

Optimizing Neurodevelopment for Infants with BPD



**Manning Family
Children's**
LCMC Health

Manning Family Children's

New name. A bold new chapter for kids!



Manning Family
Children's LCMC Health

Two legacies
of excellence.

One brighter future for our kids.



New Orleans,
LA

Academic
Partnerships:
LSUHSC and
Tulane

Level IV
Regional NICU

35 Critical Care
Beds

All Out-Born
Infants

24/7 Transport
Team

SNOOZE to Protect Little Lungs and Boost Early Brain Development



Project Title:

Protecting Neurodevelopment in Babies with Bronchopulmonary Dysplasia (BPD) using the SNOOZE Protocol To Reduce Sleep Disruption

Improvement Team

RNs

Fellow

Neo

Admin

Family

OT

ST

PT

Patient Safety

NNP

RT

Pulmonology



Pictured: Members of the VON team including staff members and family partner at the SNOOZE launch pajama party

Team Acknowledgment

Family Partner

- Bree Anderson

Nursing Champions/ Educators

- Mary Marrero RN, Brooke Tompkins RN, Kim Fisher RN, Monique King RN

Neonatologists/Fellow

- Julie Gallois MD, Michelle Knecht MD, Raegan Gupta MD / Michael Evers, MD

VON Coordinator/ Patient Safety

- Lauren Richard RN, David Sciacca, Kathleen Vincent RN

NNP

- Emily Turner APRN

Therapists

- Dayna Croal PT, Emily Maldonado ST, Theresa Mensi OT, Tosha Owens RT

BPD Team

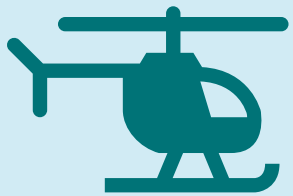
- Anne Martin MD, Jeff Surcouf MD, Mary Johnson MD, Leah Nuss MD

Administration

- Christy Mumphrey MD, Jacqueline Schnapp RN, Lisl Antee, RN



Things You Might Not Know About Us:



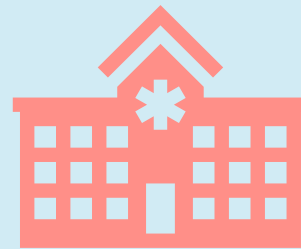
In 2024: 292 babies from 31 hospitals were transferred to our NICU



Our family partner, Bree Anderson, founded A'sani Heartbeat Foundation-supporting reproductive justice



To celebrate the 2024 New Orleans stop on the Taylor Swift Eras Tour, our NICU babies dressed up in themed costumes



We are building a new 60 bed NICU, opening in 2026



Rationale



Our Nightingale data showed that our BPD rates are higher than other centers, reflecting our role as a referral center for high-risk infants



Sleep is vital for neurodevelopment in preterm infants, especially those with BPD, who are at risk for developmental delays



The noisy, bright, and busy NICU environment disrupts infant sleep. Our practice gap assessment identified this as a key area needing targeted interventions to reduce these impacts and improve developmental outcomes



