

Dr Brown's<sup>®</sup>  
Medical ™



## Just OK is **NOT** OK when the Safety and Quality of Feeding are Compromised

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# Disclosures:

Lisa is a salaried employee with Dr. Brown's Medical as Director of Education. No nonfinancial disclosures.

Kelly receives a stipend from Dr. Brown's Medical for this presentation. No nonfinancial disclosures.

# Objectives



Predict at least (2) reasons for reduced safety and quality of oral feedings in the neonatal unit.

Explain at least one evidence-based finding that describes variables in oral feeding that can lead to unsafe feedings.

Relate at least (2) interventions to improve safety and quality of feedings in the neonatal unit.

# SAFETY

# QUALITY





<https://www.youtube.com/watch?v=zOd7-KFNhyE>



<https://www.youtube.com/watch?v=3y3Ze4A8r3I>







# How Did We Get Here?

**History and  
Past  
Knowledge**

**Volume-  
Driven  
Culture**

**Inconsistent  
Products  
and  
Practices**

# Feeding practices VARY



# Products VARY

| NIPPLES                     | MILK FLOW RATE (mL/min) | COEFFICIENT OF VARIATION |
|-----------------------------|-------------------------|--------------------------|
| Enfamil® Extra Slow Flow    | 8.96                    | <b>0.24</b>              |
| Enfamil® Slow Flow          | 13.24                   | 0.17                     |
| Enfamil® Standard           | 19.14                   | 0.09                     |
| Similac® Slow Flow          | 8.04                    | <b>0.21</b>              |
| Similac® Infant Standard    | 18.49                   | 0.21                     |
| Similac® Premature          | 19.17                   | 0.19                     |
| Dr. Brown's® Ultra-Preemie™ | 4.92                    | <b>0.10</b>              |
| Dr. Brown's® Preemie Flow™  | 7.22                    | <b>0.14</b>              |
| Dr. Brown's® Level T        | 9.93                    | <b>0.06</b>              |
| Dr. Brown's® Level 1        | 13.31                   | <b>0.08</b>              |

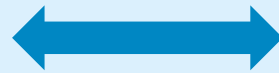
(Pados, 2020;2021)

