identify barriers and opportunities for success. This model was selected for its interactive dimensions that lend to improved patient safety.

Variations in ordering of telemetry were opportunities for improvement. As nurse driven discontinuation protocols for telemetry and Foley catheter increase nurse autonomy and intensify decision making, exploration of the socio aspects are critical.

PURPOSE
The purpose of this project was to facilitate discontinuation of telemetry in the adult inpatient setting by implementing a nursing driven protocol using an eight dimensional sociotechnical model as a guide and to minimize inappropriate ordering of telemetry.

SOCIOTECHNICAL MODEL

- **Hardware and Software** - Multiple order sets, decision support tools for telemetry order entry and discontinuation replaced a single solution.
- **Clinical Content** - Developed protocols using AHA criteria in ordersets instead of local preference (Drew et al., 2004).
- **Human-Computer Interface** - Clinical workflow analysis was conducted and a clinical decision support tool was modified for ordering telemetry.
- **People** - Identified as a rapid cycle improvement project by administrative leadership. Developed protocols that work with physicians, nurse practitioners, nurses, the leader-manager and culture. Interpersonal factors considered included values, culture, and experience.
- **Workflow and Communication** - Evaluated all the ways that patients were identified as needing telemetry such as ED page, consults, direct evaluations, and referrals.
- **Organizational Policies, Procedures** - Adult and Pediatrics policies examined for consistency. Telemetry guidelines were created using the AHA criteria for patient selection.
- **External Rules, Regulations, and Pressures** - Local Nurse scope of practice evaluated.
- **System Measurement and Monitoring** - Pre-implementation identified patients currently on telemetry inappropriately.

CONCLUSIONS

Criterion based ordering and nurse driven protocols offer opportunity to improve the efficiency and effectiveness of ordered therapies and monitoring. The sociotechnical model was helpful in understanding and planning for the eco-system in which provider order entry and fulfillment exists. The interactive socio and technical dimensions exposed corresponding aspects needed in decision making.

REFERENCE