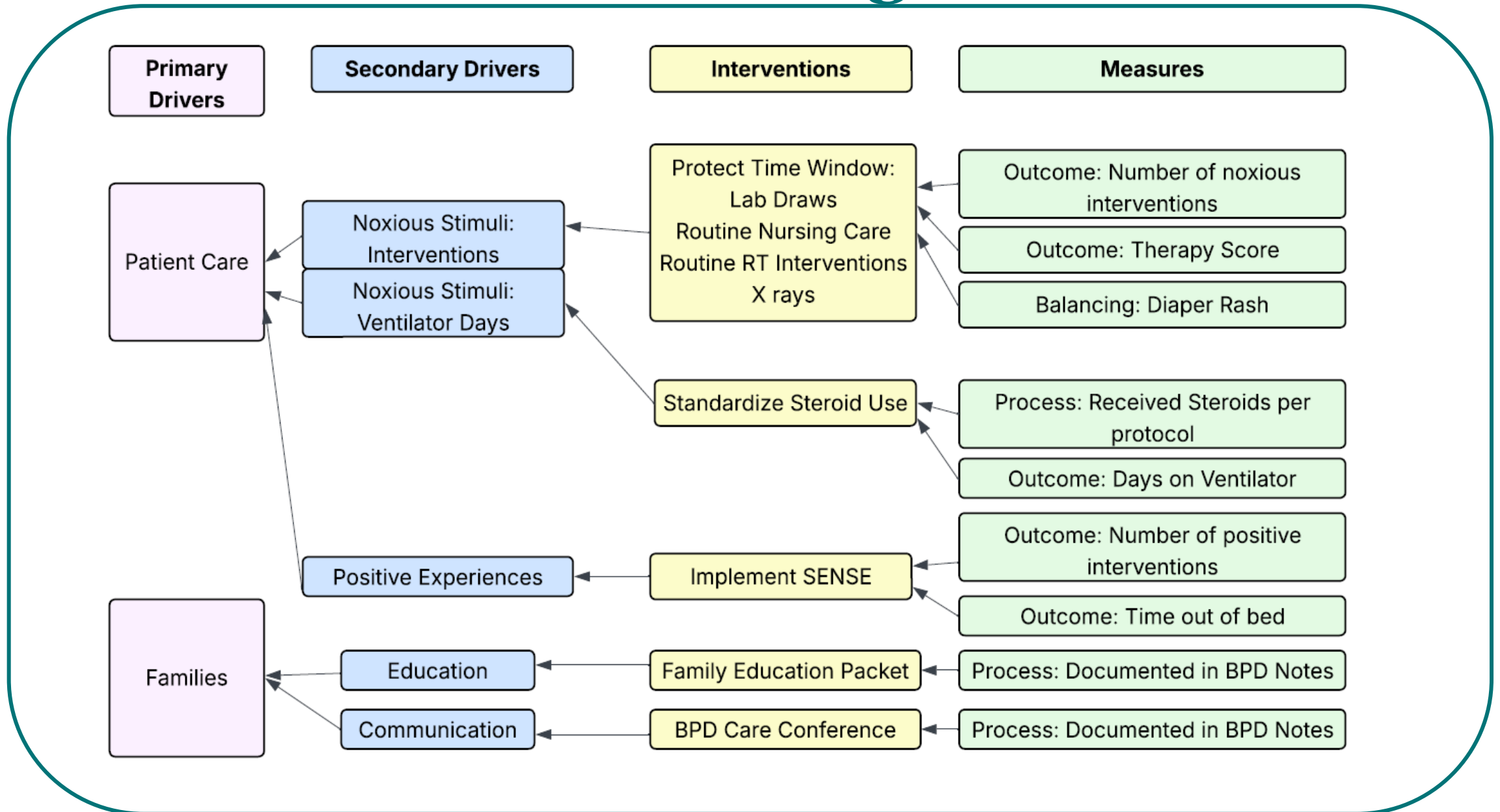
Sleep protection aligns with family-centered and developmentally supportive NICU practices



Better infant sleep reduces infant irritability, easing parental stress, and promoting family bonding



Driver Diagram



Hierarchy of Aims

By Dec 2025 We
Aim to optimize
NDC for babies
with BPD

Project SMART Aim

Decrease noxious stimuli events during protected sleep window by 30% in babies with BPD within a 6-month period

