

# Managing the RT/RN in the Pediatric and Neonatal Arena: Quality patient care is always the goal

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# Partnering to Create Successes

- Rapid Response Teams
    - Family call out
  - VAPS
    - Following protocols
  - Code Teams
    - Tied to designated team
  - Hand Hygiene
    - RT/RN high compliance
  - Asthma Action Plans
- 

# Teams




Building your own?

Re-energizing your team?



# The team

- How do you create it?
  - Is it your culture?
  - Who is the official leader?
  - Who is your unofficial leader?
  - Who are the nay sayers?
- 

Our Goal is  
always

QUALITY



# Quality

- Everyone has to understand the processes
- Everyone has to understand your customers
  - Internal
  - External
    - Only the customer can determine what quality is, only they can tell you what they want.



# Partnering at the Bedside

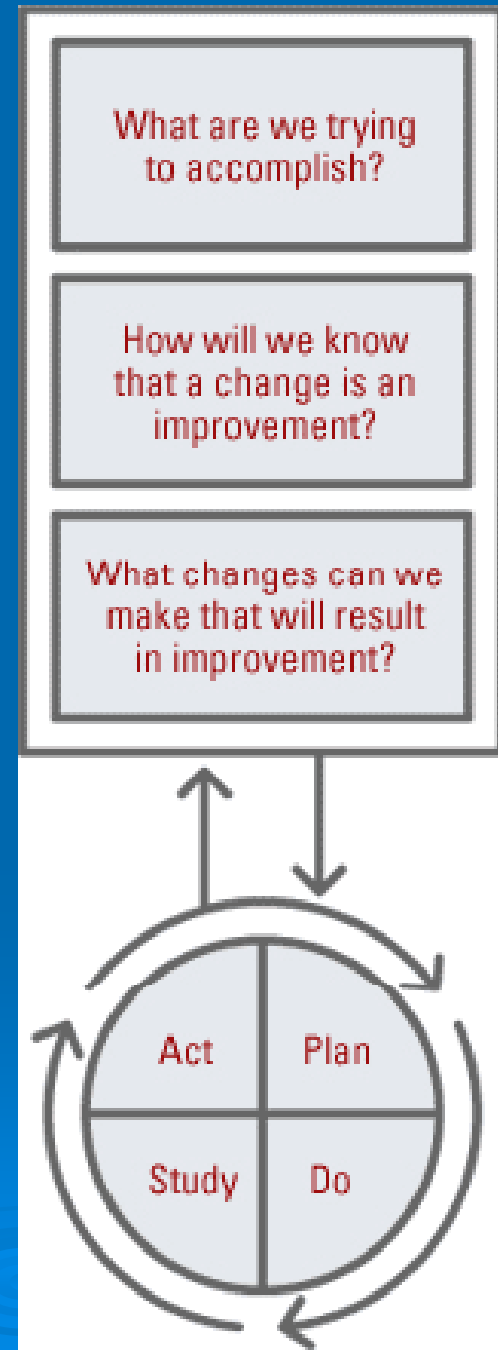


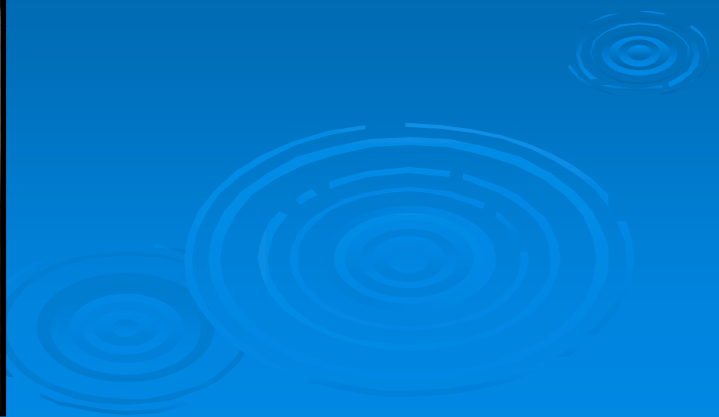
# Small Tests of Change



# Bedside Safety: Starting Small

- Outdated process for having emergency equipment at the bedside
- Infection control issues
- Right size equipment for the age/size
- Consistent process for restock
- Team approach





