

INFANT-FAMILY TRANSITION FROM NICU TO HOME: *BUILDING BRIDGES*

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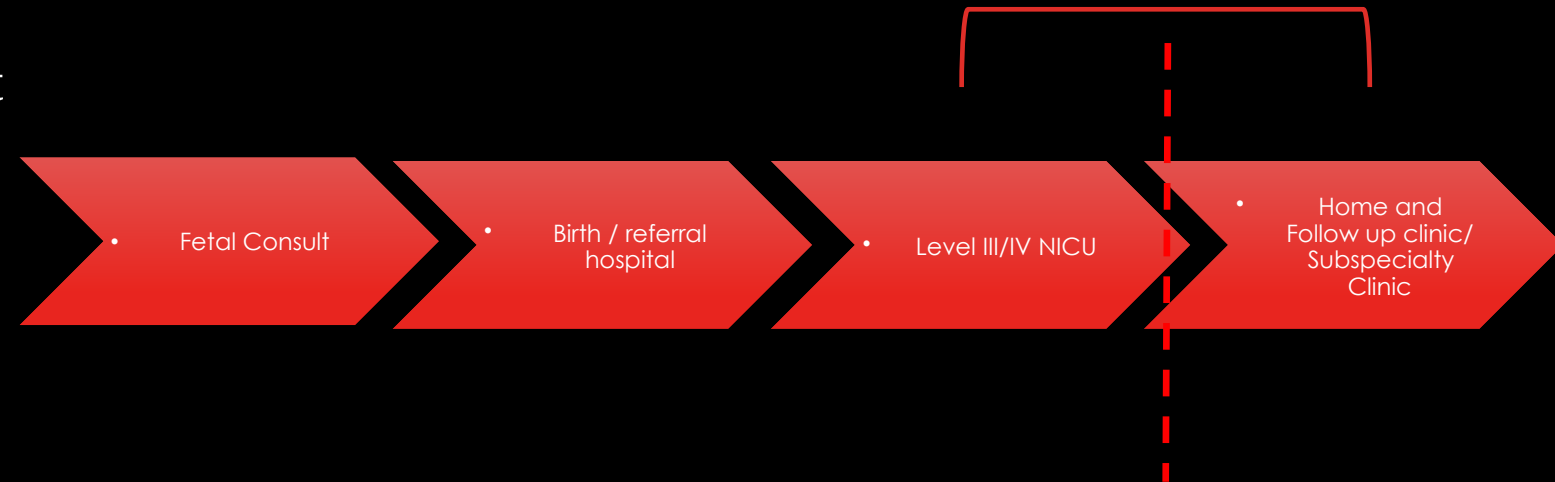
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INTRODUCTION: TRANSITION OF NICU CARE

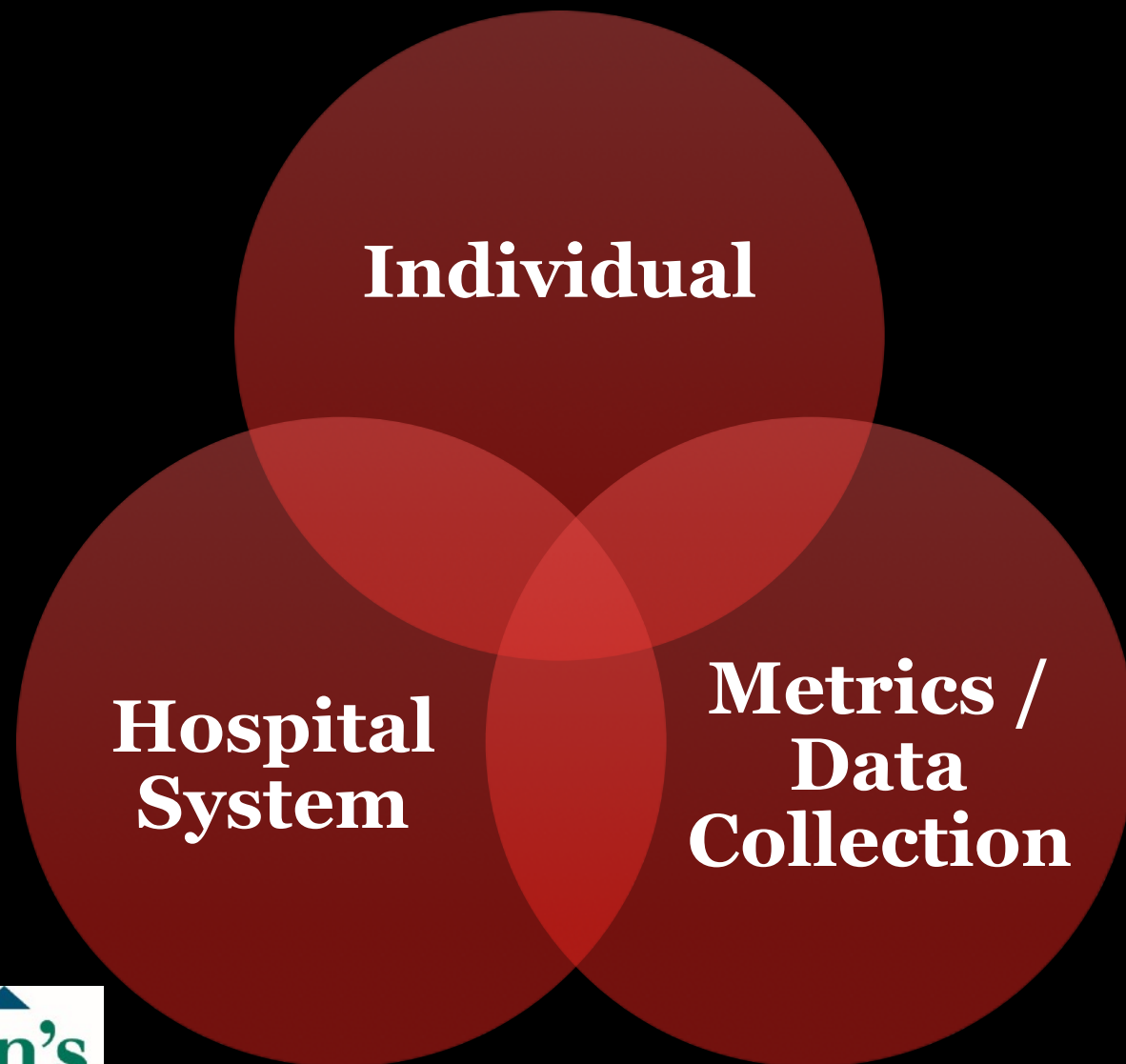
- The continuum of care for NICU patients and their families does not end at the time of hospital discharge.
 - This is the beginning of another phase their journey
- Discharge represents one of the most critical transition points in the life of a NICU graduate following weeks or months in the NICU
- It is vital to ensure that the transition from the NICU to home is as smooth as possible
 - To reduce ER visits after discharge and re-hospitalizations



INTRODUCTION: TRANSITION OF NICU CARE

- **Definition:** “Care Transitions” is defined as a set of actions designed to ensure the coordination and continuity of health care as patients transfer between different levels of care (e.g. NICU to home)
- **What:** Wide variation in transition of care provided at discharge
- **Why:** Discharge represents one of the most vulnerable transitions in a patient’s life and is associated with the potential for short & long term morbidity
- **Who:** Medically complex/fragile patients discharged from the NICU
 - ≥ 2 sub-specialist involvement
 - Home technology dependence (feeding tubes, oxygen, ventilator, tracheostomy, central line)
 - NICU length of stay >14 days
- **Where:** Tertiary and quaternary level NICUs in the U.S.

