



Implementation of a Warming Bundle to Decrease Incidences of Postoperative Hypothermia

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Background

- Postoperative hypothermia has been associated with an increased risk of infection, blood loss, impaired coagulation, cardiac complications, and patient discomfort
- At an Ambulatory Surgical Center (ASC) over a period of eight months, between **79.2%** and **92.1%** of patients reached 36°C within 15 minutes of arriving to the Post Anesthesia Care Unit (PACU)
 - This falls below the goal of 95% set forth by the ASC to align with other ASCs across the country
- Evidence supports the use of a standardized hypothermia guideline developed by the American Society of PeriAnesthesia Nurses and the use of forced air warming (FAW) devices to prevent postoperative hypothermia

Aim of the Project

The purpose of this project was to implement and evaluate an evidence-based warming bundle perioperatively to decrease incidences of postoperative hypothermia

- **Process Goal:** 100% of patients meeting criteria will receive warming bundle components perioperatively
- **Outcome Goal:** The ASC will reach their goal of 95% normothermia compliance

Description of the Intervention

Setting:

- Preoperative unit and PACU within a 34-bed ASC associated with a large teaching hospital in the Baltimore-Washington metropolitan area

Population:

- Adult and pediatric patients undergoing an orthopedic procedure under general or regional anesthesia with a procedure time of at least 60 minutes

Intervention:

- Eligible patients were treated with a warming bundle composed of passive and active warming devices throughout their stay
- Warming bundle audit tools were then used by PACU staff to record project data

Implementation Strategies:

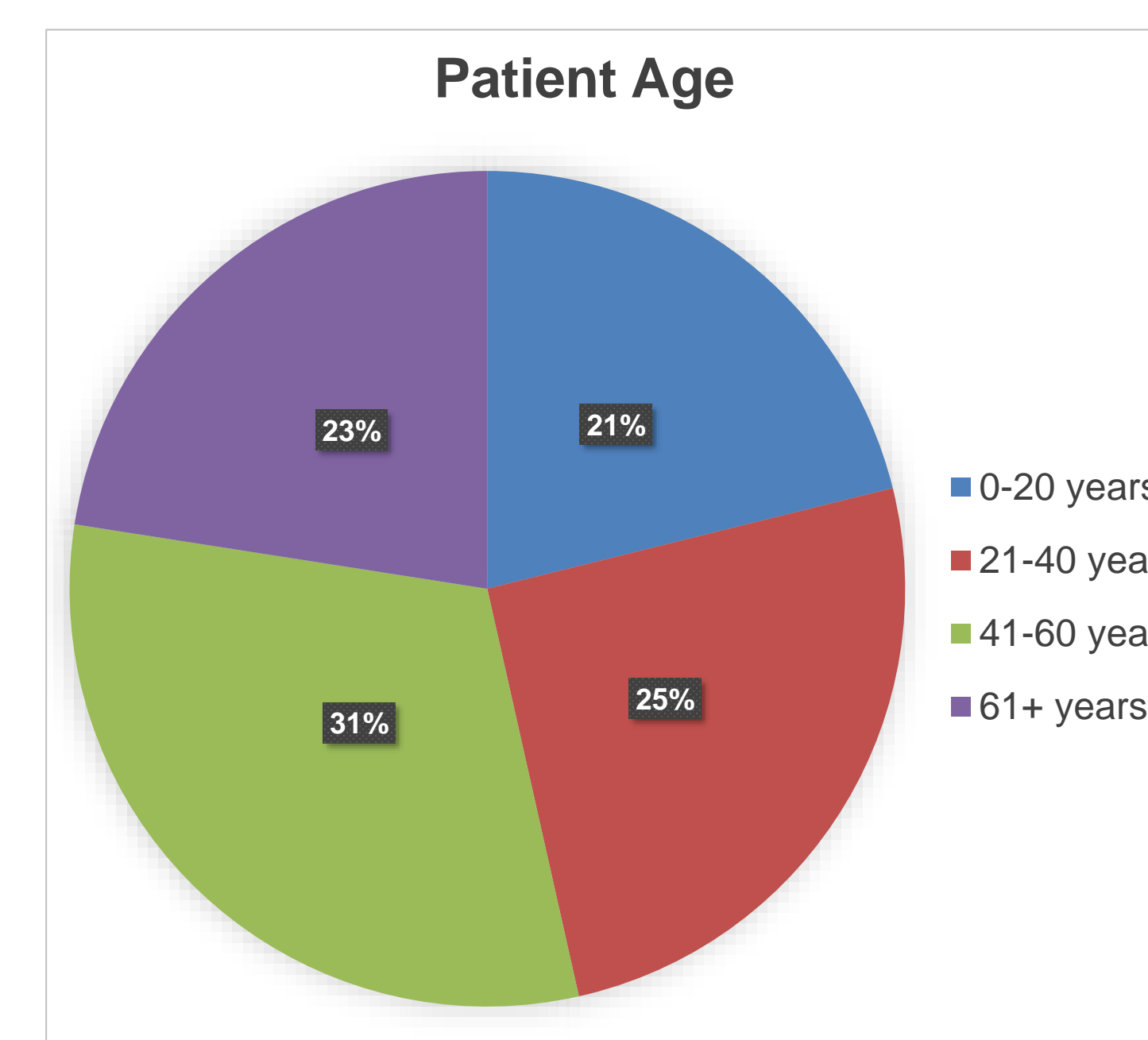
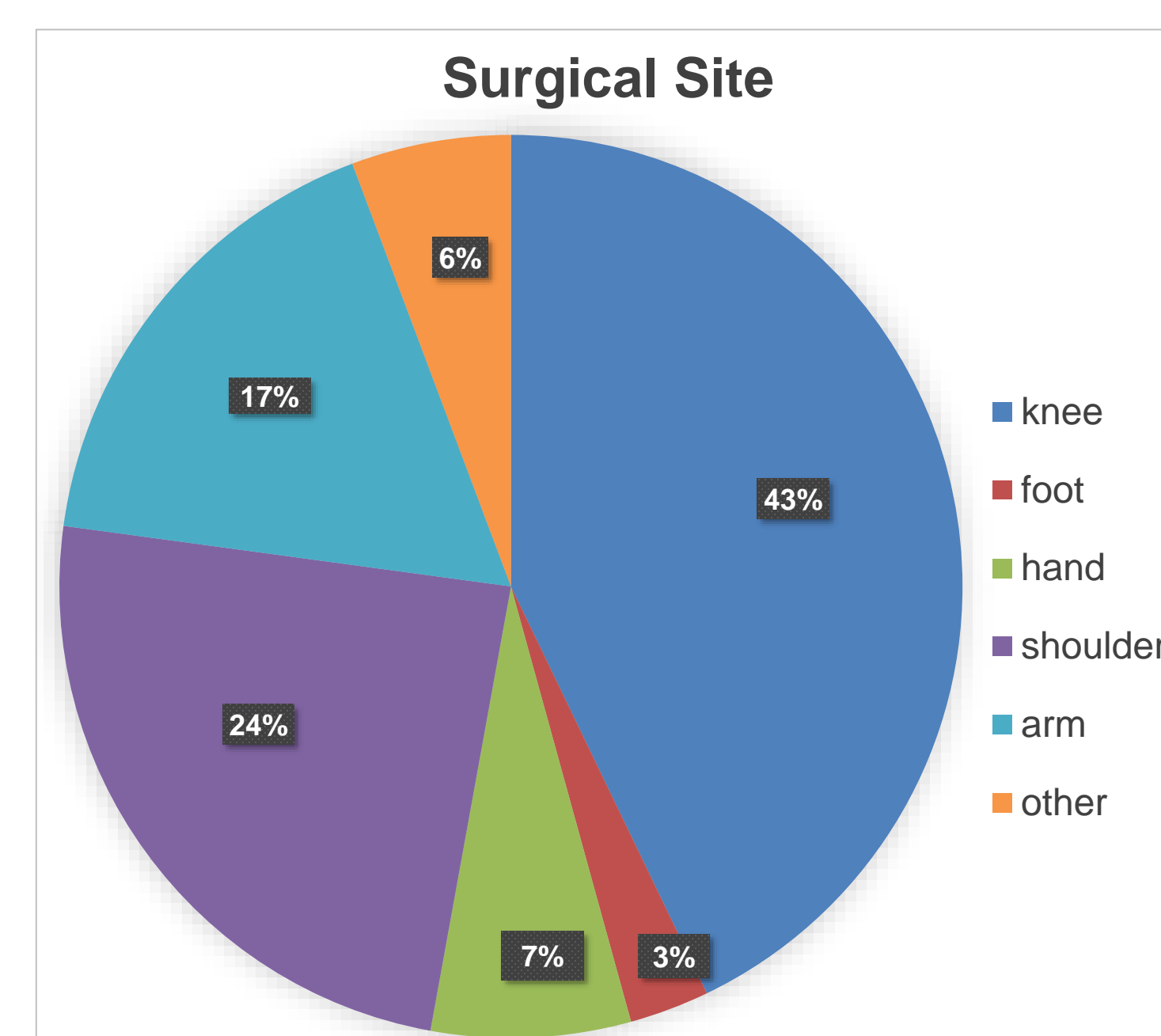
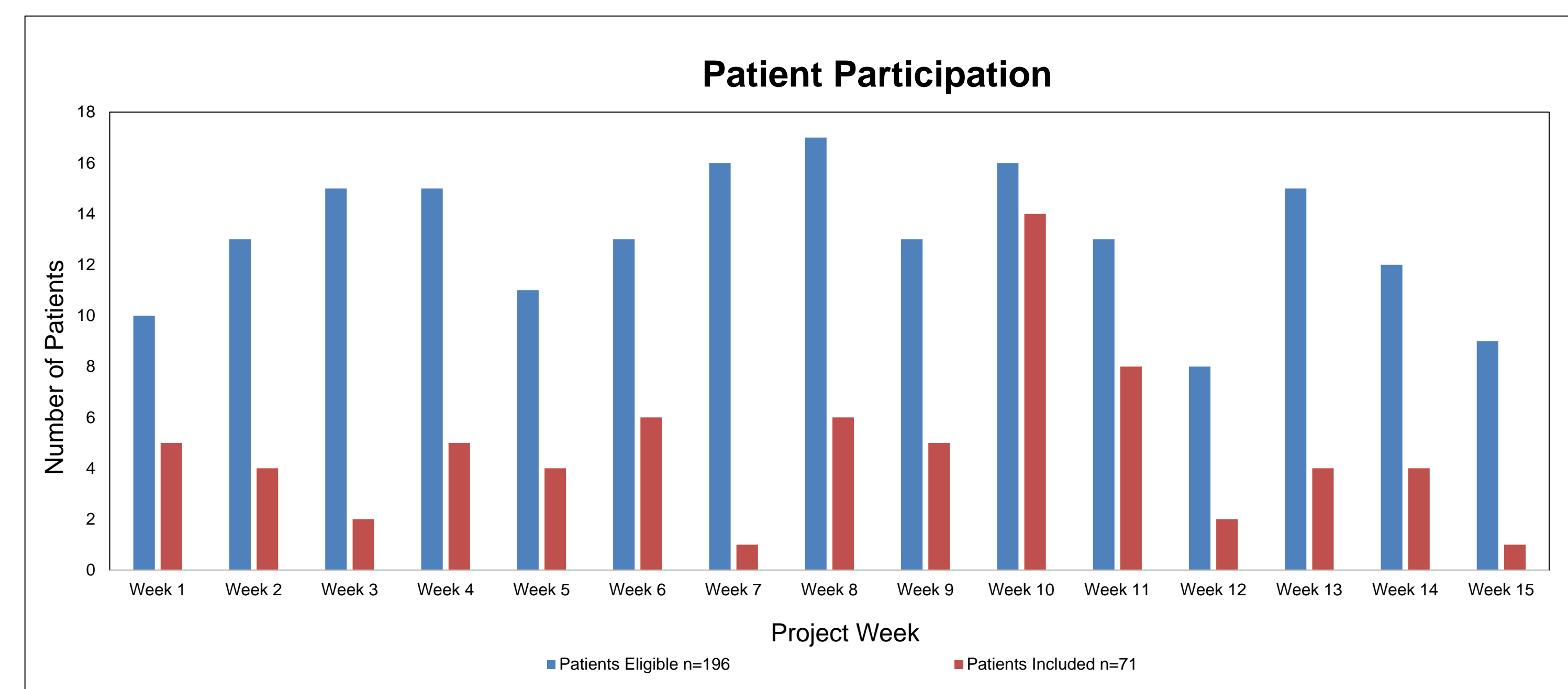
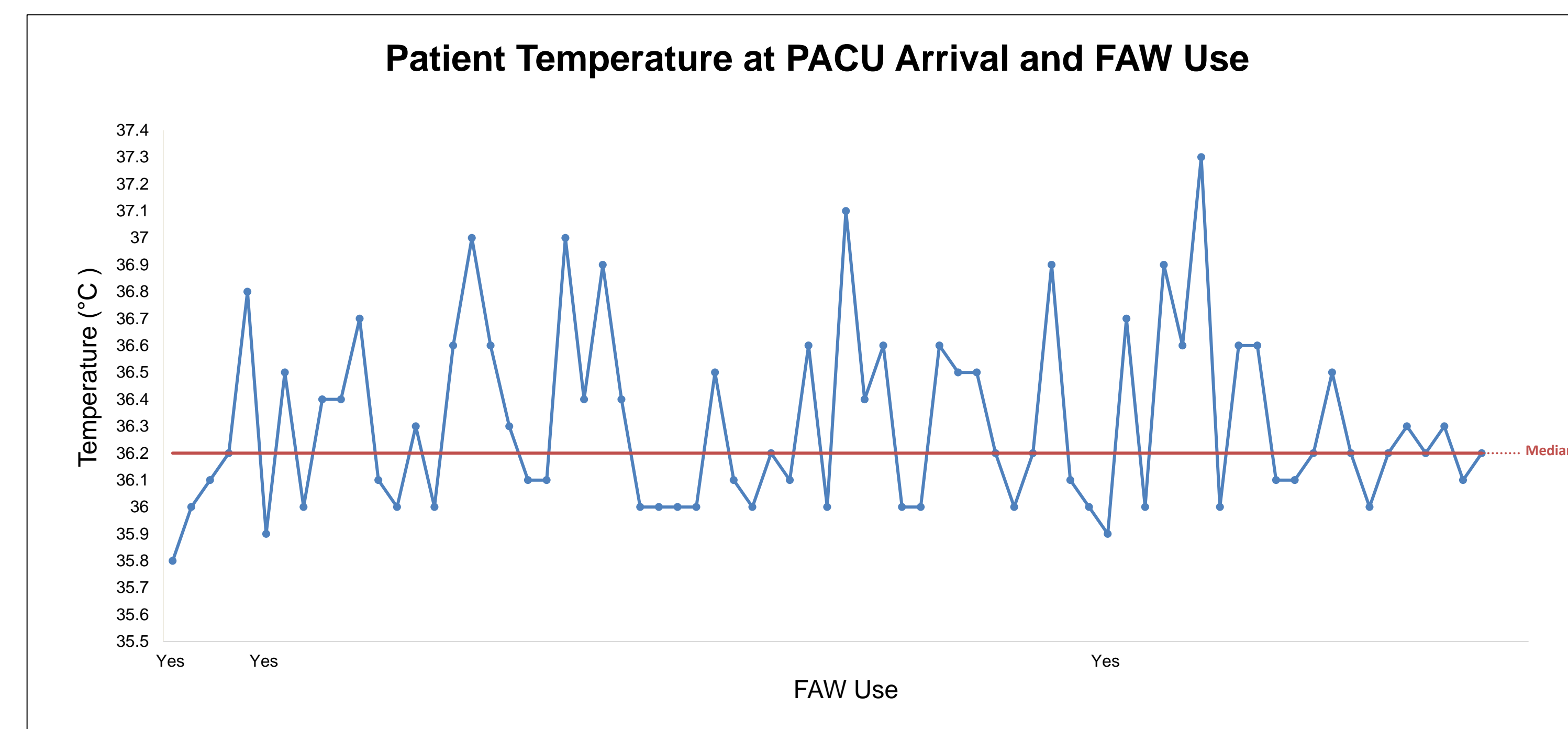
- Staff education on the current normothermia policy, how to properly use temporal artery thermometers and FAW devices, and the warming bundle audit tool to be used during project implementation
- Education was reinforced through email communication
- Nurses in the preoperative unit screened patients for eligibility to participate
- Upon arrival to the PACU, patient temperatures were collected, and the warming bundle was implemented if necessary

