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A Novel Approach to Newborn Care:

Using bubble continuous positive airway pressure to keep the birth dyad together at level I nurseries

Presenters:


Deidre Miller, MSN-Ed, RNC-NIC, C-ONQS
Lacey Miller, DNP, CNS, APRN, RNC-OB, C-EFM
Jennifer Jamieson, MSN, RNC-OB, C-ONQS, C-EFM
Michelle Hirschhorn, MSN, CNS, APRN, RNC-OB, C-ONQS

Legacy Health Systems



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Introduction to the Population

Newborn Transition to Extra-Uterine Life
A critical period affecting the newborn after birth. A complex process of physiological changes need to happen for a successful transition.

The Heart Prepares
3 major vascular pathways close as the low-pressure placental system is cut off, shifting blood flow to the lungs to be oxygenated

The Lungs Prepare
Each breath increases the lung compliance and FRC and improves the infant's ability ventilate.

Newborn Assessment



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Problem

Historically, this failure resulted in a transfer to a NICU. Each transfer negatively impacts the dyad.

<p>Cost</p> <p>Transfer and NICU admission/stay</p>	<p>Length of Stay</p> <p>Delayed discharge</p>	<p>Separation</p> <p>Decreased bonding and skin-to-skin</p>
<p>Chest/Breastfeeding</p> <p>Delay in initial feeding and decreased exclusive breastfeeding on discharge</p>	<p>Intensive interventions</p> <p>PIV placement, NG/OG Feeds, increased lab work-up</p>	

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Background

Pre-Implementation: The Therapeutic Transport

Bubble CPAP



CPAP

Increases alveoli recruitment, improves functional residual capacity and decreases the work of breathing

Mask CPAP in

~~NRB~~ 11 NRP included CPAP as a less invasive option to aid in transition and support newborns

Bubble CPAP in the

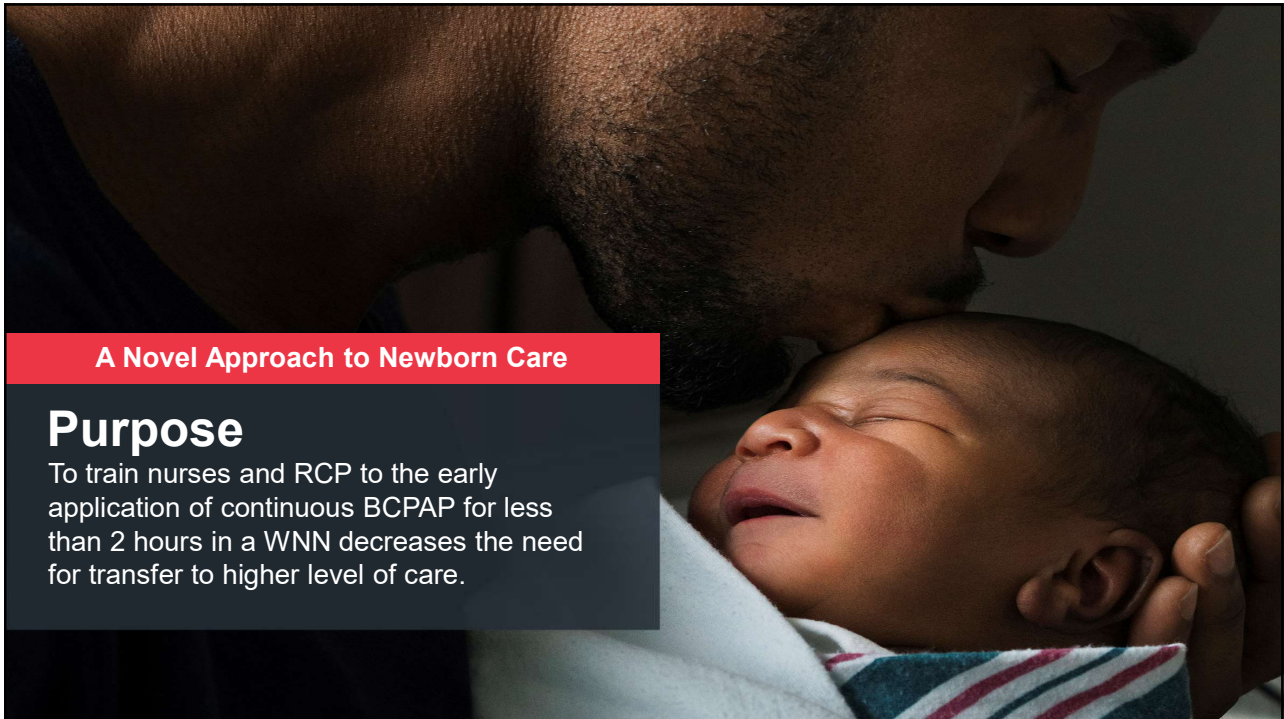
~~NICU~~ has been used for decades as non-invasive respiratory support modality.