COMPLEX CARE CHALLENGES OF NICU TRANSITION TO HOME



IDENTIFIABLE BARRIERS BEFORE NICU DISCHARGE

**Lack of
Provider
Continuity**

Multiple handoffs in NICU
Different NICU vs. step down /floor medical team

**Difficulty in anticipating
discharge timeframe and
needs in medically complex
patients**

Lack of standardized discharge process
High turnover due to referral and back transfer

**Need for sub-specialty and
inter-disciplinary
involvement**

Variable inpatient & outpatient coordination, within
hospital transfers (CVICU, chronic care unit)

**Parental
preparedness often
limited**

Parental education on multiple topics and skill based learning
Unclear discharge criteria and expectations, language barriers

IDENTIFIABLE BARRIERS AFTER NICU DISCHARGE

NICU → PCP Handoff

Fragmented discharge summaries
Variable direct communication with PCP

PCP medical guidance

Variability in comfort level addressing NICU-related diseases / morbidities
Lack of neonatal support
Limited office visit time / resources

Sub-specialty coordination of care

Variable resources available to PCP & family
Logistical challenges with multiple appointments
Time / distance / cost considerations / transport with medical equipment

Parental psychosocial needs

Undiagnosed mental health needs
Lack of awareness of community support, access to transportation (lack of vehicle, cost of gas), immigration issues (travel across border)

HOSPITAL-WIDE/SYSTEM CHALLENGES

- Staffing Limitations
- Insurance coverage issues
- Availability of ancillary staff to provide training
- Unclear roles and responsibilities regarding parental education
- Child protection / foster care cases

TRANSITION OF NICU CARE: BARRIERS AND CHALLENGES

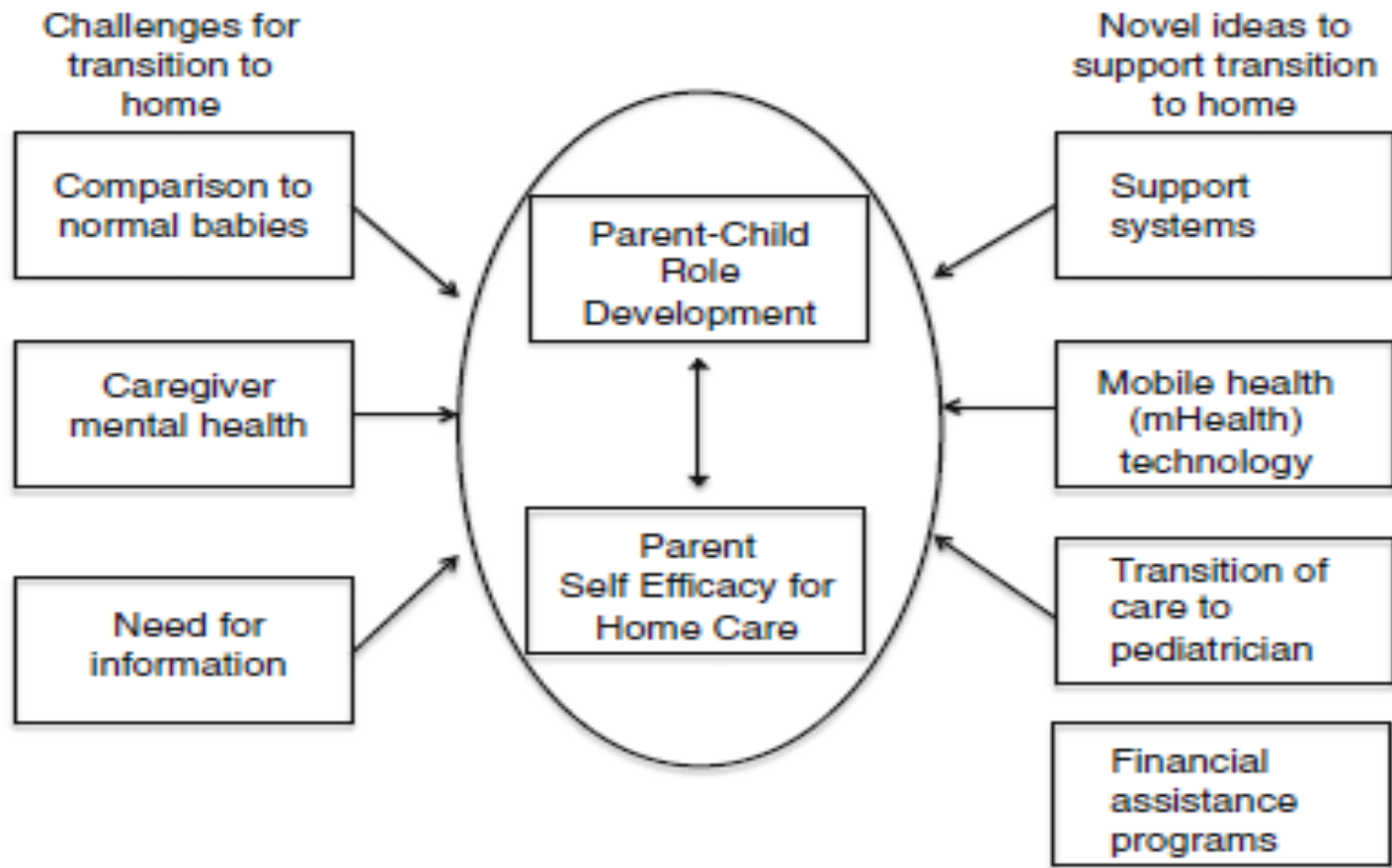


Fig. 1 Conceptual Framework for outlining families' priorities for transitioning low-income families with infants with medical complexity home from the NICU

TRANSITION TO HOME: PARENTING STRESS AND ANXIETY

- The excitement and joy of parenting gives way to stress and increased anxiety following a NICU stay
- Anticipation of NICU discharge evokes fear and anxiety for NICU families as they begin to assume total responsibility for their fragile infant.
- **Parents Perspective:**
 - “Well, one thing about being in the NICU, especially if you’re in there for a long time, stress and anxiety and depression really, really can take ahold of you....”
 - “I mean I have 3 other kids but it feels like being a first time parent in a lot of ways. It’s just, his health needs are so different that I often feel like I don’t know what the right answer is and how to do things correctly with him....”
 - “...having just initially left the NICU, I was like oh man I don’t know who to contact for questions about her g-tube, questions about this, questions about that....”
 - “Honestly when we first took him home, it was all very, very overwhelming trying to figure out how to use the equipment....”
 - “...one of my main concerns is that I know my baby’s a little bit delayed. So I’m just afraid he might not catch-up even though I’m doing everything I can...”

HISTORICAL PERSPECTIVE AND NICU TRANSITION PROCESS

- **The NICU discharge process has historically been fragmented, and variable**
 - Potential risk of errors (e.g. medical errors at discharge) or adverse events after discharge
 - Increased likelihood of emergency room visits or preventable hospital re-admissions
- **Hospital discharge rushed, unplanned, and families feeling unprepared**
 - Families forced to assume care of their medically fragile child without support or adequate preparation
- **Successful transition required collaboration among various providers (PCP, subspecialists) and institutions (NICU follow-up clinic, ECI, rehab facilities, DME company, home health company)**
 - Need to avoid “silos” of care
 - Horizontal vs. vertical integration of organizations
 - Potential healthcare cost savings with structured discharge process

