Deterioration Index: Evidence-Based Benchmark Study

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Rationale

- Treating a patient after signs of clinical deterioration reduces chance of improvement (Parrish et al., 2017)

- Approximately 40% of ICU admits are avoidable (Gagne & Fetzer, 2018; Smith et al., 2014)

- “Approximately 80% of cardiorespiratory arrests in hospital are not sudden or unpredictable as there are signs of clinical deterioration several hours before” (Cherry & Jones, 2015, p. 812).
Literature Synthesis

- 60% of deterioration cases could have been recognized earlier with a DI tool (Cherry & Jones, 2015)

- Early recognition of an untoward change in a patients’ condition is vital to early intervention, which can improve patient outcomes (Parrish et al., 2017)

- Observational studies suggest patients show signs of clinical deterioration 24 – 48 hours prior to a serious adverse event (Smith et al., 2014)
Stakeholders

- Patients & Family members
- Nurses
- Physicians
- Rapid Response Team members
- Hospital leadership
- Clinical Informatics
- Risk management
Implementation Plan

- Present program to Nursing Leadership
- Obtain approval for policy change
- Survey staff for baseline knowledge
- Review survey results with staff
- Inform staff of change

- Monthly team meetings to review data
- Report at monthly nurse leadership meetings
- Ongoing PDSA cycles

- Assign online education modules
- Create Epic Tip sheets
- Roving inservices
- Staff meetings

- Rounding on floors
- Focus on key points
Timeline

01
Form team, present executive summary, develop survey
ONE MONTH

02
Implement and evaluate surveys, provide education
ONE MONTH

03
Implement DI tool usage. Data collection, continued rounding on nursing units to ensure awareness and usage
THREE MONTHS

04
Present data analysis, revise program if necessary, continue PDSA cycles
THREE MONTHS
Data Collection Methods/Evaluation Plan

Outcome Measures
- Number/Percentage Codes outside the ICU
- Code Blue/RRT per nursing unit
- Number of RRT activations
- Number of unexpected ICU admissions
- DI scores prior to event

Data collection methods
- Automated reports through Epic
- Develop Dashboard
- Utilized code blue committee
Cost / Benefits

- Average Code blue outside ICU is 29.41%
- Average LOS for cardiac arrest is 10.3 versus 4.1 for the patient who has not suffered Cardiac arrest
- Decrease in morbidity and mortality index
- Improve patient quality outcomes

Penner, 2017; AHRQ, 2016
Discussion

- No change in codes outside of the ICU at MDMC for 6 months – innovation is needed
- Involve nurses, especially new nurses, in the EBP process
- Pre-knowledge surveys implemented April 19, 2021
## Next Steps

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<td>Develop protocols for action based upon DI risk level</td>
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<td>2</td>
<td>Develop assessment parameters</td>
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<td>3</td>
<td>Explore new role for RRT nurse</td>
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References