# The Next Step: Bigger Project



# Pediatric Early Warning Score

PEWS- An objective assessment tool used to assist in detecting children at risk of deterioration


Monaghan, A. (2005)



# Triggers for Pediatric Rapid Response are less clearly defined....

- Most are respiratory in etiology
- Pediatric patients are more able to maintain vital signs until just before decompensation
- Pediatric mental status may be more difficult to assess

# Chart Review

- A chart review was completed on all patients who had been transferred from the Pediatric Unit to the PICU from January through November of 2009
  - There were 81 transfers
  - 13 patients were identified that could have been transferred in a more expedient manner
- 

# Review of the Literature

- What type of tool would best help us to identify patients at risk?
- Simple, accurate, and easy to use
- Needed to work with our EMR
- Peer reviewed and trialed at a pediatric hospital

# Goals for improving quality pediatric care

- Improve communication and teamwork between nurses, respiratory therapists, and the physicians
- Ensure a smoother, quicker transition to the PICU when needed
- Decrease emergent situations and rapid response calls on the Pediatric floor
- Empower nurses and respiratory therapists with an algorithm so they can respond appropriately when a patient is deteriorating from their previous status

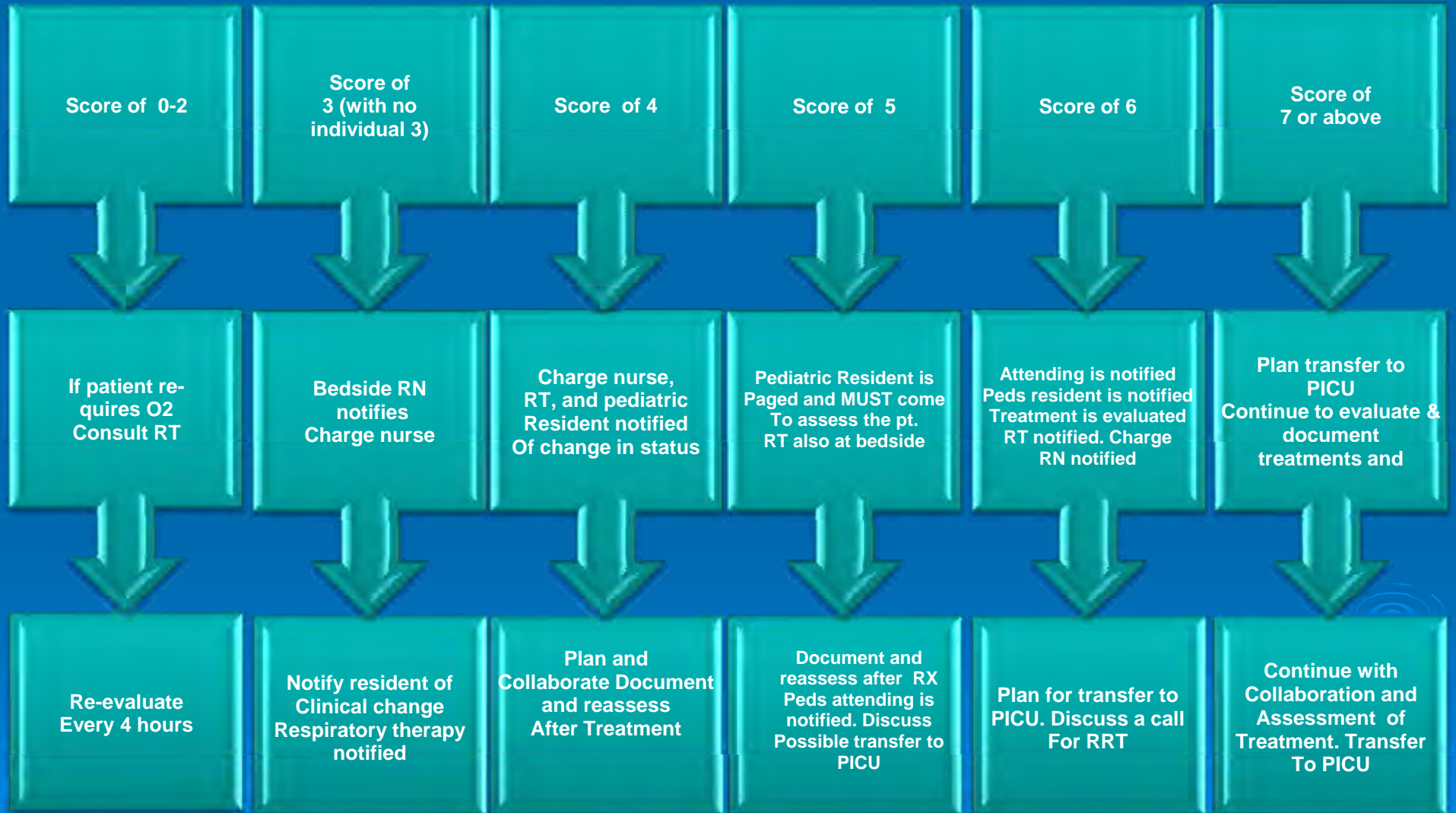
	0	1	2	3
BEHAVIOR	Playing Alert Appropriate for Baseline	Sleeping Fussy, but consolable	Irritable Inconsolable	Lethargic Confused Reduced response to pain
CARDIO- VASCULAR	Pink Capillary Refill 1-2 Seconds	Pale Capillary Refill 3 seconds	Grey Capillary Refill 4 seconds Tachycardia, 20 above normal rate	Grey Mottled Cap refill 5 seconds or above Tachy, 30 above normal rate or brady
RESPIRATORY	Within normal Parameters No Retractions	> 10 above normal parameters Use of access. Muscles 3+ liters/min	> 20 above Normal parameters Retractions 6+ liters/min Trach/vent dependent	Below normal parameters with retractions Grunting 8+ liters/min