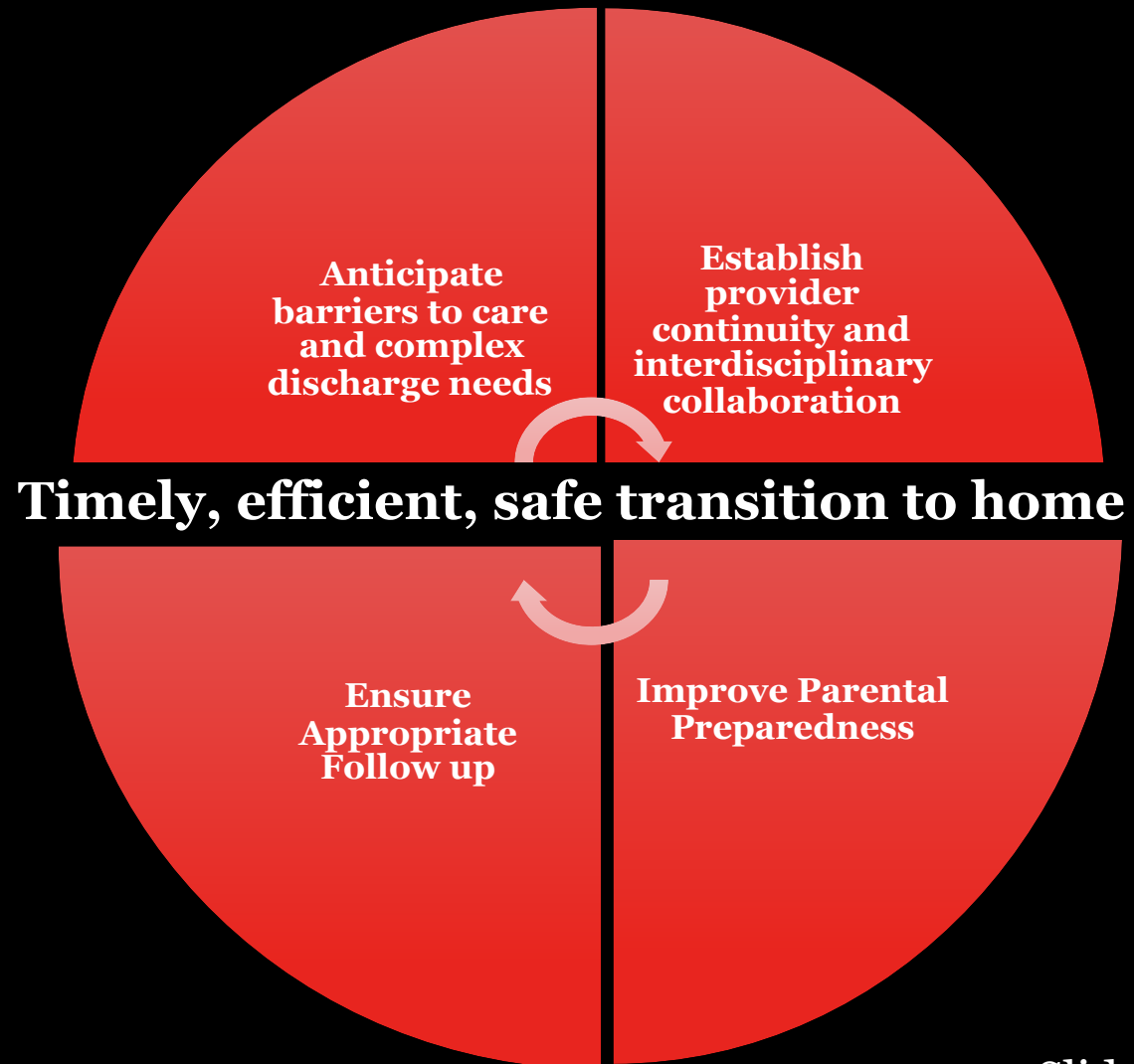
OBJECTIVES OF STANDARDIZED NICU TRANSITION PROCESS

- **To improve the safety of transition from the NICU to home.**
 - The NICU infant is at risk for health related complications in the 1st year of life.
 - A successful transition requires careful planning and preparation.
- **More NICU babies with complex medical needs are discharged to home**
 - **New approaches are needed to meet the demands**
- **Reduce healthcare expenditures**
 - **Recent studies have shown that readmission rates of premature infants are on the rise, leading to further increases in healthcare expenditures.**

TRANSITION TO HOME

- ✓ Safe
- ✓ Timely
- ✓ Efficient
- ✓ Effective
- ✓ Equitable
- ✓ Patient and Family-Centered
- ✓ Socially and Financially Responsible

NICU TO HOME MODEL



EVALUATION OF IMPACT: NEED FOR DATA METRICS / DATA COLLECTION

- **Lack of a state-wide or national follow-up database**
 - **Missed opportunity:**
 - Evaluate impact of standardized NICU care guidelines: mortality and morbidities
 - Evaluate the impact of standardized NICU transition guidelines
 - Track emergency room visits or hospital re-admission
 - Track changes in hospital length of stay
 - Track long-term neurodevelopmental follow-up
 - Evaluate quality of life measures, patient/family satisfaction
 - Evaluate potential cost savings and changes in resource utilization
 - Shortened length of stay
- **Need to establish outcome metrics** (qualitative and quantitative)
- **Data collection issues:**
 - Who collects data, timing of data collection
 - **Centralized database:** who covers the cost, where would it be located
 - Develop a minimum dataset, method to transfer deidentified data
 - Data confidentiality, access, analysis, reporting

WHAT IS THE EVIDENCE THAT STRUCTURED TRANSITION PROCESS IS EFFECTIVE

- **A Quality Improvement Collaborative to Improve the Discharge Process for Hospitalized Children (Wu s, et al 2016)**
- **Project IMPACT Pilot Report: Feasibility of Implementing a Hospital-to-Home Transition Bundle (Mallory LA, et al. 2016)**
- **Summary of STARNet: Seamless Transitions and (Re)admissions Network (Auger KA, et al. 2015)**

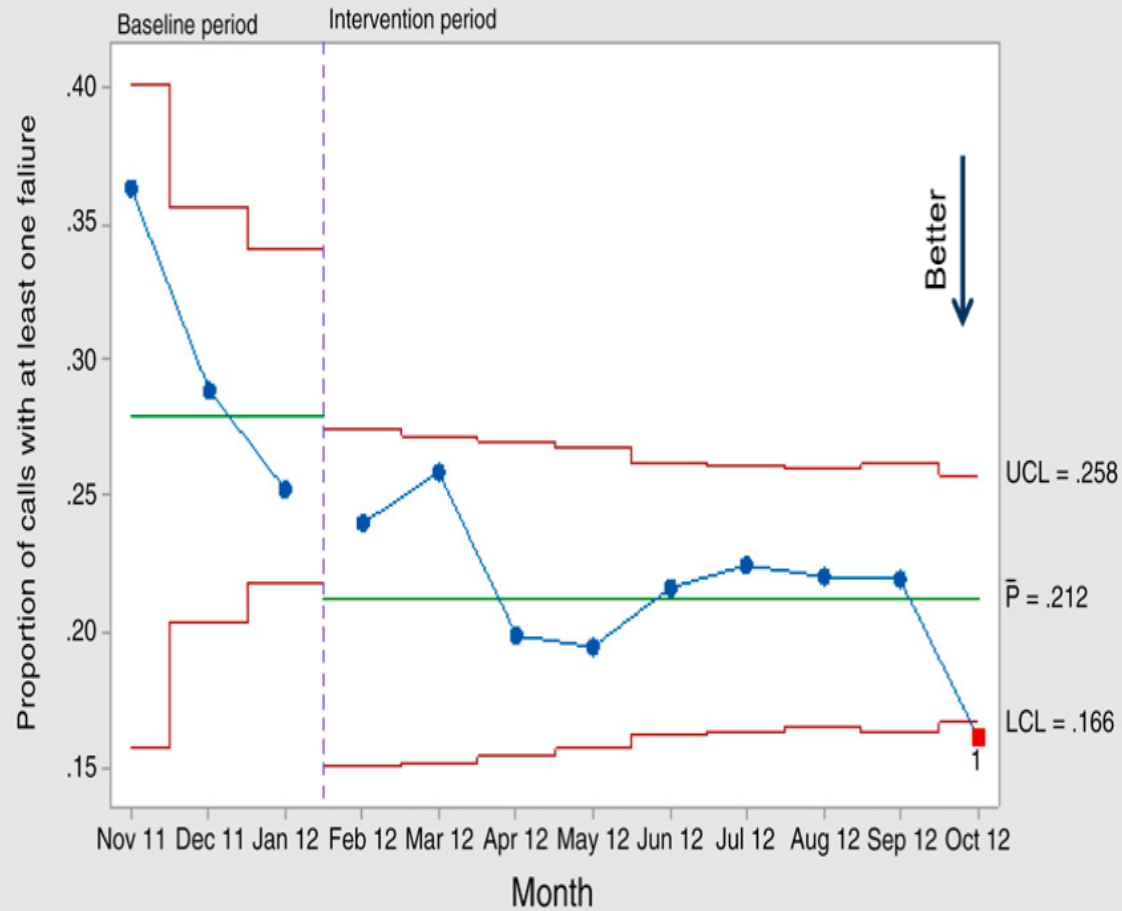
A Quality Improvement Collaborative to Improve the Discharge Process for Hospitalized Children