Continuous Positive Airway Pressure Therapy: Neonates & Infants. (n.d.) Fisher and Paykel Healthcare. Retrieved March 18, 2022. From

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Purpose

To train nurses and RCP to the early application of continuous BCPAP for less than 2 hours in a WNN decreases the need for transfer to higher level of care.



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Method**Inclusion**

- Newborns ≥ 36 weeks GA

Exclusion

- Does not require NICU care for a non-transition related diagnosis
- < 36 weeks GA

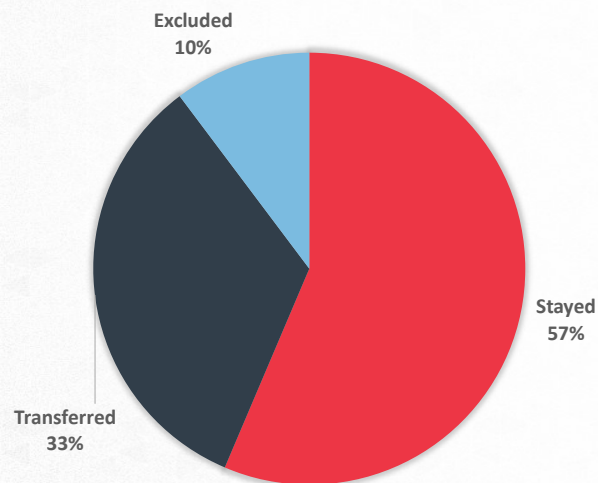
Practice/Training

- Up to 2 hours of BCPAP provided, under the guidance of Tele-Baby
- Care clustered/Developmental support
- Ongoing evaluation of infant on this increased support

BCPAP Care

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Results**Infants Staying in WNN**