Sub / Improvement Project Aim 1

90% of staff educated on
SNOOZE protocol in 1
month

Sub / Improvement Project Aim 2

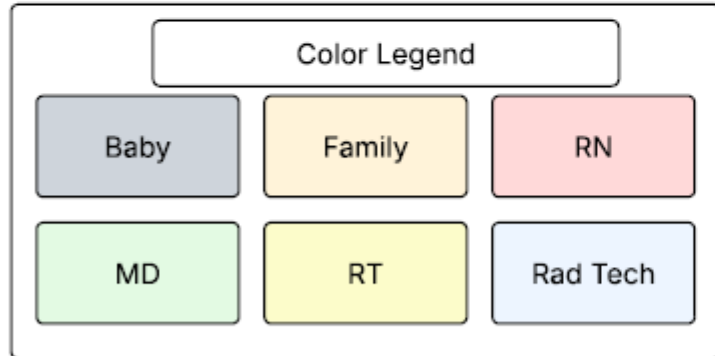
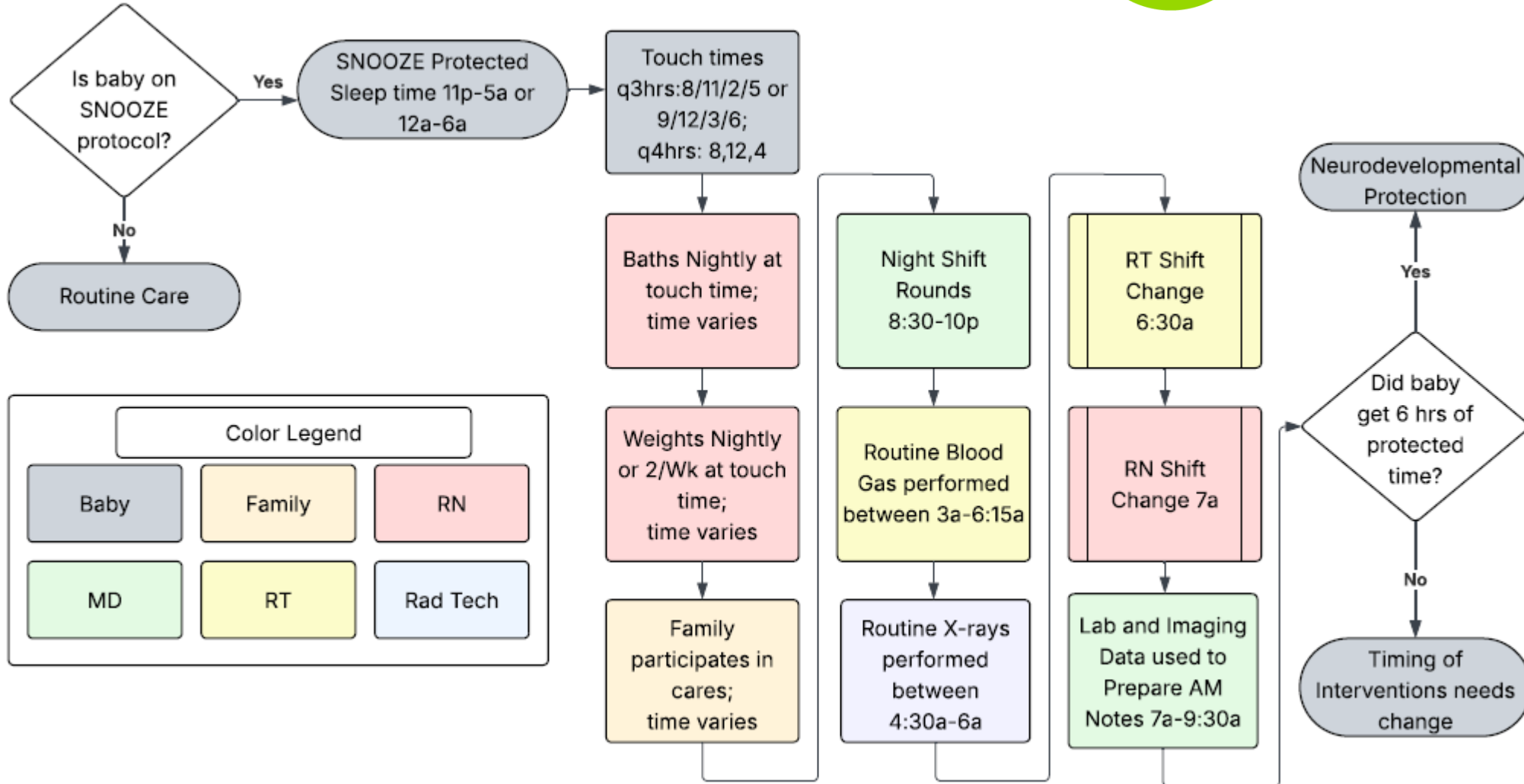
Increase Participation in
Therapy Scores by 20% in
6 months