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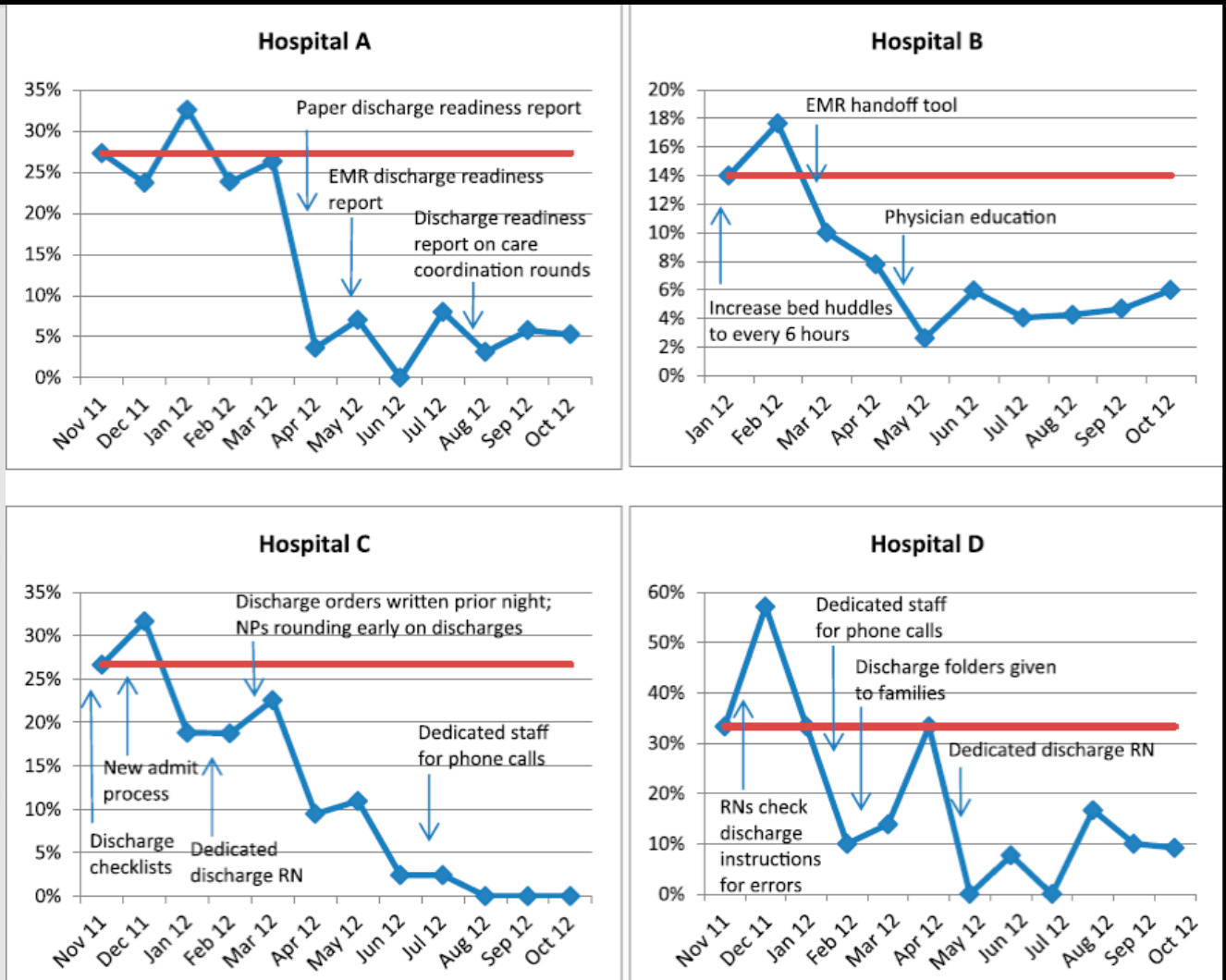
OVERVIEW

- **Objective:** To assess the impact of a QI collaborative on quality and efficiency of pediatric transition/discharge
 - **Primary aim:** to reduce discharge related care failures by 50% in 12 months
- **Methods:**
 - Multicenter QI collaborative
 - 11 US children's hospitals
 - Each site selected interventions from an “**expert change package**”
 - **Proactive D/C planning throughout hospitalization**
 - **Improve throughput**
 - **Arrange post-discharge treatment**
 - **Communicate post-discharge plan to families**
 - **Post-discharge support**
 - Multiple PDSA cycles were conducted
 - **Outcome metrics:** Data on D/C related care failures, family readiness for D/C and 72 hour and 30 day readmissions were reported monthly for each site

F/U Calls with at least 1 failure



D/C related care failures



- **Results:**

- Significant decrease in D/C related care failures, 34 to 21%.
- Significant improvement in family-readiness for D/S, 85 to 91%.
- No improvement in unplanned 72 hour readmission (0.7% vs 1.1%)
- Slight worsening of the 30 day readmission (4.5% vs 6.3%)

- **Conclusion:** Institutions that participated in the collaborative had lower rates of transition related care failures and improved family readiness, there was no significant improvement in unplanned readmissions

- A collaborative approach to improve quality of inpatient discharges by using an intervention bundle

Project IMPACT Pilot Report: Feasibility of Implementing a Hospital-to-Home Transition Bundle

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Lisa Schmitter, RN,^b Paula Soung, MD,^c Amanda Rogers, MD,^c William J. Woodall, MPH,^d Kayla Burley, MPH,^d
Sandra Gage, MD, PhD,^c David Cooperberg, MD,^{d,e} IMPACT Pilot Study Group

PROJECT IMPACT PILOT

- **Objective:**

- Improve hospital to home transition using a 4-element **patient-centered pediatric care transitions (PACT) bundle**
- Demonstrate the feasibility of bundle implementation and evaluate the early impact of the bundle on key outcome measures

- **Primary outcome:** Caregiver's home management skills (using teach-back)

- **Methods:**

- A multisite observational timed series using multiple sequential interventions to implement bundle components.
- Data collected from an EHR and post discharge phone call.

- **Results:**

- Bundle implemented at 4 pilot sites included 2601 patients, 1394 had postdischarge telephone encounters (54%).
- The caregivers ability to teach back essential home management information postdischarge improved from 18% to 82%.
- The checklist posed the greatest feasibility challenge.

- **Conclusion:** Pediatric care transition bundle was successfully implemented and improved all process measures.

PROJECT IMPACT PILOT: *TRANSITION BUNDLE AND PROJECT RESULTS*

Transition Checklist

Difficult to implement into workflow

Teach-Back

***Improved from 17.7% to 81.8%**

Postdischarge Phone Call

1394 received calls (54%)

Timely and Complete
Communication with PCP

Improved from 51.9% to 77.7%

PROJECT IMPACT PILOT PROJECT: *RESULTS*

- **Bundle was implemented at 4 pilot sites (included 2601 patients)**

Pre-study target goals:

- Reduce readmission by 10% from baseline
- Improve documentation of successful caregiver explanation to 90%
- Improve to 90% complete checklist use
- Improve rates of documented discharge summaries to 90%
- Improved phone contact rate to 70%

• **Conclusion:**

- Pediatric care transition bundle was successfully implemented and improved all process measures.

Summary of STARNet: Seamless Transitions and (Re)admissions Network

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STAR_{NET} STUDY

- **Seamless Transitions and Readmissions Network (STARnet)**

Goal:

- Synthesis of ongoing **hospital-to-home transition** work
 - Reviewed current knowledge of hospital-to-home transitions
 - Discussed goals
 - Develop a plan to centralize transition information
 - Outlined the challenges of reducing readmissions
 - Highlighted research gaps and list the potential measures of transition quality

READMISSION

- Readmission is a key measure for current Centers for Medicare and Medicaid Services reimbursement policy
- Despite unclear relationship between pediatric readmissions and hospital quality, pediatric readmissions have been added to Medicaid reimbursement policies, including Texas