Measures:

- Data collection through a QR code or web link to the warming bundle audit tool in REDCap

Results

- 196 patients were eligible to participate in the project
 - 71 patients were included in the project and **100%** of those patients reached normothermia within 15 minutes of arriving to the PACU
 - Eligible patients not participating may be related to staff misunderstanding of participant eligibility, unawareness of project, and/or time constraints



Warming Bundle Audit Tool



Scan QR code to view the Warming Bundle Audit Tool

Implications for Practice

- Implementing an evidence-based warming bundle intervention perioperatively has been found to decrease incidences of postoperative hypothermia
- After project implementation, the average temperature at PACU arrival was 36.3°C
- 36.22% of eligible patients participated in the project
 - It is recommended that future interventions detail patient inclusion and exclusion criteria, following up with staff weekly to ensure that eligible patients are being captured in the project
- **Sustainability:** Continue normothermia education with new hires and annually with staff
- **Implications for Practice:** Improved staff awareness of the importance of decreasing incidences of postoperative hypothermia to prevent adverse health outcomes
- **Recommendations:** Include a variety of surgical specialties with an increase in postoperative hypothermia incidences
- **Limitations:** At week 7, it was found that six of the temporal thermometers in the preoperative unit failed calibration testing; portable thermometers were used during this time
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References



Scan QR code for a complete list of references

Acknowledgment

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