Initiative Overview

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What Goes into Developing an FPQC Initiative?

- Work begins 9 months to a year before kick-off
- Initiatives are developed using evidence-based guidelines, research, best practices, and national expert consultation
- Our SOOTHE Advisory committee develops the vision, aim and drivers
- Driver specific workgroups are formed.
 - convene every two weeks to determine what potentially better practices support each driver
 - review existing tools, adapt those that are a good fit, and develop entirely new tools
 if needed
 - work with the FPQC team to create a toolkit, along with a toolbox with additional resources
- Data measures are developed, along with tools to report data



Neuroprotection



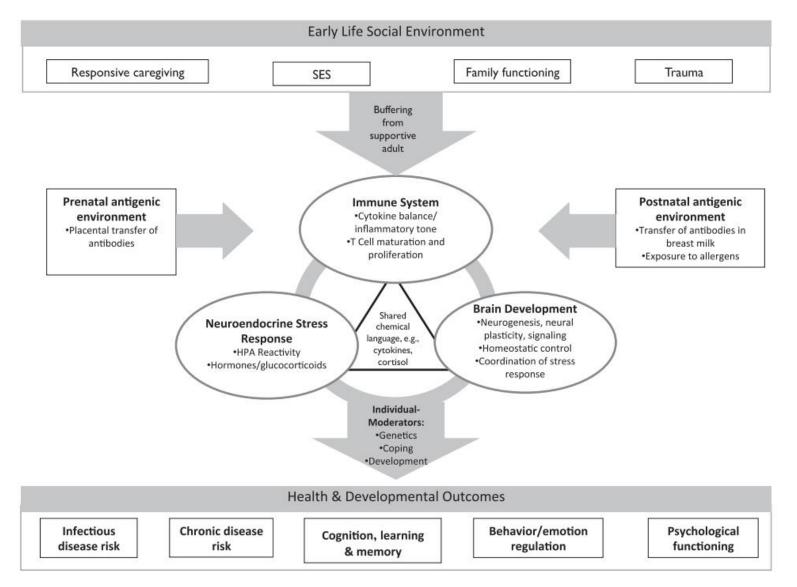


Neuroprotection



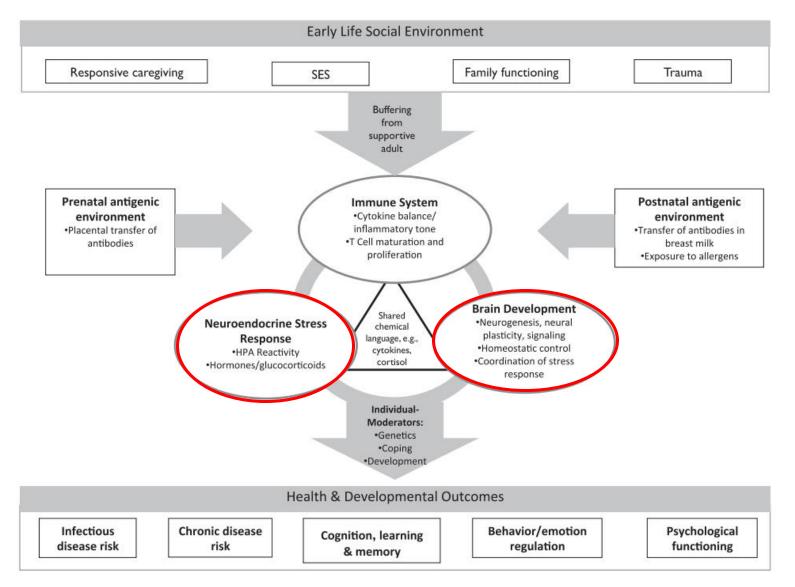


Ecobiodevelopmental Framework





Ecobiodevelopmental Framework





Trauma-Informed Care in the NICU



What is Trauma-Informed Care (TIC)?

The belief that multiple dimensions of trauma can have lasting adverse effects on well-being and function. This includes physical/bodily and psychological injuries and is unique to each individual and their experience.

Why does the NICU potentially lead to traumatic stress?

- · Challenges sense of safety.
- · Senses of life threat.
- · Feeling helplessness.
- Feeling pain or Observed Pain.
- Decision making during times of distress.

The Six Principles of TIC



Strong, frequent, or prolonged activation of stress response system.

- There is an absence of buffering protection of supportive relationships (i.e. Adverse Childhood Experiences [ACEs]: child abuse, neglect, parent substance abuse, maternal depression).
- May result in anatomic changes, physiologic dysregulations that are precursors of later impairments in learning and behavior or disease.
- Multiple exposures to ACEs increase the risk of later adult morbidity and early mortality.