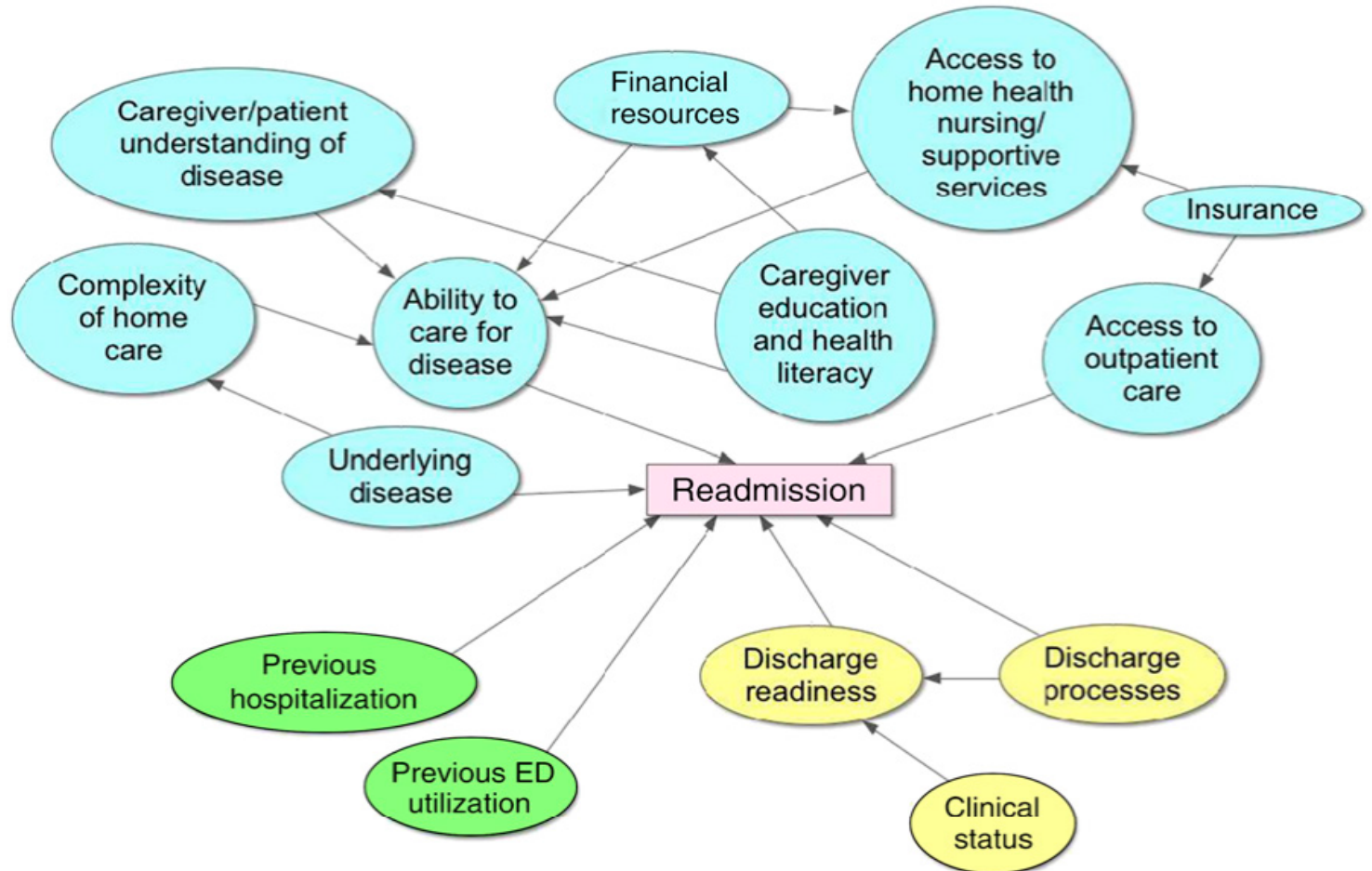


FIGURE 1

Factors influencing readmission risk of a pediatric patient. Blue circles represent outpatient factors and underlying disease processes. Green circles represent previous health care utilization. Yellow circles represent factors during the hospitalization.

Auger KA, et al, *Pediatrics* 2015

POTENTIAL HOME-TO-HOME TRANSITION MEASURES

- 365 day rehospitalization
- ED visits, after hospitalization
- PCP visits, after hospitalization
- Specialty appt visits
- Prescription filled after discharge
- Medication reconciliation
- Readiness for discharge
- Caregiver assessment of healthcare provider knowledge
- Discharge information received by PCP
- Death

TRANSITION-TO-HOME FOR PREMATURE INFANTS

- **Increased Risk for Readmission:** *(Smith VC, J Perinatol 2013)*
 - Medicaid
 - Non-English speaking
 - Multiple pregnancies
 - BPD
- **Effects of a transition home program on preterm infant emergency room visits within 90 days of discharge.** *(Vohr B et al, J Pediatr 2017, Vohr B et al, J Perinatol 2017)*
 - **Decreased readmission rates (90-day) in preterm infants in the NICU >5 days supported by an individualized family centered transition home program** *Program model:*
 - *Inclusion: <1500 grams, Hospitalization >5 days,*
 - *Transition to home team: physician, NNP, 4 clinical social workers, 7 trained family resource specialists matched to participating families*

TRANSITION TO HOME PROGRAM

Table I. THP program interventions

Predischarges	Provider	Postdischarge	Provider
Identify eligible infants, inform family of program, and obtain consent for THP and CurrentCare*	Social worker or family resource specialist	Call within 48 hours	Social worker or family resource specialist
Communicate enrollment to PCP	Social worker or family resource specialist	Findings of all visits communicated with PCP	MD, NNP, social worker, family resource specialist
Weekly rounds with families	THP team	24/7 on call	MD or NNP
Regular meetings with family, identify challenges, partner to address needs, review education binder	Social worker or family resource specialist	Home visit for infant/family assessment	NNP
Identify family challenges (ie, food insecurity, housing); home visit to assess needs if concerned	Social worker or family resource specialist	Calls to and from family and PCP as needed	MD, NNP, social worker, family resource specialist
Family discharge readiness assessment and facilitate referrals as needed	Social worker or family resource specialist	Edinburgh at 30 days; facilitate referrals as needed	Social worker or family resource specialist
Review all meds, formula mixing, safe sleep, positioning, etc, before discharge	Social worker or family resource specialist	1- and 3-month clinic assessment	MD, NNP, social worker, family resource specialist
Inform PCP of all infants eligible for Synagis	Letter from MD/THP team	Respond to all CurrentCare* real time alerts of ED visit or hospitalization	Social worker or family resource specialist with MD and NNP

Vohr B et al, J Pediatr 2017

TRANSITION TO HOME PROGRAM

Table 1. Postdischarge transition home services

Care provided	Early/moderate PT	Late PT	Provider
Postdischarge call within 24 h	Yes	Yes	LICSW or FRS
Neonatal Nurse Practitioner visit within 1 week for assessment, management and support	Yes	No	4 Study NNPs ±FRS or LICSW
Standard Visiting Nurse visits	Yes	Yes	State program
Discharge summary to PCP	Yes	Yes	Staff
Referral to early intervention	Yes	As needed	Staff
24/7 on call by study physicians for 90 days postdischarge	Yes	No	Physicians and NPs
Real-time alerts to staff of ER visits and hospitalizations from state Current Care secure database	Yes	Yes	Physicians and NPs
Seen in Clinic at 1 and 3 months	Yes	No	Physicians and NNPs
Edinburgh administered at 1month postdischarge	Yes	Yes	LICSW and FRS
Phone communication at 1 and 3 months To identify concerns and facilitate necessary referrals	Yes	Yes	LICSW and FRS

Abbreviations: ER, emergency room; FRS, family resource specialists; LICSW, Licensed Independent Clinical Social Worker; NNP, neonatal nurse practitioners; NP, nurse practitioners; PCP, primary care provider; PT, preterm.

• Results:

- 19% of PT infants had ER visits
 - 23.5% early PT
 - 9.7% Moderate PT
 - 18% Late PT
- 33% decreased risk of all ER visits by year 3
- Social and environmental risk factors contribute to preventable ER visits
- **Increased risk of ER visits:**
 - Medicaid (63% vs. 54%)
 - Non-White (53% vs. 47%)
 - Non-English speaking (27% vs. 17%)
 - <HS Education (22% vs. 14%)
 - MMH Disorders (44% vs. 33%)
- Most ER visits for PT infants due to respiratory illness

ECONOMIC IMPACT OF EFFECTIVE NICU TRANSITIONS CARE

- **General:**
 - Financial burden of preterm birth is 26 billion annually
 - Medicaid covers at least 1/2 of preterm/low birth weight births
- **Objective:**
 - Evaluate Transition home plus (THP) program effects of total Medicaid spending
 - Evaluated Medicaid spending based on claims data over the first 8 quarters (24 months) after birth
- **Results:** (Infants enrolled in the THP program)
 - Lower total Medicaid spending
 - Medicaid spending savings in the intervention group was **\$4591 per infant per 3-month quarter**
9!\$5.9 million/year in Medicaid spending)
 - Fewer emergency room visits
 - **Decrease of 334 visits** over study period in intervention group
 - Fewer hospital readmissions
 - Intervention group **7.6% less likely** to be re-admitted

ONGOING AREAS OF IMPROVEMENT

- Estimating discharge date on admission
- Measure % of d/c not meeting criteria ≥ 24 hrs PTD (or longer)

Anticipate barriers to care and complex discharge needs

Establish provider continuity and interdisciplinary collaboration

- Primary physician / NNP teams
- Service block modifications
- High risk core teams (i.e. "CDH", "BPD", "ECMO")
- Weekly interdisciplinary rounds

Timely, efficient, safe transition to home

- Improve NICU to Pediatrician handoff communication (F/U call)
- Identify "high-risk" patients and establish metrics
- Increase neurodevelopmental follow up
- Home visiting program
- Real-time alerts of ER visits