# SAFETY?

Disposable single use Slow Flow



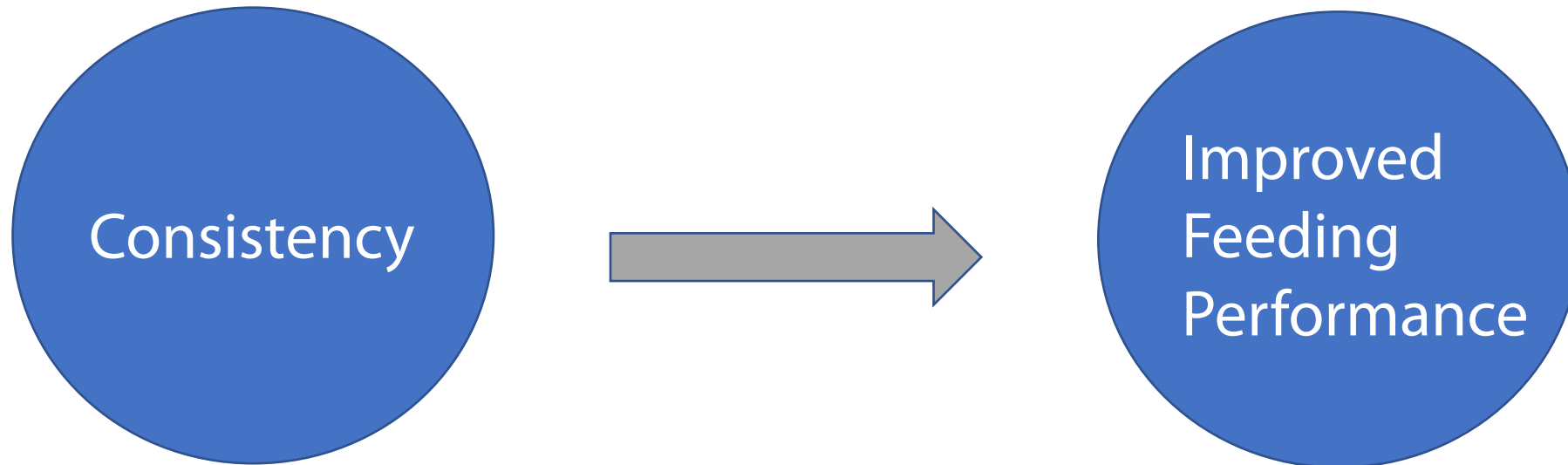
9.93



17.39

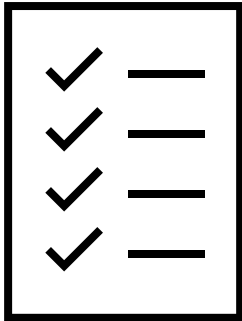
ml/min

# According to NANN.....



NANN, 2013

# Consistency MATTERS



**Competency 1.3: Consistency** of feeding practices among staff who feed an infant shall be promoted, monitored and verified.

(IFCDC, 2023)