Examples of Toxic
Stress for NICU
Infants

What is Toxic

Stress?

- · Separation from their parents.
- · Inconsistent bedside caregivers.
- · Repeated painful procedures without support.
- · Inappropriate developmental sensory environment.





Characteristics of Healing Environment in the NICU

Physical Environment

Soothing
Spacious
Aesthetically Pleasing

Conducive to Rest

Healing
Establishing therapeutic relationships

Human Environment

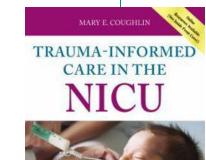
Teamwork

Mindfulness

Caring

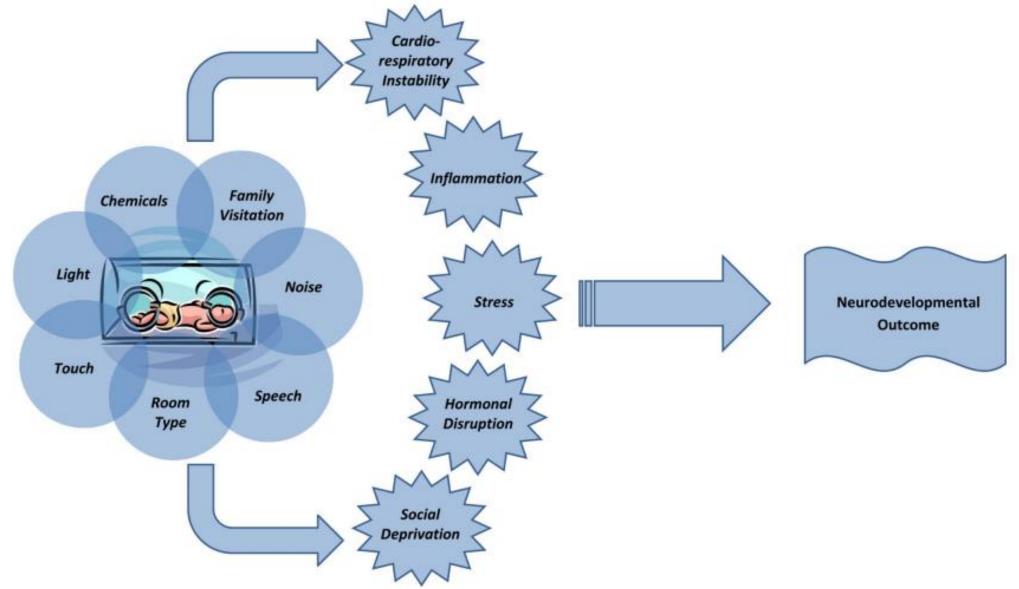
Organization Environment

Just Culture
Safety Culture





Environmental Exposures Occur During Critical Neurodevelopment Periods





Santos J, Pearce SE, Stroustrup A. Impact of hospital-based environmental exposures on neurodevelopmental outcomes of preterm infants. Curr Opin Pediatr. 2015 Apr;27(2):254-60. doi: 10.1097/MOP.000000000000190. PMID: 25635585; PMCID: PMC4410011.

Neuroprotective Family-Centered Developmental Care

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The Neonatal Integrative Developmental Care Model: Advanced Clinical Applications of the Seven Core Measures for Neuroprotective Family-centered Developmental Care



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ABSTRACT

The Neonatal Integrative Developmental Care Model, which outlines seven core measures for neuroprotective family-centered developmental care of premature infants, is a framework that guides clinical practice in many neonatal intensive care units (NICUs) around the globe. The seven neuroprotective core measures are depicted as overlapping petals of a lotus as the 1) healing environment, 2) partnering with families, 3) positioning & handling, 4) safeguarding sleep, 5) minimizing stress and pain, 6) protecting skin, and 7) optimizing nutrition. Skin to Skin Contact (SSC) is considered the foundation for care of infants in the NICU and its importance as the "normal environment" and the ideal place of care is described. The mother/child dyad is the center of the lotus surrounded closely by symbols representing various aspects of the healing environment, highlighting the physical, extra-uterine environment in which the infant now lives, the significance of the developing infant's sensory system, and the influence of people (patient, family, and staff) who help to create a healing environment for hospitalized infants and their families. The Neonatal Integrative Developmental Care Model utilizes neurological, physical, and emotional development and prevent disabilities.