# Action Algorithm

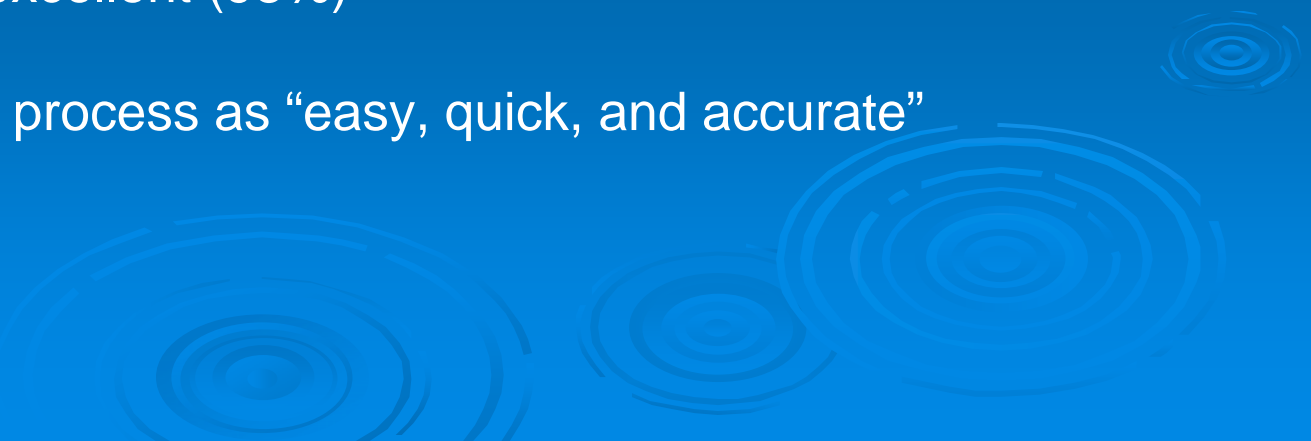
- After nurses calculate the PEWS score they use the “action algorithm” to determine the need for further assessment and /or immediate intervention
- The algorithm specifies the minimum required actions. Based on their clinical judgment, any individual can call for a rapid response team at any time regardless of the PEW score
- A simplified version of the minimum actions specified by the algorithm follows:



General Care patient admitted or received in transfer. Patient assessed every 4 hours. PEWs score assigned



# PEWS Implementation

- Mandatory training for nursing staff
  - Collaboration with Respiratory Therapy
  - Pediatric Residents, PICU nurses, and Outpatient Peds Nurses were in-serviced
  - Trialed process for three months using a paper scoring sheet
  - Quality and Compliance Audit done after three months showed compliance was excellent (98%)
  - Staff reported the process as “easy, quick, and accurate”
- 

# Ongoing Quality Review

- We will be auditing the trends to make sure our patients that are being transferred appropriately
- Our goal is to have data showing a decrease rapid response calls on the floor
- Partnering quarterly with our Pediatric ICU and Inpatient Staff to review all the unplanned transfers to the PICU.

# The Bigger Step: More Complex





# Areas Needing Improvement

- Saturation limits frequently over 95%
- “Chasing” O<sub>2</sub> on infant’s
- Wide range of Oxygen % per shift. i.e. infant could be on 21% - 80% in one shift.
- No systematic way to handle desat spells

# Multidisciplinary Task Force

- RT's
- RN's
- NNP's
- Physicians

# Development of Protocol

- Plan
- Algorithm
- Policy
- Teaching Plan
- Tracking Tool



# Hurdles

- Turf War
- Validation
- Non Compliance
- Communication



**University of Kansas Hospital-KUMED  
Division of Neonatology**

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**OXYGEN SATURATION LIMITS**

Spontaneous Desaturation:  
(SpO2 < 85%)

Saturation Consistently  
Below Threshold With  
Suction or Procedure

*Changes to be made by the RT if present. If no RT, changes to be made by any competency validated RN*

**GOAL: MAINTAIN SpO2  
BETWEEN 85-95%**

Evaluate Patient  
& Monitor \*\*

**1) INCREASE VENTILATOR  
RATE 5-10 bpm \***  
(Communicate with RT if not present)

Prophylactic  
Intervention

\*\*  
Pulse Wave OK?  
Motion Artifact?  
HR/RR Adequate?  
Patient Intubated?  
BS=Bilaterally?  
How Low is SpO2?  
How long?

No Improvement  
after 2-5 Minutes?

**2) INCREASE PEEP 1 cmH2O \***  
(Page RT-911 if not present)

No Improvement  
after 2-5 Minutes?

**3) INCREASE OXYGEN  
PERCENTAGE 5-10% \***  
(above baseline)

No Improvement  
after 2-5 Minutes?

**4) NOTIFY PHYSICIAN/NNP \***

Improvement?

**Evaluate ~ 10  
minutes:**  
ABLE TO RETURN TO  
BASELINE SETTINGS?

YES

NO

**RETURN TO BASELINE  
SETTINGS IN THIS ORDER: \***  
1) OXYGEN PERCENTAGE  
2) PEEP  
3) VENTILATOR RATE

**\* DOCUMENT EVENTS AND  
SEQUENCE OF CHANGES  
IN THE ELECTRONIC  
MEDICAL RECORD**







RN using the Oxygen Algorithm to change vent setting to maintain optimal O<sub>2</sub> Saturations of infant.