# SAFETY?

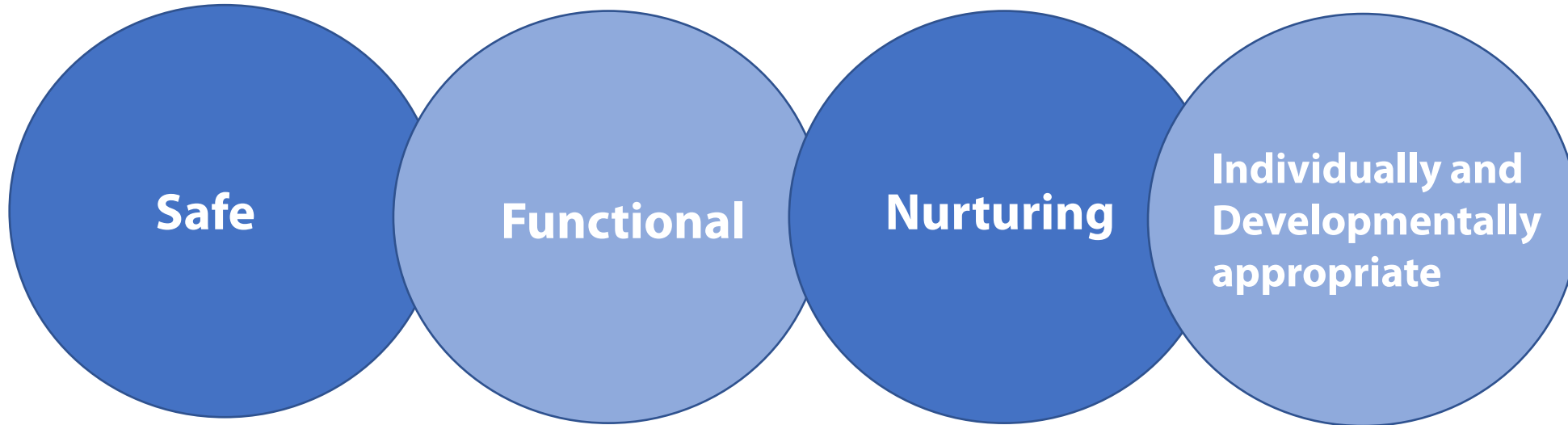




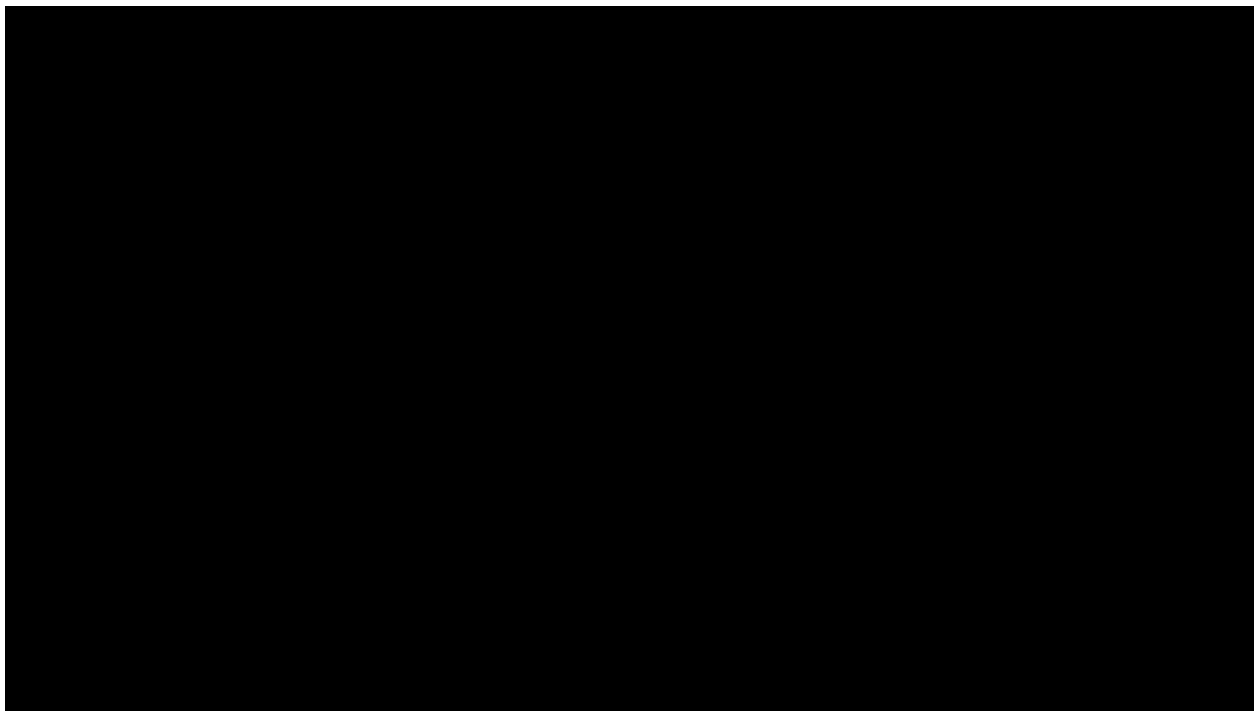


'degree to which an object or entity satisfies a specific set of attributes'

# *(Attributes) Goals of Oral Feeding*



40-70%



# Tips for Improving Safety and Quality

1. Choose your equipment carefully



# Tips for Improving Safety and Quality

2. Provide consistent education

87 %



# Tips for Improving Safety and Quality

3. Make safety and quality a **priority** and not a choice



# Tips for Improving Safety and Quality

4. Measure it



Numerous quality improvement initiatives have been developed in the NICU setting. Some of these topics are as follows:

- Pain assessment
- Reduction of central line–associated blood-stream infections (CLABSIs)
- Prevention of sepsis
- Prevention of necrotizing enterocolitis (NEC)
- Hand hygiene
- Mother–infant interactions
- Human milk nutrition
- Prevention of unplanned extubations
- Management of bronchopulmonary dysplasia (BPD)
- Prevention and management of hypothermia
- Magnetic resonance imaging without sedation
- Use of music therapy<sup>3</sup>



(Harris-Haman, 2023)



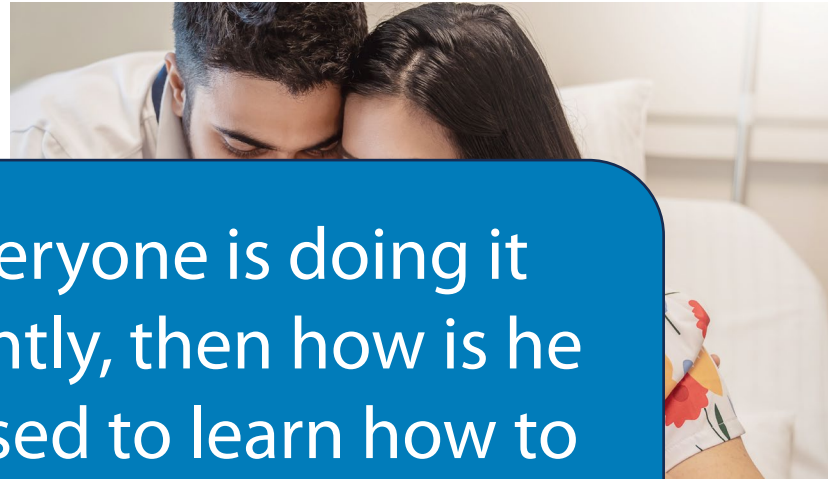


- √ Increase number of infants fed according to cues
- √ Increase first feedings at breast
- √ Improve quality scores
- √ Reduce stress cues; events

# Tips for Improving Safety and Quality

5. Listen to parents

“If everyone is doing it differently, then how is he supposed to learn how to do that?”



