

Quality Improvement “Golden Hour” Initiative for Infants < 28 Week Gestation

Results in Improved Admission Temperatures

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Problem Description

In 2016 we developed a “Golden Hour” multidisciplinary quality improvement approach to the management of infants born less than 28 weeks gestation. Included in this initiative was the goal to improve admission temperatures. Our median and average admission temperature for this patient population from 2014 through 2015 was 36.6°C and 36.5°C (N=41) respectively. Nine infants (22.0%) during this period had admission temperatures ≤ 36°C, which is the World Health Organization definition of hypothermia.

SMART Aim

The aim of this project is to increase the percentage of infants less than 28 weeks admitted to our NICU with admission temperature ≥ 36°C from a baseline of 79% to greater than the VON average of 86%.

Interventions

- Highlights of interventions initiated in 2016 (Figure 1 and Graph 3)
- Review literature related to initial management of infants less than 28 weeks gestation
 - Develop/implement Golden Hour Bundle including best practices for maintaining neutral thermal environment
 - Review/update NICU guidelines, protocols and policies
 - Implement pre-delivery checklist and bedside reminders
 - Educate NICU staff and providers including OB emphasizing need to avoid hypothermia

Key Drivers

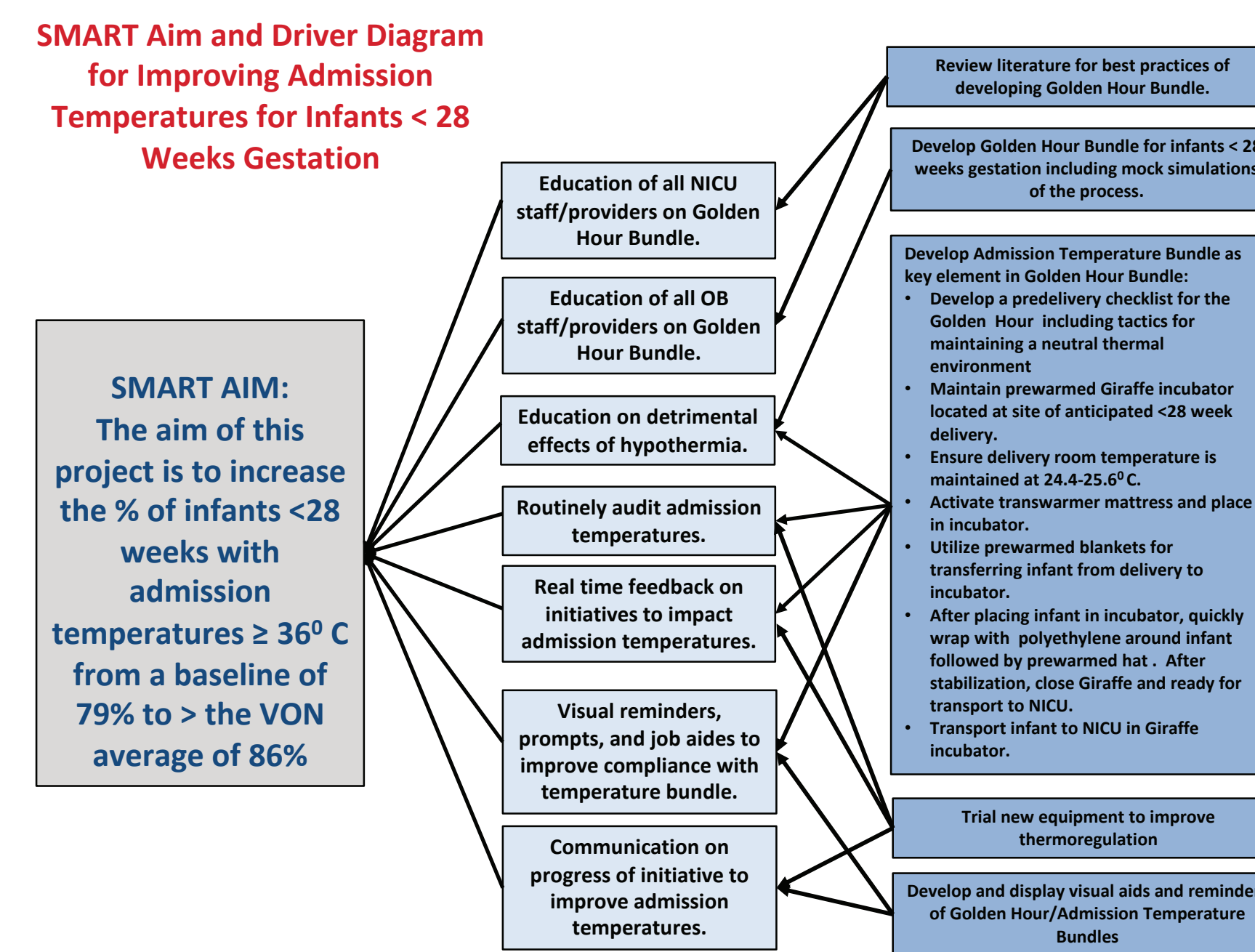
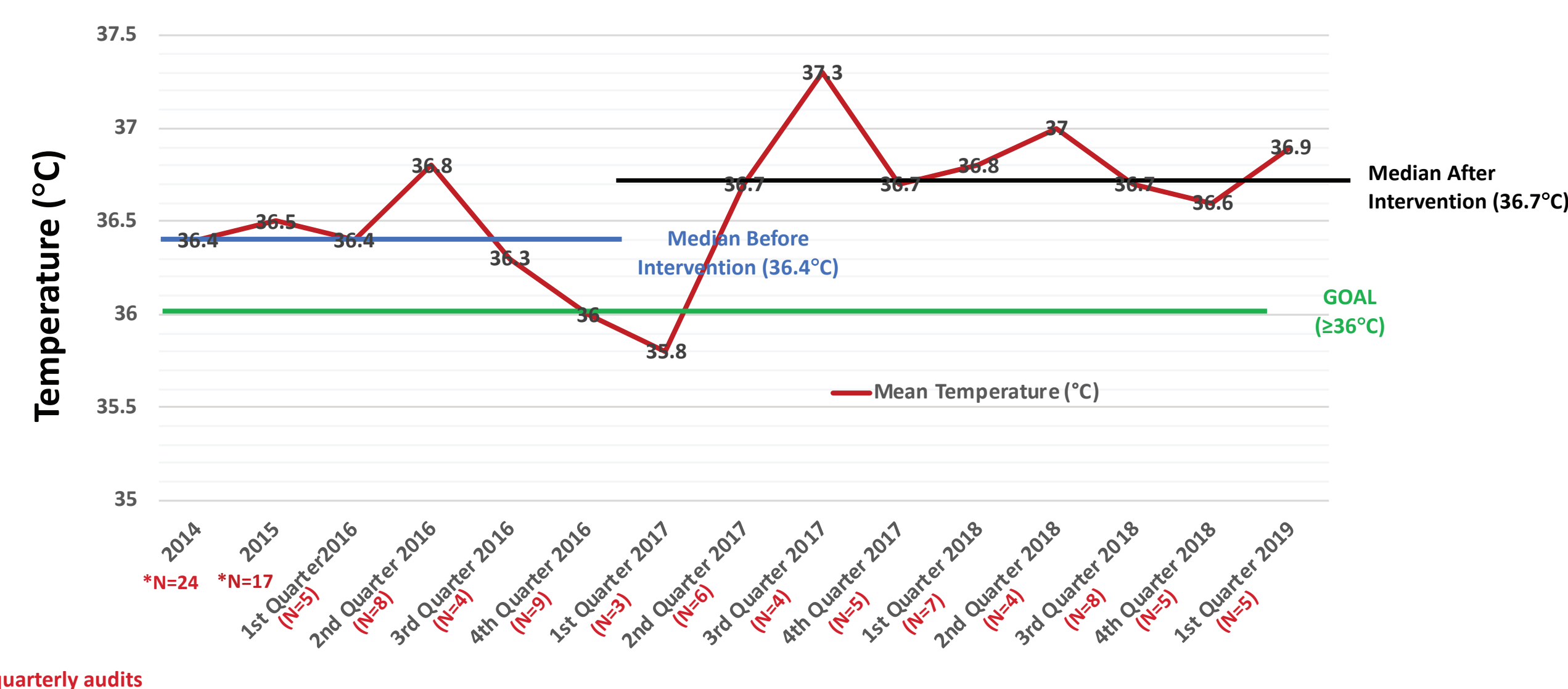