Sub / Improvement Project Aim 3

30% of participating
families report their
experiences of the
SNOOZE protocol within 3
months of initiation



Process Map



Project Intervention



- S Sleep Protection
- N NICU Babies with BPD
- O Optimal Environment
- O Overcoming Disruptions
- Z Zero Unnecessary Interventions
- E Ensuring Developmental Support

Tests of Change

PDSA Cycle 1:

Baseline Data Collection, Stakeholders Engaged

- Learned the most frequent interventions that occurred at night
- Identified broader key stakeholders than initially expected
- Focused on the most common interventions

PDSA Cycle 2:

Determine Process of Identification/ EHR Implementations (Flag, Order Set)

- Collaboration with BPD team to identify in bi-weekly rounds
- Nurses preferred the order set for communication, FYI flag cumbersome
- Order set streamlined workflow

PDSA Cycle 3:

Staff Education

- Uncovered additional interventions and concerns about touch times
- Able to tailor education to specific interventions

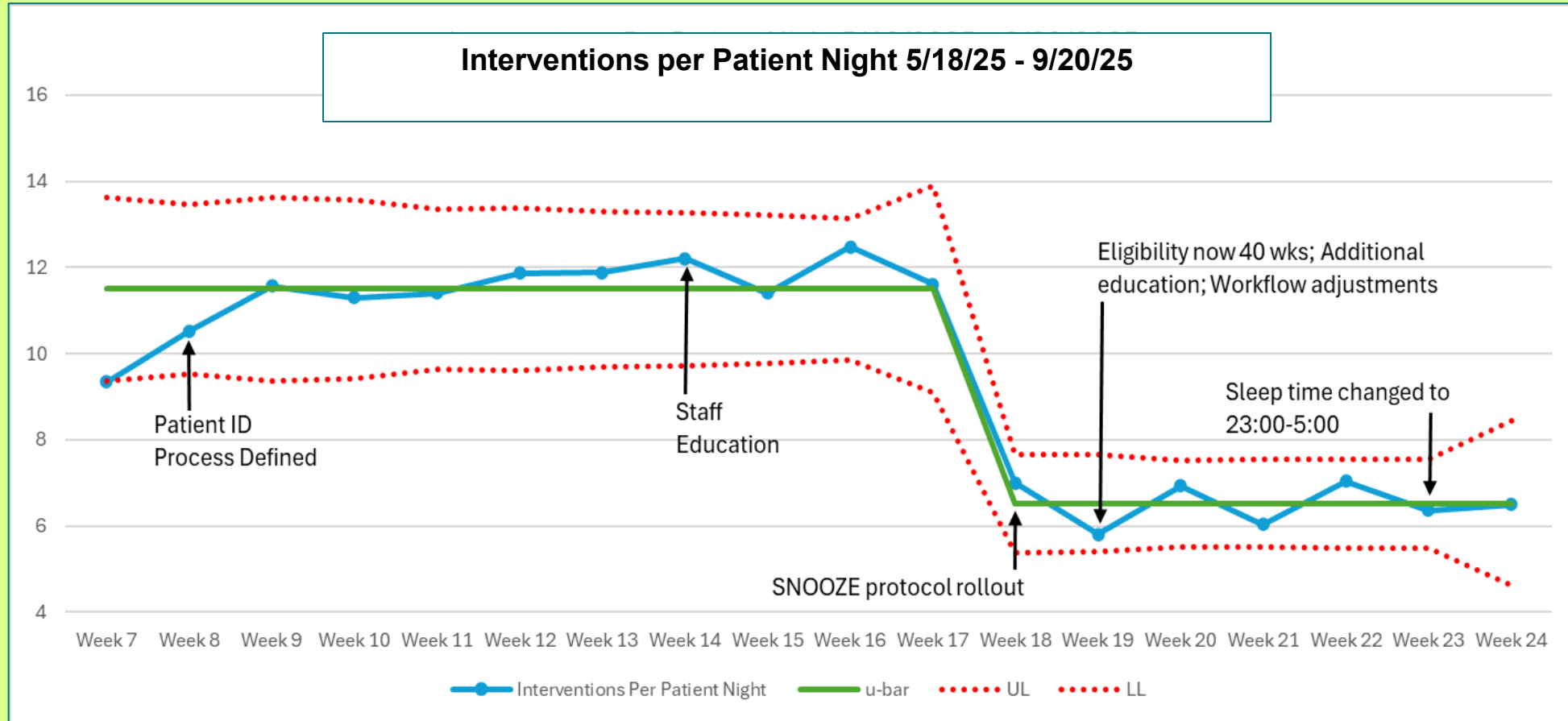
PDSA Cycle 4:

SNOOZE Launch

- Parents were excited to be included and learn about the program
- Adjusted inclusion criteria; Modified preferred 6-hour block of time



Results



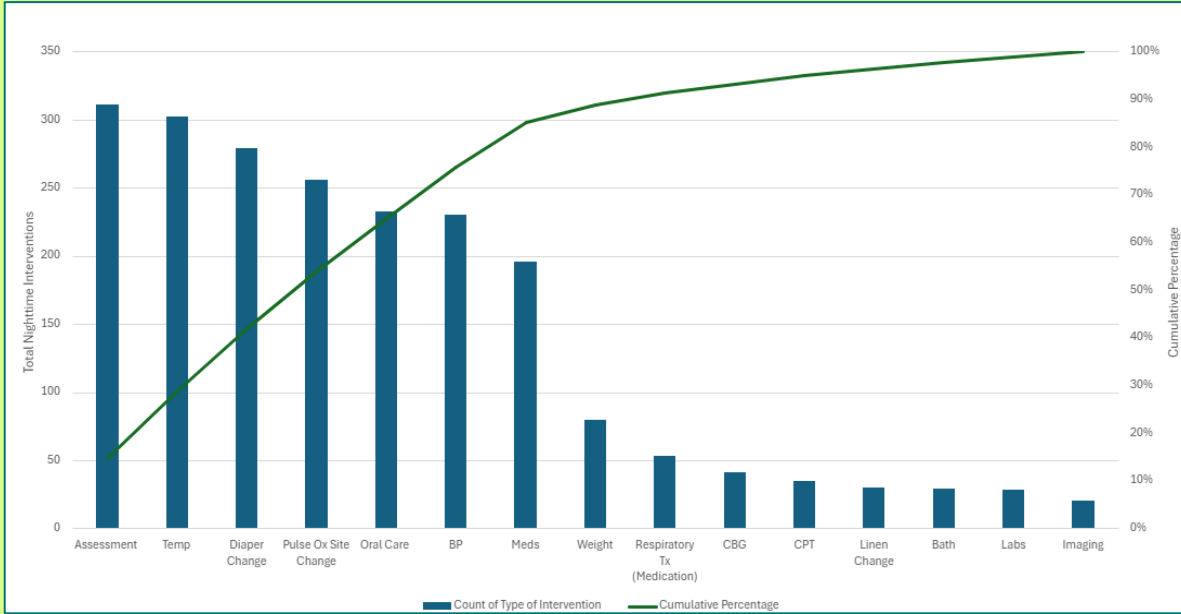
Control Chart:

Interventions per Patient Night decreased approximately 50% within 1 week of project launch, exceeding our AIM, and have remained stable for nearly two months

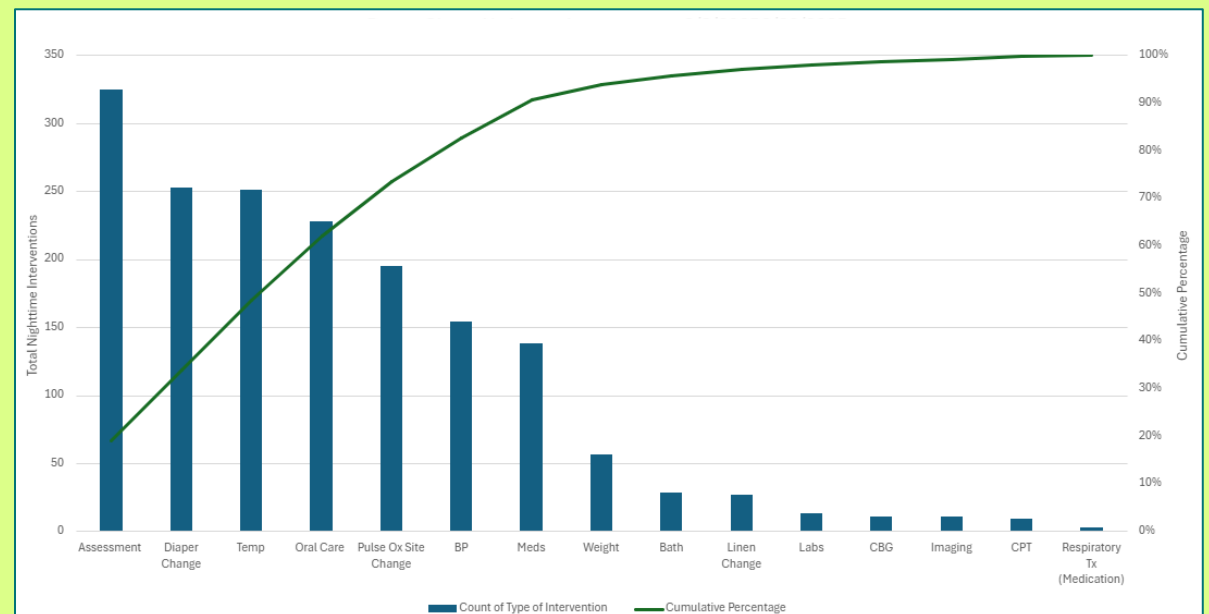
PDSA cycles are identified above with brief titles

Results

Pareto Chart – Nighttime Interventions: 5/18/25 – 8/2/25



Pareto Chart – Nighttime Interventions: 8/3/25 - 9/20/25



Pareto Chart, Prior to Project Launch:

Top 3 nighttime interventions before project launch included assessments, temperature, and diaper changes.

Pareto Chart, After Project Launch:

The top three nighttime interventions after the project launch remained assessment, diaper change, and temperature though in a different order and with an overall decrease in frequency.

Key Lessons Learned



Engaging key stakeholders, including night team nurses, from the onset was critical to the project's success



Collaborating with the BPD and developmental therapy teams allowed for effective sharing of expertise and resources



Involving family partners was essential to ensure meaningful and relevant project implementation



Optimizing EHR tools improved communication, documentation clarity, and overall coordination

Surprises and challenges



Protected time sometimes conflicted with infant, family, or care team schedules so flexibility was key



Rollout unintentionally overlapped with Infant-Driven feeding launch during a record high census



Inclusion age shifted from 36 to 40 weeks corrected age to accommodate medical fragility



Diaper dermatitis and hygiene concerns led to tracking as balancing measures

We Would Appreciate Your Help With:



Identifying additional clinical outcome measures



Incorporating more family-driven data



Exploring sustainable strategies for long-term success