INTRODUCTION

Cardiothoracic intensive care units (CT-ICU) are focused on caring for cardiothoracic surgical patients by a highly trained and specialized care team.

Morbidity and mortality among critically ill patients remain high, with known variation between high-volume and lower-volume centers and surgeons.

Al predictive algorithms to identify patients at risk for adverse events in the CT-ICU after cardiac surgery are a potential tool for care teams. Identifying and considering barriers to implementing artificial intelligence predictive algorithms can inform predictive analytics development and user interface design in this space.

This study evaluates the attitudes and barriers to implementing predictive analytics in the CT-ICU.

METHODS

Observations and semi-structured interviews were conducted with fourteen healthcare providers (n=14) in the CT-ICU at a tertiary care facility (Table 1).

Thematic Analysis: Thematic analysis was conducted to answer the research question: What are the attitudes and barriers of end users to implementing predictive analytics in the CT-ICU?

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<td>Cardiovascular Critical Care</td>
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Table 1. Healthcare providers were identified as key members of the CT-ICU. These healthcare team members were observed and interviewed. Total participants (n=14).

*including nursing supervisors.

DISCUSSION

• Attitudes of the care team were cautiously optimistic.

• Potential barriers to implementing AI in the CT-ICU were identified as trust and validity in AI, the importance of added clinical value beyond current clinical acumen, and consideration of workforce burden.

• AI-powered predictive analytic development and design should consider clinical team burden and trust in AI. Examples include:
  1. Integration with the patient charting system.
  2. Customization in alarm notifications.
  3. Identify alarm thresholds with the highest clinical value.
  4. Verification of erroneous data that will inform the prediction.

• This study highlights the importance of involving the clinical team in developing and implementing AI in the clinical setting.

REFERENCES