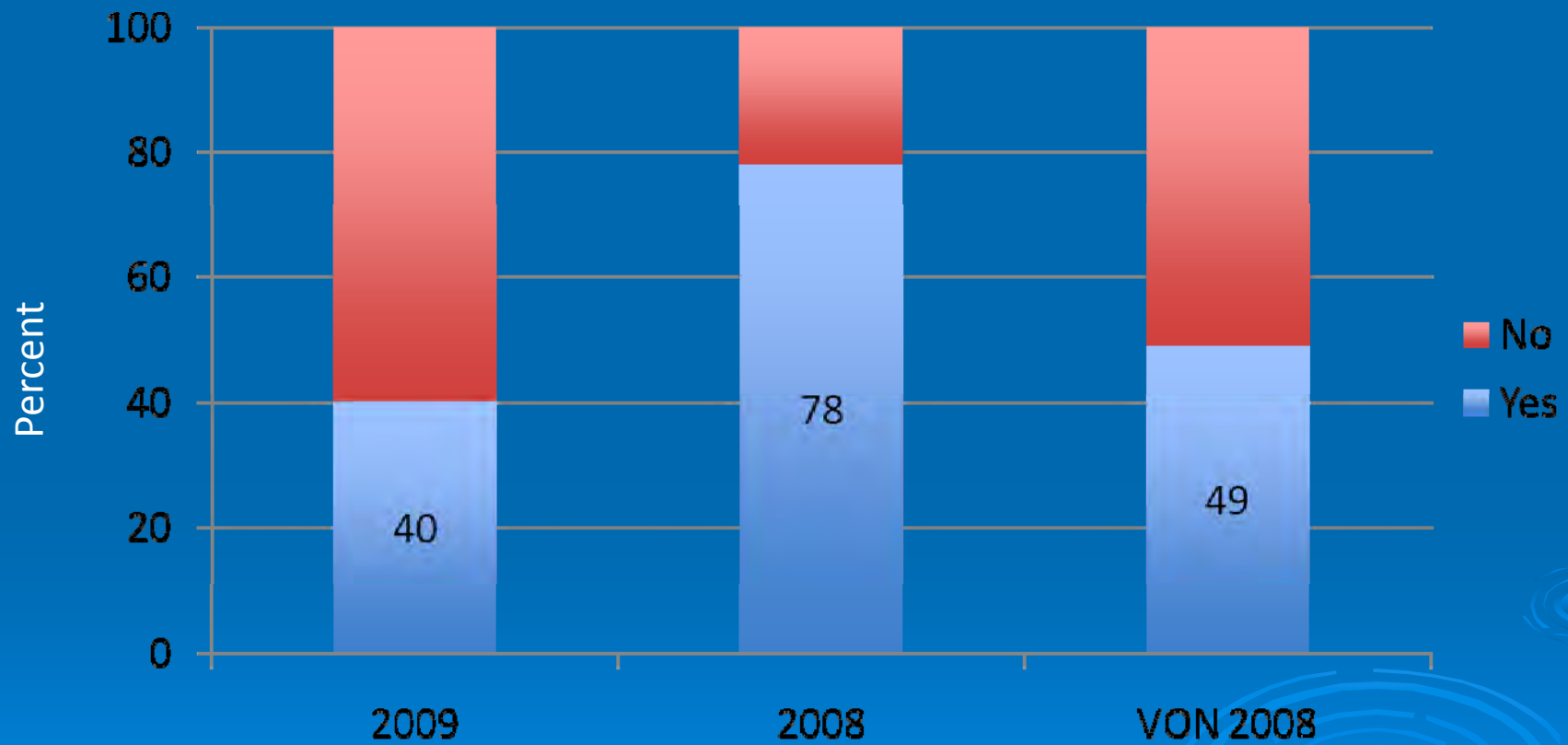
# Where We Are Today



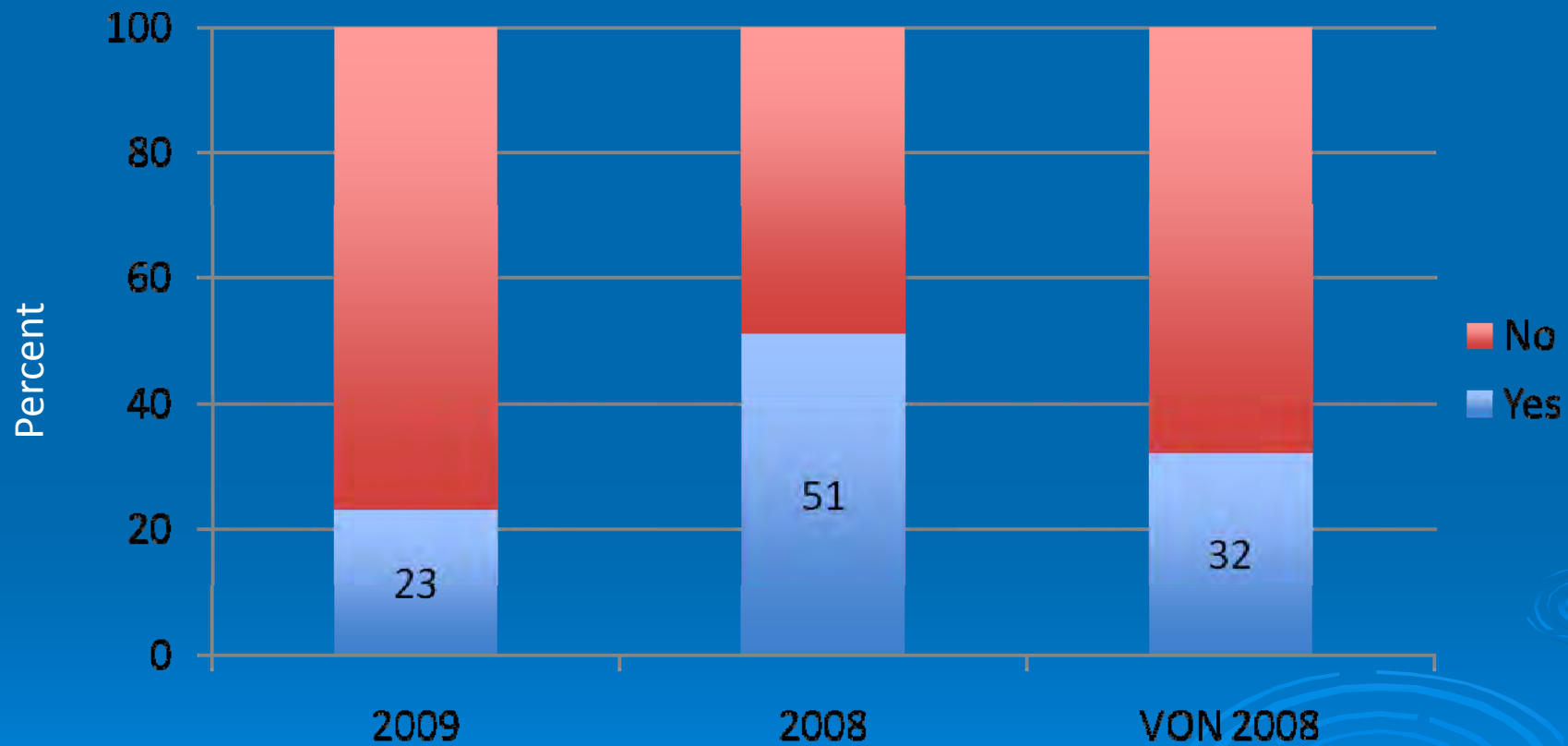
24 Weeks 1lb 4oz



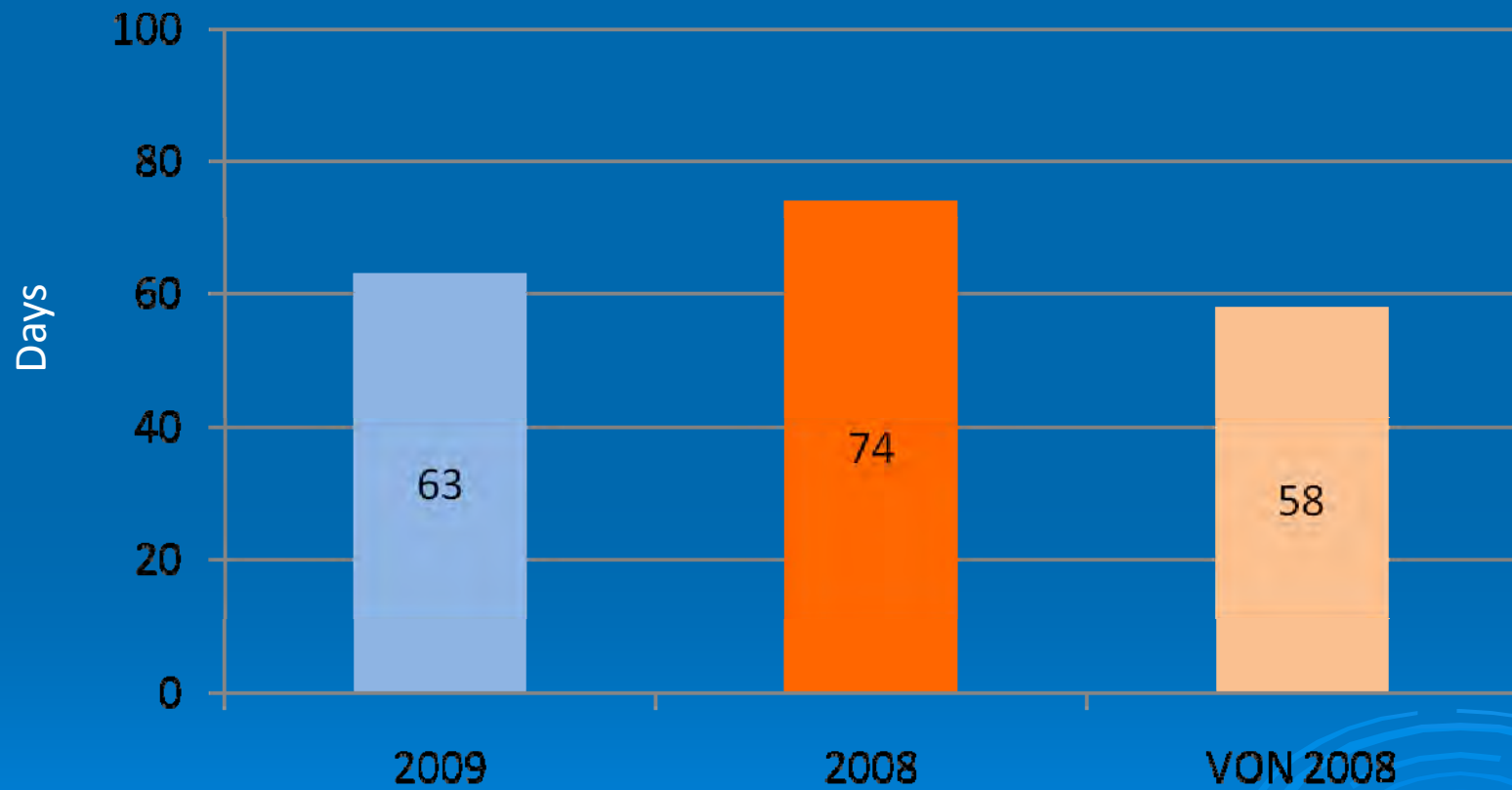