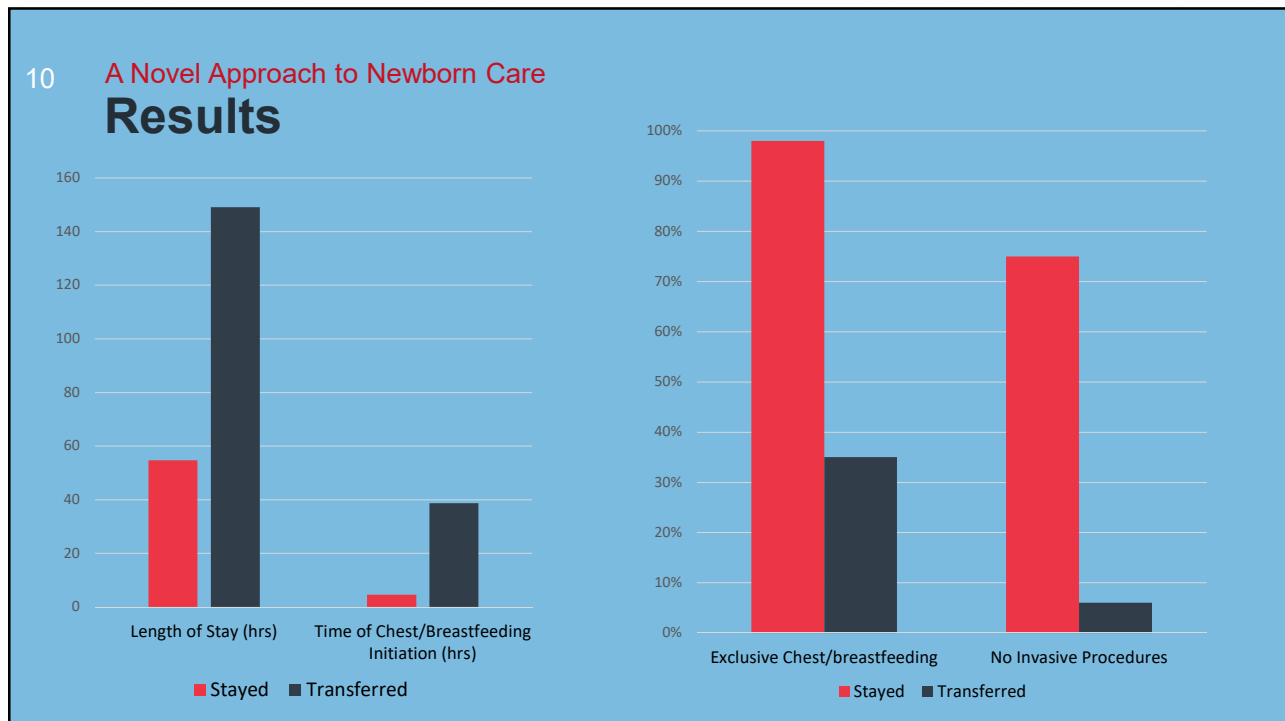
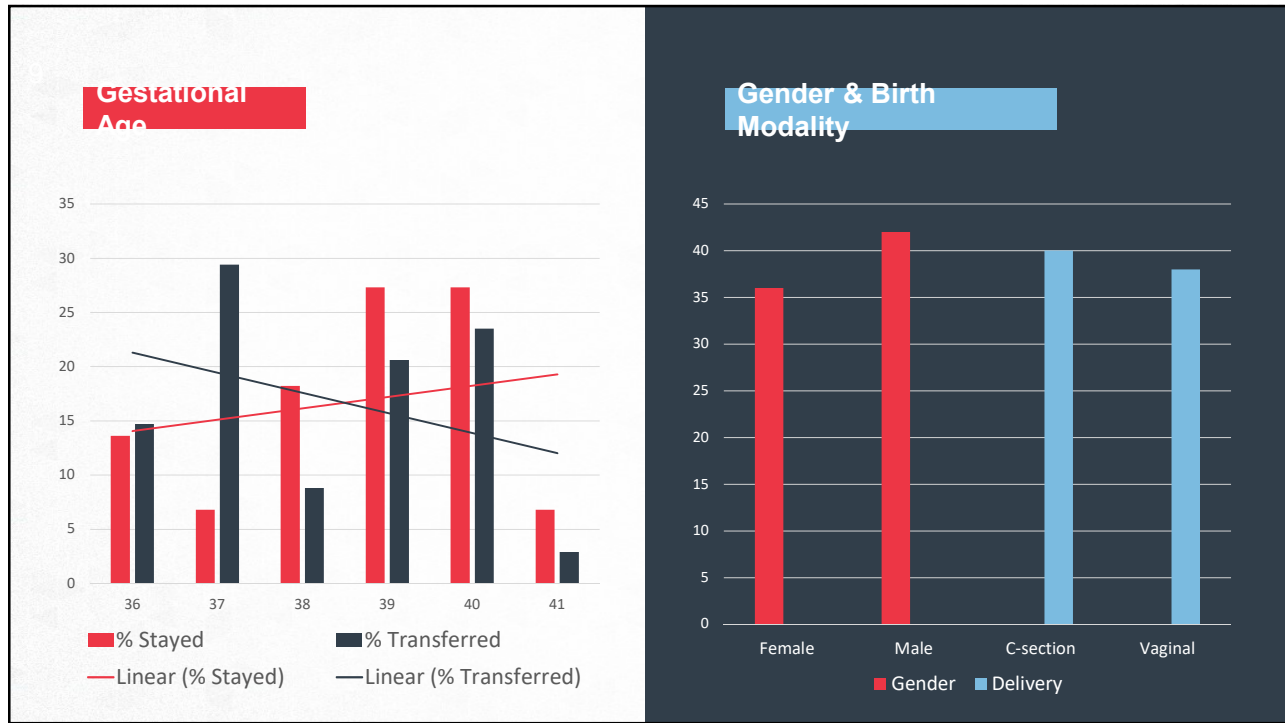
Infants receiving BCPAP for < 2 hours, that were able to complete transition and stay in their dyad

Infants Transferred to NICU

Infants that did not complete transition in < 2 hours and needed ongoing NICU care

Infants Transferred to NICU, non-transition

These infants needed NICU care, not related to transition



Thanks For Joining

Future Opportunities

- Compare to Pre-Implementation Groups
- Analyze cost savings
- Spread/Share

Questions?