Evidence-Based Feeding Products



Supportive Feeding Culture



feeding  
*together*<sup>TM</sup>



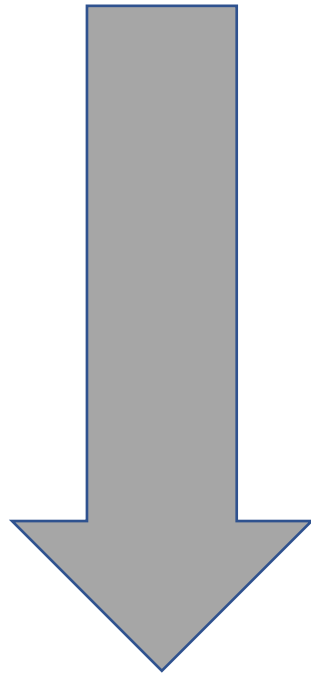
Evidence-Based Feeding Practices



Education & Support



40-70%



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# WHY IDF™?

- Immaturity of their neurological, gastrointestinal, and cardio-respiratory functions (Kenner, Altimier, & Boykova, 2019)
  - For preterm infants, oral feeding is a skill that is at high risk for poorly developing.
    - Experience the inability to coordinate sucking, swallowing, and breathing
- Timing the transition is key to avoid undue stress during feedings (Fry, Marfurt, & Wengier, 2018)
  - Can cause a negative impact on brain development and feeding behaviors
    - poor coordination, oral aversions, feeding refusal, failure to thrive
- Present-day research is exhibiting that successful feeding of an infant is closely related to the caregiver's capability to understand and respond to the physiological and behavioral cues the infant displays. (Chrupcala, Edwards, & Spatz, 2015; Lubbe, 2017)

- Recognizing communication from the infant and reacting appropriately has been reported to enhance the development of preterm infants' oral skills.
- Readiness and quality scoring tools are both components of the Infant-Driven Feeding™ Program.
  - Encourages consistency between all caregivers and autonomy of the bedside caregiver
- Use of readiness scales, which examines alertness and hunger cues, provides a guide to caregivers to proceed with oral or gavage feeding methods.
- If oral feeding is provided, the quality of the feeding is scored to monitor stress and progression of the oral feedings.

# SETTING

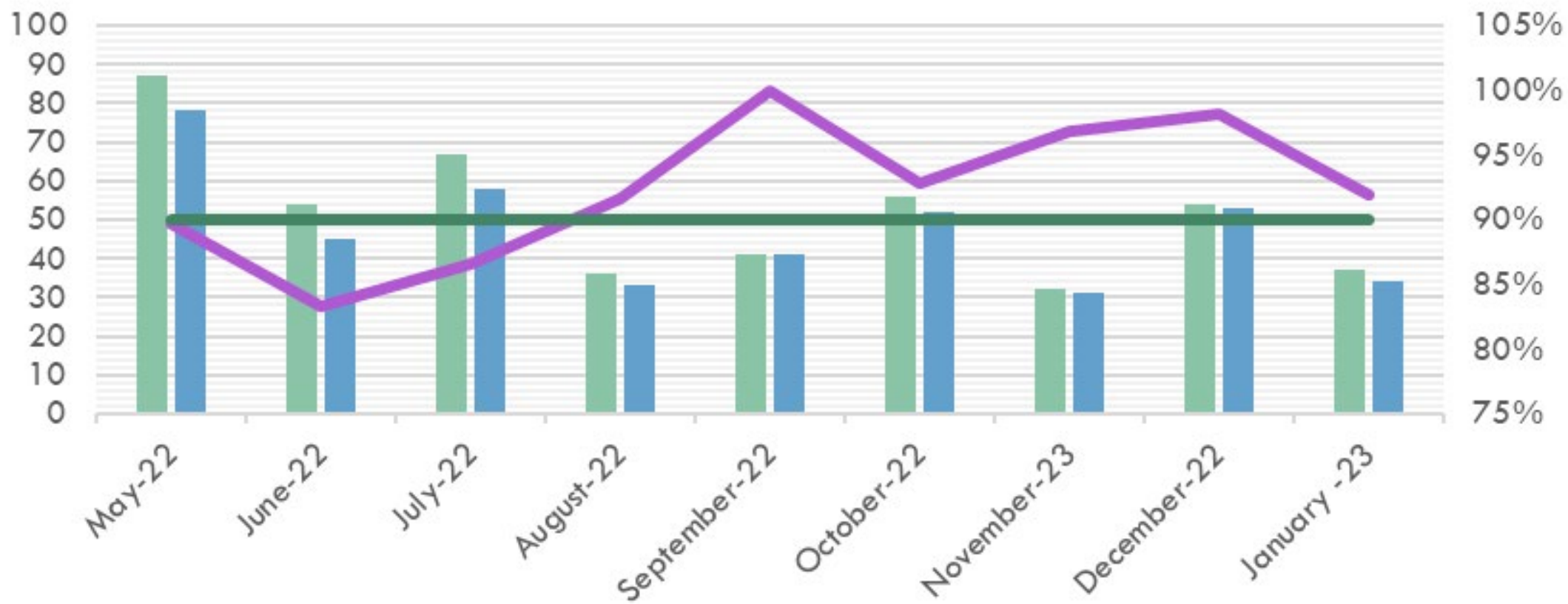
- Magnet designated hospital in a large metro city in Kentucky with 519 beds.
  - 12 bed, private room Level II NICU
    - Average daily census: 10 patients
- Population: infants 28-36.6 weeks gestation; NICU staff