Ensure Appropriate Follow up

Improve Parental Preparedness

- Setting expectations and outlining criteria for discharge starting with prenatal consult and prior to step down transfer
- Standardized basic & specialized parental education
- Maternal MH screening



**NICU DISCHARGE/TRANSITION
PROCESS AT COOK CHILDREN'S
HOSPITAL
(FORT WORTH, TX)**

NICU BASICS

The Journey Begins



NICU BASICS: COOK CHILDREN'S HOSPITAL

- Discharge in transition classes are currently held twice weekly (Tuesday and Thursday afternoons)
 - An evening class at 7:30 p.m. will soon be added
 - 2 additional morning sessions per week will soon be added
- A Spanish version of the power point presentation has recently been developed
- Our discharge coordinator (Lisa Vaughn, RN) meets with all new parents soon after admission (modified depending on the baby's clinical status)
 - Families are invited at that time to attend the **Baby Basics (NICU 101)** class soon after admission, if the baby is stable
 - An information Flyer is left in the room if the families are missed or no show for a previous class
 - Typically, 6-14 families attend the classes each week
- We are currently considering a name change for the class and altering content
 - The current name may discourage experience parents who may not feel they need a basic class
 - Add an educational module for the more medically complex child who is discharged with equipment
 - Medically complex infants currently receive individual discharge instruction and equipment teaching, 48 hr+ rooming-in before discharge

COOK CHILDREN'S HOSPITAL TRANSITION CARE PROGRAM

Congratulations!

- In this class, you will learn how to take care of your new baby.
- You are part of our NICU team! We encourage you to be here as much as possible!
- Be sure to practice what you learn! We often call this "teach back."



Handwashing

Be the voice for your baby!

- Handwashing is the single best way to keep germs away from baby
- Wash or gel hands for at least 20 seconds
- Please, NO food in the room



Please Don't Kiss the Baby!

- Never let anyone kiss baby on the lips, face or hands
- What can be a simple cold sore or fever blister for an adult can be fatal to your baby.
- HSV1 can travel to your baby's brain and cause viral meningitis



RSV OR RESPIRATORY SYNCYTIAL VIRUS IS A HIGHLY CONTAGIOUS RESPIRATORY VIRUS

BELOW ARE WAYS YOU CAN HELP PROTECT YOUR BABY:

- EVERYONE must wash their hands before touching baby!
- No Smoking near baby
- Wash baby's toys, clothes and bedding often
- Keep your baby away from crowds, young children and individuals with colds



Discharge Checklist

Parent I	Parent II
<input type="checkbox"/> Baby's name	<input type="checkbox"/> Baby's name
<input type="checkbox"/> Baby's date of birth	<input type="checkbox"/> Baby's date of birth
<input type="checkbox"/> Baby's sex	<input type="checkbox"/> Baby's sex
<input type="checkbox"/> Baby's weight	<input type="checkbox"/> Baby's weight
<input type="checkbox"/> Baby's length	<input type="checkbox"/> Baby's length
<input type="checkbox"/> Baby's head circumference	<input type="checkbox"/> Baby's head circumference
<input type="checkbox"/> Baby's temperature	<input type="checkbox"/> Baby's temperature
<input type="checkbox"/> Baby's heart rate	<input type="checkbox"/> Baby's heart rate
<input type="checkbox"/> Baby's respiratory rate	<input type="checkbox"/> Baby's respiratory rate
<input type="checkbox"/> Baby's oxygen saturation	<input type="checkbox"/> Baby's oxygen saturation
<input type="checkbox"/> Baby's blood glucose	<input type="checkbox"/> Baby's blood glucose
<input type="checkbox"/> Baby's bilirubin	<input type="checkbox"/> Baby's bilirubin
<input type="checkbox"/> Baby's hemoglobin	<input type="checkbox"/> Baby's hemoglobin
<input type="checkbox"/> Baby's hematocrit	<input type="checkbox"/> Baby's hematocrit
<input type="checkbox"/> Baby's electrolytes	<input type="checkbox"/> Baby's electrolytes
<input type="checkbox"/> Baby's coagulation studies	<input type="checkbox"/> Baby's coagulation studies
<input type="checkbox"/> Baby's chest X-ray	<input type="checkbox"/> Baby's chest X-ray
<input type="checkbox"/> Baby's ultrasound	<input type="checkbox"/> Baby's ultrasound
<input type="checkbox"/> Baby's MRI	<input type="checkbox"/> Baby's MRI
<input type="checkbox"/> Baby's CT scan	<input type="checkbox"/> Baby's CT scan
<input type="checkbox"/> Baby's PET scan	<input type="checkbox"/> Baby's PET scan
<input type="checkbox"/> Baby's bone scan	<input type="checkbox"/> Baby's bone scan
<input type="checkbox"/> Baby's cardiac catheterization	<input type="checkbox"/> Baby's cardiac catheterization
<input type="checkbox"/> Baby's endoscopy	<input type="checkbox"/> Baby's endoscopy
<input type="checkbox"/> Baby's colonoscopy	<input type="checkbox"/> Baby's colonoscopy
<input type="checkbox"/> Baby's sigmoidoscopy	<input type="checkbox"/> Baby's sigmoidoscopy
<input type="checkbox"/> Baby's proctoscopy	<input type="checkbox"/> Baby's proctoscopy
<input type="checkbox"/> Baby's cystoscopy	<input type="checkbox"/> Baby's cystoscopy
<input type="checkbox"/> Baby's ureteroscopy	<input type="checkbox"/> Baby's ureteroscopy
<input type="checkbox"/> Baby's laparoscopy	<input type="checkbox"/> Baby's laparoscopy
<input type="checkbox"/> Baby's thoracoscopy	<input type="checkbox"/> Baby's thoracoscopy
<input type="checkbox"/> Baby's arthroscopy	<input type="checkbox"/> Baby's arthroscopy
<input type="checkbox"/> Baby's pharyngoscopy	<input type="checkbox"/> Baby's pharyngoscopy
<input type="checkbox"/> Baby's laryngoscopy	<input type="checkbox"/> Baby's laryngoscopy
<input type="checkbox"/> Baby's bronchoscopy	<input type="checkbox"/> Baby's bronchoscopy
<input type="checkbox"/> Baby's esophagoscopy	<input type="checkbox"/> Baby's esophagoscopy
<input type="checkbox"/> Baby's sigmoidoscopy	<input type="checkbox"/> Baby's sigmoidoscopy
<input type="checkbox"/> Baby's colonoscopy	<input type="checkbox"/> Baby's colonoscopy
<input type="checkbox"/> Baby's proctoscopy	<input type="checkbox"/> Baby's proctoscopy
<input type="checkbox"/> Baby's cystoscopy	<input type="checkbox"/> Baby's cystoscopy
<input type="checkbox"/> Baby's ureteroscopy	<input type="checkbox"/> Baby's ureteroscopy
<input type="checkbox"/> Baby's laparoscopy	<input type="checkbox"/> Baby's laparoscopy
<input type="checkbox"/> Baby's thoracoscopy	<input type="checkbox"/> Baby's thoracoscopy
<input type="checkbox"/> Baby's arthroscopy	<input type="checkbox"/> Baby's arthroscopy
<input type="checkbox"/> Baby's pharyngoscopy	<input type="checkbox"/> Baby's pharyngoscopy
<input type="checkbox"/> Baby's laryngoscopy	<input type="checkbox"/> Baby's laryngoscopy
<input type="checkbox"/> Baby's bronchoscopy	<input type="checkbox"/> Baby's bronchoscopy
<input type="checkbox"/> Baby's esophagoscopy	<input type="checkbox"/> Baby's esophagoscopy

Time to make Appointments!



