Implementation of a Delirium Prevention and Management Bundle in Pediatric Critical Care

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Problem Statement

- In the PICU, the prevalence of delirium is 25% but as high as 56% in children < 2 years old
- Delirium prolongs length of stay by 60% and increases morbidity and mortality

- At the site, there is no formal pathway for the prevention and management of delirium
- Staff have a substantial knowledge gap about delirium risk factors, prevention, and management
- A delirium bundle can provide a formalized guideline for delirium best practices, but it is not used at the site

Purpose & Goals

Purpose: Restructure delirium clinical practices by implementing a delirium bundle with education materials, prevention strategies, and a management pathway
Goal: Improve staff education on delirium, improve delirium identification by increasing adherence to screening, and use the bundle to guide the prevention and management of delirium

Key Process Goals:
- 100% of staff in the PICU will utilize the delirium bundle to guide the prevention and management of delirium
- 100% of nursing staff will adhere to every 12-hour documentation of the delirium screening tool

Key Outcome Goal:
- 100% of staff in the PICU will utilize the delirium bundle to guide the prevention and management of delirium

Methods

Setting: 28-Bed PICU in an urban academic center

Population: All PICU patients

Intervention: Implementation of a delirium bundle consisting of education materials, prevention strategies, and a management pathway for delirium-positive patients

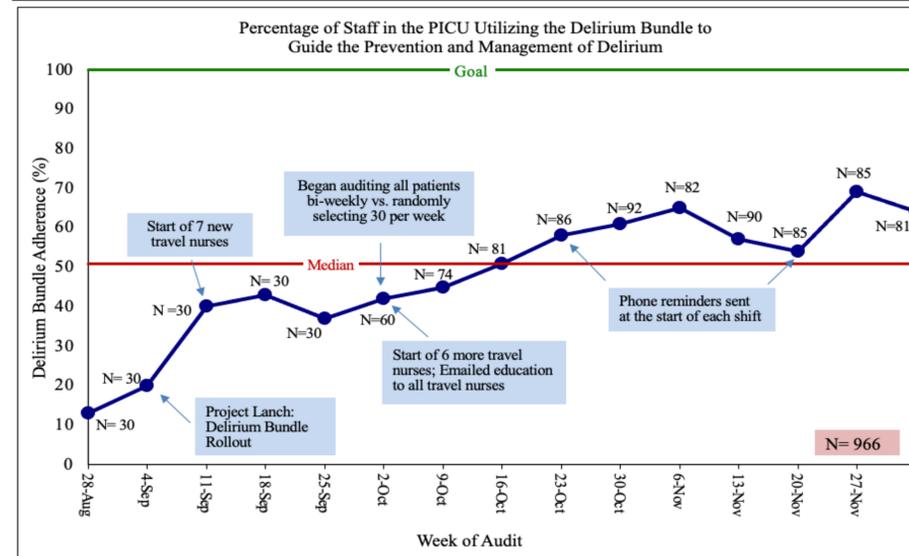Scan me to view the Delirium Bundle Clinical Pathway

Implementation Strategies:
- Collaboration with Clinical Nurse Specialist and project team
- Develop and distribute education materials
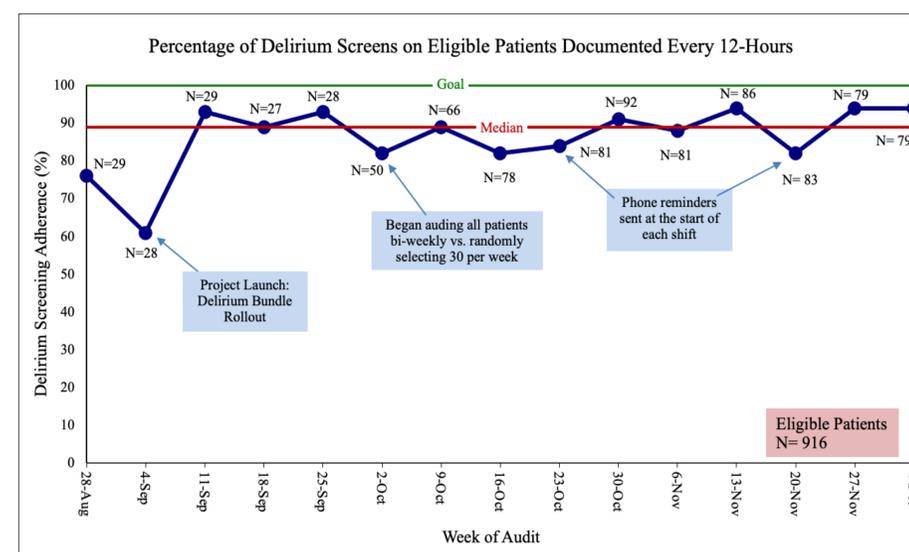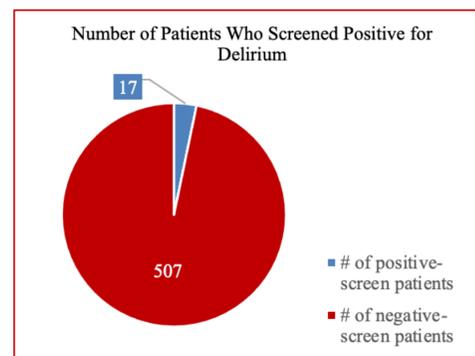- Identify and prepare project champions

Measures Used:
- Education completion survey via REDCap QR code
- Data collected through twice weekly chart auditing on all admitted patients via REDCap tool

Results

Percentage of Staff in the PICU Utilizing the Delirium Bundle to Guide the Prevention and Management of Delirium

Delirium Bundle utilization defined as:
- Implement non-pharmacological delirium prevention strategies on all patients
- Screen eligible patients for delirium every 12-hours
- Assess all patients who screen positive within 2-4 hours
- Consult Psychiatry if initiating pharmacological intervention

Number of Patients Who Screened Positive for Delirium
17
507
■ # of positive-screen patients
■ # of negative-screen patients

Percentage of Delirium Screens on Eligible Patients Documented Every 12-Hours

Discussion

Clinical Impact
- At its peak, 69% of staff utilized the delirium bundle to guide the prevention and management of delirium

- 94% of nurses adhered to every 12-hour documentation of the delirium screening tool on all eligible patients

- Literature supports that the implementation of a delirium bundle decreases delirium prevalence, hospital length of stay, and morbidity/mortality
  - In this PICU, only 3% of patients screened positive for delirium, which is 22% lower than the national average
  - This data supports the unit's efforts to prevent delirium in this vulnerable population

Limitations
- High staff turnover with a large travel nurse presence
- Low number of project champions
- Multiple unit initiatives

Conclusion

- These findings support using a delirium bundle to standardize delirium prevention and management and facilitate consistent clinical decision-making among PICU team members

- Consistent use of all elements of the bundle can significantly reduce prevalence of delirium in the PICU

Next Steps:
- Delirium bundle adoption in other pediatric ICUs
- Delirium bundle education integration in staff on-boarding
- Continue chart audits and clinical reminders to facilitate ongoing data collection and track delirium bundle use

References & Acknowledgement

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