Choosing Wisely: Optimizing Telemetry Utilization by Leveraging EHR Clinical Decision Support and Analytics.

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**Introduction**

- Inappropriate and overuse of continuous telemetry can potentially lead to increased care costs and false positive alerting, resulting in patient management errors.
- Guidelines providing clear indications for best use of telemetric monitoring have been published by the American Heart Association (AHA).
- Despite this evidence, our community hospital has a high percentage of patients on telemetry.
- We lacked an initial required indication for ordering telemetry and a discontinuation protocol, causing bottlenecks in patient flow placement and bed capacity.

**Objectives**

To promote evidence based practice of telemetry through an integrated multidisciplinary approach using electronic order entry and analytics.

**Methods**

- MDs (Admitting, ED, and Cardiology)
- Nursing
- CNAs
- Decision Support
- Informatics
- Bed Placement Operations
- Unit Clerks
- Clinical Educators
- Telemetry Technicians

**Multidisciplinary Committee**

**Results**

- Committee Identified Opportunities and Solutions
  
<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED patients placed on telemetry with MD Bed Preference Request Order</td>
<td>ED admission process reviewed</td>
</tr>
<tr>
<td>Indication/Diagnosis not required</td>
<td>Electronic telemetry order required indication from pre-populated list</td>
</tr>
<tr>
<td>Telemetry beds ordered without indication/diagnosis</td>
<td>Required indication/diagnosis selected from drop-down list or “other” (free text) field</td>
</tr>
<tr>
<td>Absence of routine reassessment for continued use/removal</td>
<td>Stakeholders educated on reassessment process</td>
</tr>
<tr>
<td>Telemetry cases not medically indicated per evidence base</td>
<td>Removal of telemetry order in non-applicable admission diagnosis order sets</td>
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Data were obtained from 5 individual medical/surgical units within the hospital.

Telemetry orders for the 3 months preceding (N=1231) and 3 months post-implementation (N=1720) of the new order system were retrieved and analyzed.

**Conclusions**

- Effective change in appropriate telemetry utilization involves:
  - Deployment of organizational multidisciplinary team-based communication and education
  - Embedded evidence-based content in order sets
  - Leverage of data analytics
  - Next steps: ongoing reinforcement of evidence-based practices to overcome the culture of telemetry overuse for fear of adverse events.
  - Develop EHR embedded surveillance to send system alerts to nursing and MDs, after initial 48 hours of placement, to trigger reassessment.

Post-implementation, 90% (n=1540) of orders had specific approved indications.

Suggestions for Timely Reassessment

- Visual Indicator added to patient whiteboard
- Reassessment times defined by floor using daily analytic report
- Nursing staff to review Clinical Indication to determine if monitoring is still appropriate and discuss with physician.

After piloting, visual indicators and reassessment times not sustainable due to competing clinical demands on nursing staff.

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