Parent I	Parent II
<input type="checkbox"/> Baby's name	<input type="checkbox"/> Baby's name
<input type="checkbox"/> Baby's date of birth	<input type="checkbox"/> Baby's date of birth
<input type="checkbox"/> Baby's sex	<input type="checkbox"/> Baby's sex
<input type="checkbox"/> Baby's weight	<input type="checkbox"/> Baby's weight
<input type="checkbox"/> Baby's length	<input type="checkbox"/> Baby's length
<input type="checkbox"/> Baby's head circumference	<input type="checkbox"/> Baby's head circumference
<input type="checkbox"/> Baby's temperature	<input type="checkbox"/> Baby's temperature
<input type="checkbox"/> Baby's heart rate	<input type="checkbox"/> Baby's heart rate
<input type="checkbox"/> Baby's respiratory rate	<input type="checkbox"/> Baby's respiratory rate
<input type="checkbox"/> Baby's oxygen saturation	<input type="checkbox"/> Baby's oxygen saturation
<input type="checkbox"/> Baby's blood glucose	<input type="checkbox"/> Baby's blood glucose
<input type="checkbox"/> Baby's bilirubin	<input type="checkbox"/> Baby's bilirubin
<input type="checkbox"/> Baby's hemoglobin	<input type="checkbox"/> Baby's hemoglobin
<input type="checkbox"/> Baby's hematocrit	<input type="checkbox"/> Baby's hematocrit
<input type="checkbox"/> Baby's electrolytes	<input type="checkbox"/> Baby's electrolytes
<input type="checkbox"/> Baby's coagulation studies	<input type="checkbox"/> Baby's coagulation studies
<input type="checkbox"/> Baby's chest X-ray	<input type="checkbox"/> Baby's chest X-ray
<input type="checkbox"/> Baby's ultrasound	<input type="checkbox"/> Baby's ultrasound
<input type="checkbox"/> Baby's MRI	<input type="checkbox"/> Baby's MRI
<input type="checkbox"/> Baby's CT scan	<input type="checkbox"/> Baby's CT scan
<input type="checkbox"/> Baby's PET scan	<input type="checkbox"/> Baby's PET scan
<input type="checkbox"/> Baby's bone scan	<input type="checkbox"/> Baby's bone scan
<input type="checkbox"/> Baby's cardiac catheterization	<input type="checkbox"/> Baby's cardiac catheterization
<input type="checkbox"/> Baby's endoscopy	<input type="checkbox"/> Baby's endoscopy
<input type="checkbox"/> Baby's colonoscopy	<input type="checkbox"/> Baby's colonoscopy
<input type="checkbox"/> Baby's sigmoidoscopy	<input type="checkbox"/> Baby's sigmoidoscopy
<input type="checkbox"/> Baby's proctoscopy	<input type="checkbox"/> Baby's proctoscopy
<input type="checkbox"/> Baby's cystoscopy	<input type="checkbox"/> Baby's cystoscopy
<input type="checkbox"/> Baby's ureteroscopy	<input type="checkbox"/> Baby's ureteroscopy
<input type="checkbox"/> Baby's laparoscopy	<input type="checkbox"/> Baby's laparoscopy
<input type="checkbox"/> Baby's thoracoscopy	<input type="checkbox"/> Baby's thoracoscopy
<input type="checkbox"/> Baby's arthroscopy	<input type="checkbox"/> Baby's arthroscopy
<input type="checkbox"/> Baby's pharyngoscopy	<input type="checkbox"/> Baby's pharyngoscopy
<input type="checkbox"/> Baby's laryngoscopy	<input type="checkbox"/> Baby's laryngoscopy
<input type="checkbox"/> Baby's bronchoscopy	<input type="checkbox"/> Baby's bronchoscopy
<input type="checkbox"/> Baby's esophagoscopy	<input type="checkbox"/> Baby's esophagoscopy



Kangaroo Care

Skin to skin promotes faster healing and growth

- Start skin to skin as soon as possible
- Encircled holding
- Both mom and dad are encouraged to hold
- Skin to skin has a dramatic effect on premies and full-term babies
- One of the most beneficial things you can do for your baby!



"Kangaroo care is crucial for babies to grow and develop and is also medicine for the souls of parents." -former NICU parent

Temperature

- Axillary (under the arm)
- Make sure tip of thermometer in center of armpit
 - Normal range is 36.4 to 37.4 C, or 97.5 to 99 F
- Adjust layers for low or high temperature
- Re-check often
- Call Pediatrician if stays out of range



COOK CHILDREN'S HOSPITAL TRANSITION CARE PROGRAM

Time to make Appointments!



PEDI: _____ Address/Phone: _____ Date/Time of App: _____ Branch Protocol: Hip I/O or 44-45 who HEST 811-341-9001 App: _____ EO: Referral made at DC	Neurology x32800 App: _____ Neurosurgery x05088 App: _____ Otolaryngology x07003 App: _____ Urology 682-000-9076 App: _____ Gynecology x02088 App: _____ W/O clinic x03007 ID clinic x03488 PEDIOP/Speech
Audiology x03008 App: _____ Cardiology x02140 Cardiac Teaching Complete: yes/no App: _____ CF Surgery x04000 App: _____ End/Surgery x07088 App: _____ Pulmonology x04298 RSV Risk out App: _____ Ophthalmology 811-329-0989 App: _____ Genetics x03176 App: _____ Nephrology x04290 App: _____ Plastic x07750 App: _____	Special Skills/Home Equipment Name: _____ Pt. # _____ Name: _____ Pt. # _____ Birth: Order# _____ Sex: Education _____ Skills Taught _____ Access to Utility Equipment _____ Unit x04004 App: _____ Ortho x04405 App: _____ Other Appointments: _____



Don't Kiss the Baby!

Don't kiss
the face or
simple
or blister
be
by.
to your
d cause



RSV OR RESPIRATORY SYNCYTIAL VIRUS IS A HIGHLY CONTAGIOUS RESPIRATORY VIRUS

BELOW ARE WAYS YOU CAN HELP PROTECT YOUR BABY:

- EVERYONE must wash their hands before touching baby!
- No Smoking near baby
- Wash baby's toys, clothes and bedding often
- Keep your baby away from crowds, young children and individuals with colds



Temperature

- Axillary (under the arm)
- Make sure tip of thermometer in center of armpit
 - Normal range is 36.4 to 37.4 C, or 97.5 to 99 F
- Adjust layers for low or high temperature
- Re-check often
- Call Pediatrician if stays out of range



Kangaroo Care

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"Kangaroo care is crucial for babies to grow and develop and is also medicine for the souls of parents." - Anne McCollum

COOK CHILDREN'S HOSPITAL TRANSITION CARE PROGRAM

Caring for Your Newborn

- Bulb Syringe
 - **Babies are nose breathers**
 - Suction nose when stuffy or after spit ups
 - Clean with warm soapy with warm soapy water.



Umbilical Cord Care

- Umbilical Cord
 - Cord will fall off in 7-14 days
 - Keep diaper folded down off of cord
 - Clean area with damp cloth
 - Only sponge bathing until cord is off and healed



Circumcision

- Plastibell "ring" will fall off in 7-14 days
 - Apply ointment as ordered by the doctor
 - Sponge bath only until ring falls off
 - Call Doctor for swelling, bleeding, color change.



Changing Diapers

- Wet Diapers
 - 6-10 wet diapers a day
 - Wet diaper should be clear-light yellow
- Dirty Diapers
 - green, brown, seedy yellow depending diet
 - 5-7 dirty diapers a day
 - Call Pedi if no stool in 3 days
 - Call Pedi if stools are frequent, watery, explosive.



Swaddle Bathing

Less stress, saves energy and helps keep temperature **stable**

- Gather supplies
- Wash "clean to dirty"
- Shampoo hair last
- Swaddle tub bath after cord off
- Be calm, use gentle movements



Safe Sleep

- Back to Sleep
 - NOTHING in crib
 - no toys, no bumpers, no pillows
 - Sleep sack is baby's blanket
 - Always flat on back for naps and sleep
 - Never fall asleep with your baby!



Breast or Bottle

- Infant Driven Feeding
 - Watch baby's cues
 - Safest feeding position is side-lying
 - Feed your baby every 2-4 hours
 - Bring bottles from home



Preparing Milk



- Always warm milk in bottle warmer, cup or pan of hot water, never feed cold
- **NEVER** use a microwave to warm formula or breast milk- can make "hot spots" and make less nutritious
- After warming, shake or roll bottle then check the temperature of milk



COOK CHILDREN'S HOSPITAL TRANSITION CARE PROGRAM

Car Seat Safety & CPR Class

- CPR and Car Seat Safety Classes are offered 5 days every week
 - Spanish class also available
 - Sign up with your nurse
- Bring your car seat with you to class



Going Home!

- Choose a Pediatrician (Baby's Doctor)
 - Please select a pediatrician as soon as possible
 - Call Pediatrician's office and make sure they are accepting new patients and they accept your insurance
 - Make an appointment 2-3 days after discharge
 - All follow up appointments must be made prior to discharge



Now for some fun!!!



Just for you!

Feeling overwhelmed? Ask to speak with one of our Clinical Therapists- Helen Thomas or Annie Stewart

Helping Hands Dinner every Tuesday at 6:30 PM in the NICU Classroom. Come meet other families and enjoy different topics only NICU parents could experience.