# KNOWLEDGE EVALUATION

- Increase in knowledge scores from initial test to immediate post education exam.
  - Initial  $M = 66$
  - Immediate Post  $M = 91$
  - Post Implementation  $M = 86$

# Compliance with IDF™ Protocol

# of Audits Completed   # Compliant   % Compliant   Goal



# INITIAL RESULTS

## Satisfaction and Respect

### *Satisfaction with Feeding Method*

|  | Frequency | Percent |
|--|-----------|---------|
| <b>Pre-Implementation<sup>a</sup></b>  |           |         |
| Disagree                               | 7         | 15.2    |
| Neutral                                | 29        | 63      |
| Agree                                  | 10        | 21.7    |
| <b>Post-Implementation<sup>b</sup></b> |           |         |
| Neutral                                | 4         | 18.2    |
| Agree                                  | 11        | 50      |
| Strongly Agree                         | 7         | 31.8    |

a. *N* = 46

b. *N* = 22

### *Feel Respected as Member of the Healthcare Team*

|  | Frequency | Percent |
|--|-----------|---------|
| <b>Pre-Implementation<sup>a</sup></b>  |           |         |
| Strongly Disagree                      | 6         | 13      |
| Neutral                                | 1         | 2.2     |
| Agree                                  | 32        | 69.6    |
| Strongly Agree                         | 7         | 15.2    |
| <b>Post-Implementation<sup>b</sup></b> |           |         |
| Agree                                  | 13        | 59.1    |
| Strongly Agree                         | 9         | 40.9    |

a. *N* = 46

b. *N* = 22

# 18 MONTHS POST-IMPLEMENTATION

**Our feeding practices are safer and more developmentally supportive now that we have launched the IDF™ program.**

|                   |     |
|-------------------|-----|
| Strongly Disagree | 0%  |
| Disagree          | 0%  |
| Neutral           | 4%  |
| Agree             | 35% |
| Strongly Agree    | 61% |

**I feel less pressure now to have an infant finish the bottle during a feeding.**

|                   |     |
|-------------------|-----|
| Strongly Disagree | 0%  |
| Disagree          | 0%  |
| Neutral           | 13% |
| Agree             | 35% |
| Strongly Agree    | 52% |



# 18 MONTHS POST-IMPLEMENTATION

**Our feeding practices are consistent across providers.**

|                   |     |
|-------------------|-----|
| Strongly Disagree | 0%  |
| Disagree          | 9%  |
| Neutral           | 13% |
| Agree             | 52% |
| Strongly Agree    | 26% |

**I feel now that my input regarding feeding is more valued at rounds regarding infant cues and behaviors.**

|                   |     |
|-------------------|-----|
| Strongly Disagree | 0%  |
| Disagree          | 0%  |
| Neutral           | 14% |
| Agree             | 50% |
| Strongly Agree    | 36% |

# SUMMARY

- Implementation of IDF™ increased nurse satisfaction and feelings of respect!
- Knowledge of feeding premature infants amongst nurses increased from the pre-questionnaire (66%) to the initial post-questionnaire (91%).
- Nurses (96%) feel IDF™ supports a safer feeding environment and feel less pressure to empty the bottle.
- IDF™ allows for consistency amongst caregivers, improving the quality of each feeding.