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In the United States, approximately 500,000 babies each year are bom prematurely at less than 37 weeks' gestational age (GA) or low birth weight (less than 2500 grams), and as many as 10 to 15% of these babies require treatment in the neonatal intensive care unit (NICU). 1.2 The management of premature infants has advanced over the past decades to the

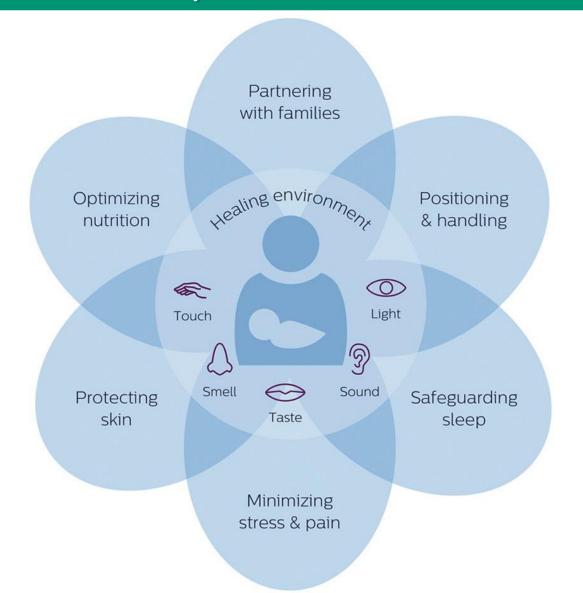
Neurodevelopment

To better understand the developmental problems associated with prematurity and other high-risk events, it is essential to understand the basics of neurosensory development of the neonate, paying particu-

- Environment plays a critical role in how an infant develops, recovers, and grows.
- Hospitals partner with families to restore the parent-infant attachment.

 To achieve optimal outcomes, special care needs to be directed in improving the daily NICU experience through minimizing stress.

Neuroprotective Core Measures



 Neuroprotective core measures are depicted on the left by each petal.

 This diagram represents all aspects of the healing environment that influence the growing sensory environment of the infant.



Alliance for Innovation on Maternal Health (AIM) - 5Rs Framework

Readiness

Every Team

Be prepared before a complication occurs

Recognition

Every Patient

Identify risk early and take steps to prevent harm

Response

Every Event

Act quickly and appropriately when issues arise

Reporting & Systems Learning Respectful, Supportive Care



SOOTHE Foci

Readiness:

Creating a Sensory- Supportive Environment

Assessing & standardizing environmental practices to support infants' sensory needs.

Recognition:

Identifying Noxious
Stimuli and Stress Cues

Promoting early & consistent recognition of infant stress, pain, or overstimulation.

Response:

Delivering Intentional,
Therapeutic
Interactions

Strengthening caregiving practices in response to stress cues through gentle, purposeful touch.

Respectful Care: Partnering with Families

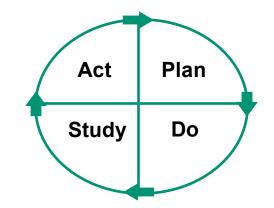
Integrating respectful, family-centered care into every stage of the NICU stay.

Building a QI Project: IHI Model For Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?





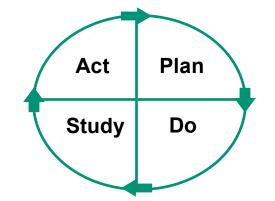


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AIM



SOOTHE Aims

Primary Aim: by June 2027, 80% of participating NICUs will implement at least 1 evidence-based strategy from each sensory domain (sight, sound, touch, and taste/smell) to improve the sensory environment.

Secondary Aim: by June 2027, participating NICUs will achieve a 20% increase in families educated on recognizing and responding to infant stress cues.

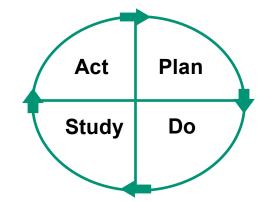


Building a QI Project: IHI Model For Improvement

What are we trying to accomplish?

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What change can we make that will result in improvement?



MEASURES: Outcome, Process, Structural, Balancing DATA CHARTS

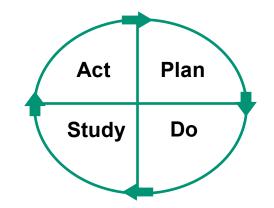


Building a QI Project: IHI Model For Improvement

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TOOLS

Profound Knowledge:

Variation

System

Knowledge

Psychology

KEY DRIVER DIAGRAM

with
Potentially Better
Practices

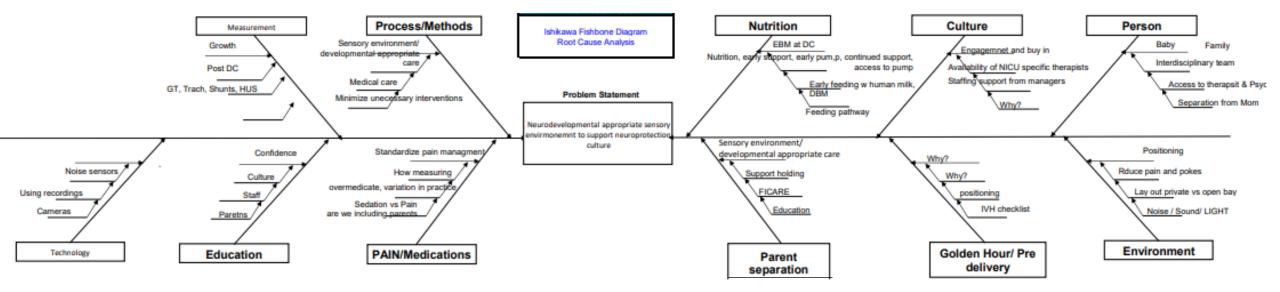




Fishbone Diagram:

"Neurodevelopmental appropriate sensory environment to support neuroprotection culture"

A fishbone diagram is an easy tool to use to get the conversation started.





Aim

By 6/2027:

- -80% of participating NICUs will implement at least 1 evidence-based strategy from each of these sensory domains (sight, sound, touch, and taste/smell) to improve the sensory environment
- -Achieve a 20% increase in families educated on recognizing and responding to infant stress cues

Primary Drivers



Aim

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Primary Drivers

Readiness

Sensory Environment



Aim

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Primary Drivers

Readiness

Sensory Environment

Recognition

Noxious Stimuli



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Primary Drivers

Readiness

Sensory Environment

Recognition

Noxious Stimuli

Response

Positive Touch/Interactions



Global aim: Support hospitals and care teams in fostering a neuroprotective NICU culture by training staff and providers, engaging families, optimizing developmentally appropriate sensory care, and minimizing unnecessary interventions to promote a nurturing environment for infants.

Aim

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Primary Drivers

Readiness

Sensory Environment

Recognition

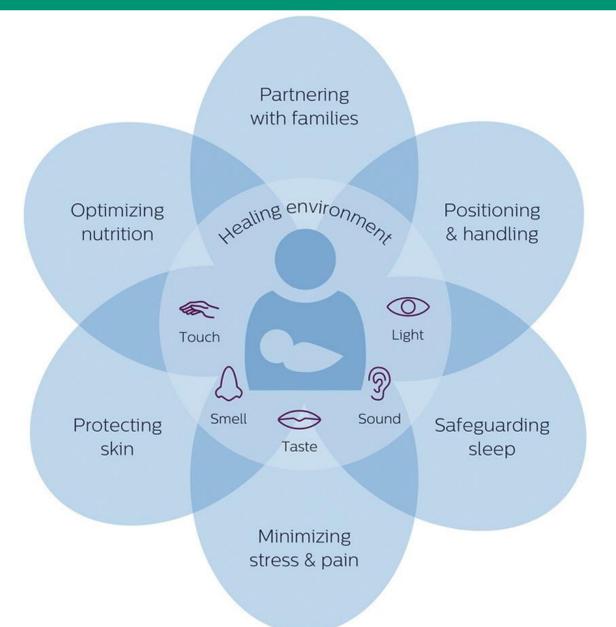
Noxious Stimuli

Response

Positive Touch/Interactions

*Respectful care is a universal component of every driver and activity

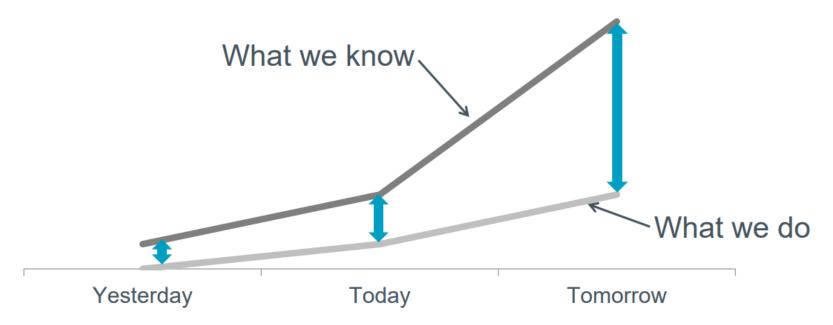
The Healing Environment Affects ALL NICU Metrics





How to close the gap?

The "Know-Do" Gap







SOOTHE Initiative Resources

Monthly
Coaching Calls
with hospitals
state-wide

Online Toolbox

Algorithms, Sample protocols, Education tools, Competencies, Slide sets, etc.

Technical Assistance

from FPQC staff, state Clinical Advisors, and National Experts Educational sessions, videos, and resources

Initiative-wide collaboration meetings

Monthly and Quarterly QI Data Reports

Regular E-mail Bulletins Custom, Personalized virtual, phone, or on-site Consultations & Grand Rounds Education



FPQC Initiative Structure