Figure 1

Results

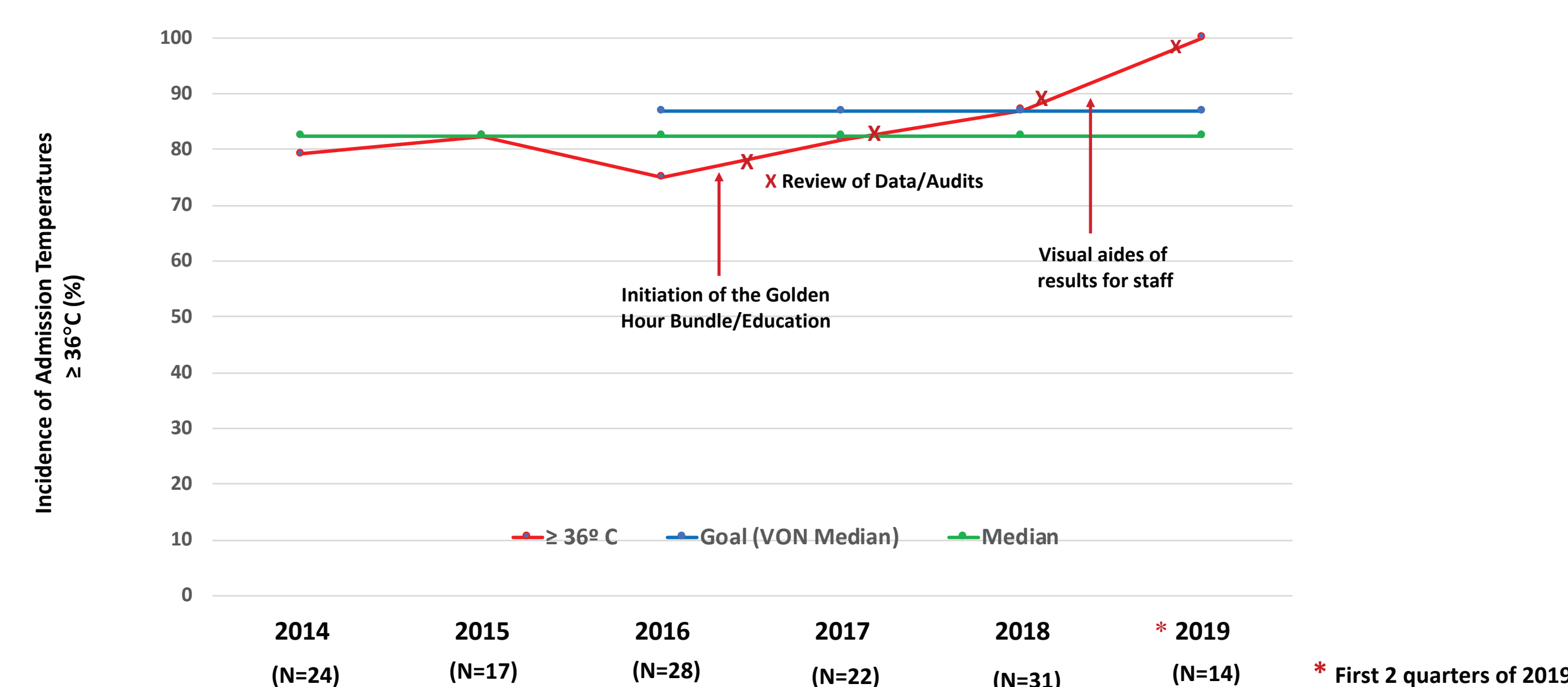
Run Chart of Quarterly Mean Admission Temperature (°C) Audits for Infants <28 Weeks Gestation



Graph 1

Run Chart of the Percentage of Infants < 28 with Admission Temperatures > 36°C at ULH NICU

SMART AIM: Increase the % of infants < 28 weeks with admission temperatures ≥ 36°C from a baseline of 79% to > the VON average of 86%



Timing of Interventions in Relation to Incidence of Admission Temperatures ≥36°C

Graph 2

Results

After the initiation of our Golden Hour Bundle in 2016, the percentage of infants less than 28 weeks gestation with admission temperatures ≥36°C increased from a baseline of 79% to greater than 90% in 2018 and 100% for the first quarter of 2019. The average admission temperature increased from a median of 36.4°C to 36.7°C with a decrease in variation.

Discussion

Revision of infant admission processes, education of staff specifically on detrimental effects of hypothermia and the fostering of communication with staff regarding our progress on improving admission temperature of very low birthweight infants in our NICU have resulted in a significant overall improvement in admission temperatures.

Future Direction:

- Further PDSA cycles to address barriers to performing Golden Hour
- Focus on goal of improved compliance with target admission temperatures
- Continue to investigate best practices for improving admission temperatures for all infants
- Monitor for improved overall outcomes as a result of improved admission temperatures
- Enhance staff education of the detrimental effects of hypothermia in very low birthweight infants