# Oxygen Supplementation at 28d



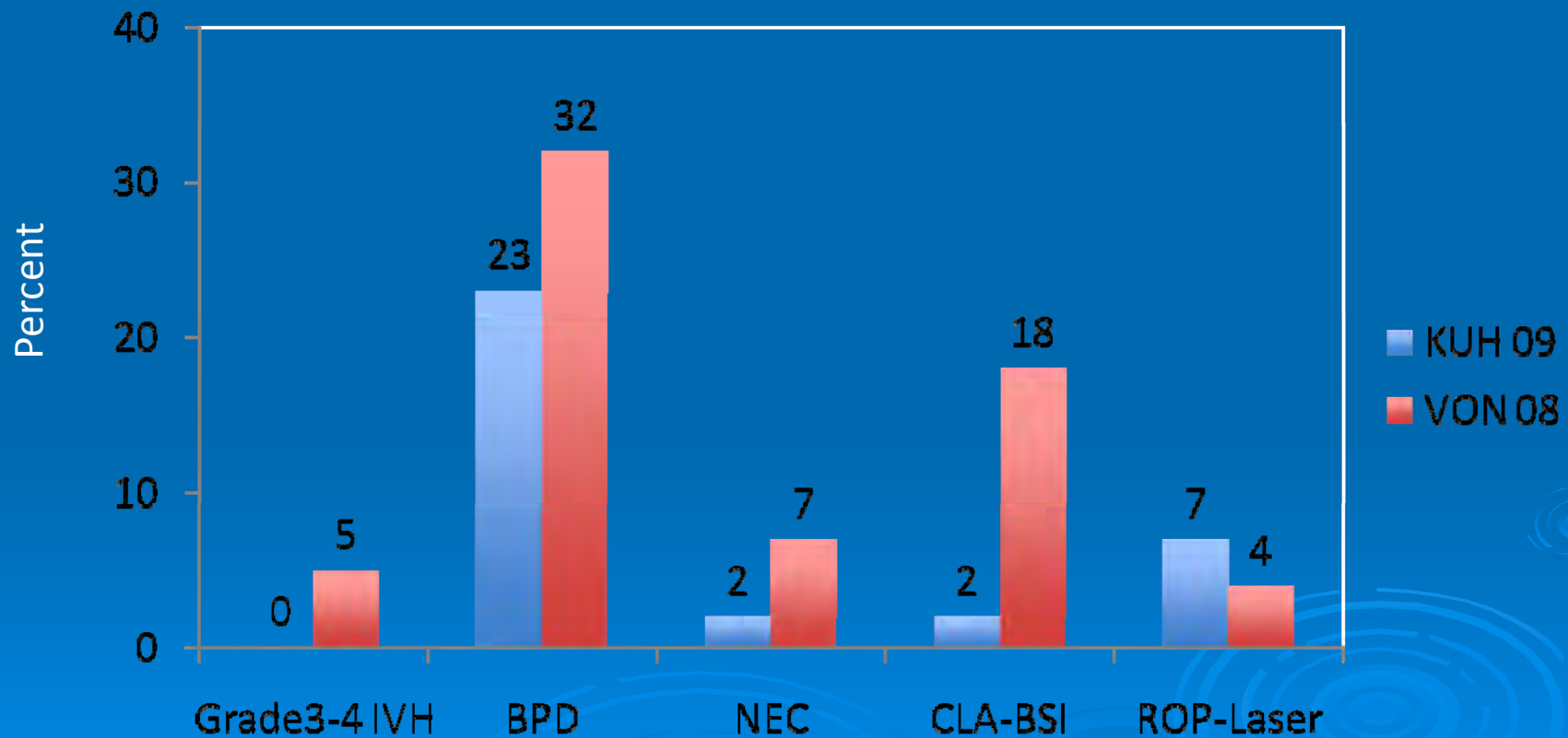
# Incidence of Bronchopulmonary Dysplasia



# Median Length of Stay



# Core Performance Measures in Very-Low Birth Weight Infants (<1500g)









Partnering  
for Success!



# Road blocks

- Turf war
- Documentation
- Ownership
- Ongoing training



# Next steps

- Planning for ongoing training
- Bedside therapist in Quality forums
- Communication
- Patient Centered goals

# Thank you!



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