

Background

- With evolution of standardized NICU care, there have been significant improvements in survival rates of very preterm infants.¹
- Research has demonstrated that early experiences in the neonatal period impact synaptogenesis and neural myelination.²
- All care provided to neonates has both the potential to be harmful and the opportunity to be neuroprotective for the developing brain.³

Drivers of Change

Enhance

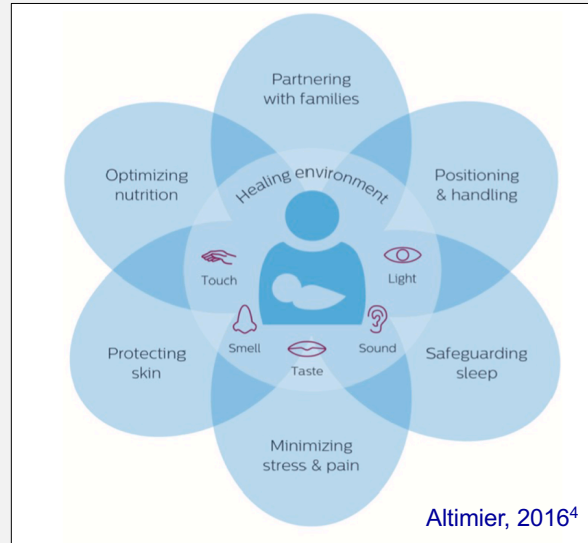
- Neurodevelopmental outcomes
- Parent relationships & involvement

Decrease

- Inconsistency of current clinical practice
- Length of hospital stay
- Incidence of IVH/PVL

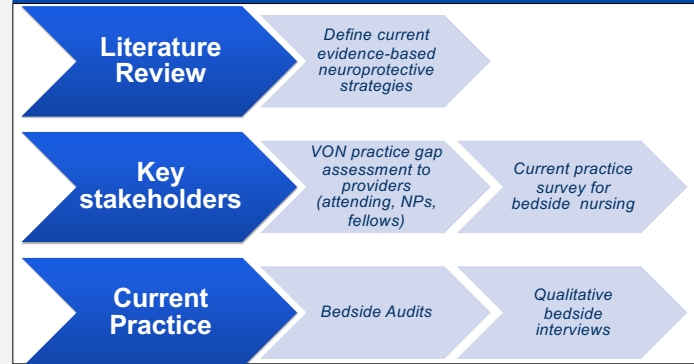
Global Project Aim

- To implement evidence-based neuroprotective strategies utilizing the Core Measures of Developmental Care for extremely low birthweight infants that will optimize early brain development and enhance neurodevelopmental outcomes.



- Aims to minimize the adverse effects of the NICU environment on the high-risk infant
- Utilizes neuroprotective interventions to support optimal synaptic neural connections, promote normal neurological, physical, and emotional development and prevent adverse sequelae

Needs Assessment



Implication for Practice

- We plan to utilize the Core Measures of Developmental Care to guide the revision of the current Extremely Low Birthweight (ELBW) policy and order subset upon admission to incorporate evidence-based neuroprotective strategies.

References

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2. Mewes AU, Huppi PS, Als H, Rybicki FJ, Inder TE, McAnulty GB, et al. Regional brain development in serial magnetic resonance imaging of low-risk preterm infants. *Pediatrics.* 2006;118(1):23-33.
3. Smith GC, Gutovich J, Smyser C, Pineda R, Newnham C, Tjoeng TH, et al. Neonatal intensive care unit stress is associated with brain development in preterm infants. *Ann Neurol.* 2011;70(4):541-548.
4. Altmier L, Phillips R. The Neonatal Integrative Developmental Care Model: Advanced Clinical Applications of the Seven Core Measures for Neuroprotective Family-Centered Developmental Care. *Newborn & Infant Nursing Reviews* 2016;16:230-244