NICU Parent Craft every Tuesday afternoon from 3:30pm-5:00pm 2nd floor parent lounge

NICU Journey Beads every Friday afternoon at 1:00PM 2nd floor parent lounge



Period of PURPLE Crying

- Babies eat every 3-4 hours
- Babies sleep 16-17 hours a day
- It is normal for babies to cry
- Period of Purple Crying usually lasts 3-4 months



NEST DEVELOPMENTAL FOLLOW-UP CLINIC



COOK CHILDREN'S HOSPITAL **N.E.S.T**
DEVELOPMENTAL FOLLOW-UP Center



NICU graduate
Early
Support and care
Transition
developmental follow-up
Center

Location:
Cook Children's Hospital
1521 Cooper St, Fort Worth, TX
Hours of operation:
Monday-Friday 8:30a-5 pm

CookChildren's.

Long-term Developmental Follow-up: The NEST Clinic

- Comprehensive multidisciplinary developmental follow-up care for high-risk NICU graduates
 - Early identification developmental delay, and motor impairment
- Serve as a “Developmental Medical Home” and support program for existing primary care
- Provide comprehensive neurodevelopmental screening and testing (e.g. BSID)
- Standardized motor, sensory and cognitive assessments
- Referrals for appropriate therapy, subspecialty referrals and care coordination
- Nutrition and feeding assessment,
- Lactation consultant and speech therapy (as needed)
- **Psychosocial support:** Social work visit, post partum depression screening, social determinants of health assessments (ACES, SEEK), behavioral health counselor available
- **Eligibility Criteria:**
 - Prematurity (≤ 1500 grams/ ≤ 32 weeks'), or qualifying diagnosis (HIE, CDH, severe CHD, MMC/spinal defects, prematurity co-morbidities (IVH, BPD), other congenital anomalies, enrolled in a research study)





**NICU DISCHARGE/TRANSITION
PROCESS AT DALLAS CHILDREN'S
HOSPITAL
(DALLAS, TX)**

Steps to Your Child's NICU Journey Home



Day 1

Day 2

Day 3

Day 4

Day 5

- Meet with health care team about plans for discharge
- Notify Parents for Discharge Planning
- Consult CNS for complex discharge
- Safe Sleep/SIDS education to all caregivers (if not done)
- Bring Car Seat to hospital
- NICU Passport To Home
- Plan for transportation home
- Translation Services

- CPR Class
- Home care teaching / NICU Passport home
- Order Home supplies & home therapies
- PCP appointment
- Hearing Screen

- CPR Class
- Home care teaching/ NICU Passport Home
- CCHD (if infant has not had Echo)
- Hearing Screen(if not done
- Vaccines; Including Synagis & flu shot for family (as appropriate)
- PCP Appointment

- Home care teaching/ NICU Passport Home
- Nutrition/ EBM/formula Education
- Car Seat Tolerance Test (criteria) if not done
- CCHD (if infant has not had Echo) if not done
- Hearing Screen (if not done)
- Vaccines up to date and flu shot offered to families (seasonal)
- PCP Appointment & ECI Referral
- AVS to Translation

- Go to CPR class(if not done)
- Car Seat Tolerance Test (criteria) if not done
- Home Supplies delivered and teaching to all caregivers
- Medicines, feedings, and breathing treatments schedule teaching
- Nutrition/ EBM/formula Education/WIC
- PCP & Specialty Appointment & ECI Referral Thrive
- AVS to Translation

- Start Rooming In (preferably by 1:00pm)
- Pick up meds from outpatient pharmacy
- Nutrition/ EBM/formula/ WIC
- Arrange for transportation
- Baby clothes to go home

- Ready for Home
- Get discharge papers and safely travel home
- Pick up Breast Milk -include fortifier (1hour notice needed)
- Give Beads of Courage

* Continue trach teaching per Trach journey map (prior to 7 day D/C journey)



SMART FORM – ROUNDING NAVIGATOR

Rounding

BEST PRACTICE ALERTS
BestPractice

SUMMARY
24-Hr Vitals
72-Hr I&O
24-Hr Results
MAR Report
Review Consults

DOCUMENTATION
Select Hosp Service
Subjective/Objective
Problem List A&P
Expected Discharge
DC Rpt Completi...

ROUNding ORDERS
Cosign Orders
Dosing Weight
Manage Orders
Thrive Clinic Refe...

PROVIDER UPDATE (INPATIENT)
Update Report
PCP Comm Update
Ref Provider Update

CPT CODE ENTRY
Diagnoses
CPT and E&M Co...
Billing Guide

Thrive Clinic Referral

Thrive Referral Data

Diagnosis:

Low Birth Weight <1500g	BPD / Chronic Lung Disease
Hypoxic Ischemic Encephalopathy	IVH grade 3 or 4
Periventricular Leukomalacia	History of Bowel Resection
Gastroschisis	Omphalocele
Home Feeding Tube (G-Tube or NG Tube)	Teenage Mother (if <36 weeks GA & <3500g)
Complex Congenital Condition	Other

Parents interested in following up in the Thrive Clinic?
 Yes No

Date of Discussion:

Restore Close

PCP / Ref Provider Report

Patient Demographics

Patient Name ClinDoc, Coke	Sex Female	DOB 6/12/2014
-------------------------------	---------------	------------------

Care Team

Referring Provider

Name	Type	Specialty
Meredith Ann Byington, MD Address: 1317 E. Highway 175 Suite 800 Crandall TX 75114	Physician	Pediatrics

PCP / Ref Provider Updates
No data to display

PCP Communication Update

+ New Reading

Smart Form can also be manually accessed on Rounding, Discharge, and Transfer Navigators

PASSPORT TO HOME: STANDARDIZED PARENTAL EDUCATION ON BASIC NEWBORN TOPICS

Education ?

Assessment **Education**

Clear Selections **Active** All Comments (0) Hide Descriptions

Passport to Home

- Infant Care
 - Bathing
 - Diapering
 - Bottle Feeding
 - Breastfeeding
 - Sleep Safety
 - Thermometer Use
 - Bulb Syringe Use
 - Circumcision Care
 - Comforting Your Baby
 - Bonding
 - Car Seat Safety/Check
 - When to Call the Doctor
- Discharge Needs
 - CPR Class
 - Room - In
 - Home Medications
 - Tracheostomy Class
 - Tube Feeds
 - Wound Care
 - Formula Preparation/Recipe

Passport to Home

Infant Care

Bathing ^

Review bathing techniques with family that include:

- Mix water until it feels warm but not hot.
- Always test the water temperature before placing a baby in the tub
- Never leave a baby alone in the bath
- Gently bathe baby with a wash cloth or sponge
- Pat the baby dry as soon as the bath is complete
- Cover the baby's head to help keep the baby warm

<input checked="" type="checkbox"/> Mother	Acceptance, Explanation/Demonstration, Needs Reinforcement	Shannon M Sims, RN at 3/8/2018 10
<input checked="" type="checkbox"/> Father	Acceptance, Explanation/Demonstration, Needs Reinforcement	Shannon M Sims, RN at 3/8/2018 1043

Diapering ^


Review with family how to change a diaper and appropriate technique's for cleansing the perineal areas during a diaper chan,

<input checked="" type="checkbox"/> Mother	Acceptance, Explanation/Demonstration, Needs Reinforcement	Shannon M Sims, RN at 3/8/2018 1043
<input checked="" type="checkbox"/> Father	Acceptance, Explanation/Demonstration, Needs Reinforcement	Shannon M Sims, RN at 3/8/2018 1043

Bottle Feeding ^

Review bottle feeding techniques with family

<input checked="" type="checkbox"/> Mother	Acceptance, Explanation/Demonstration, Needs Reinforcement	Shannon M Sims, RN at 3/8/2018 1043	X
<input checked="" type="checkbox"/> Father	Acceptance, Explanation/Demonstration, Needs Reinforcement	Shannon M Sims, RN at 3/8/2018 1043	X



The image shows a blue booklet titled "PASSPORT TO HOME" from the Neonatal Intensive Care Unit at Children's Health. The cover features a yellow circular logo with a baby's silhouette and the text "PASSPORT TO HOME" in yellow. Below the logo, it says "Neonatal Intensive Care Unit" and "children'shealth" with a red heart icon.

NEW THRIVE REFERRAL PROCESS VIA EPIC

If estimated date of discharge is within 7 calendar days, new Best Practice Advisory will appear when patient chart is

opened

Option 1:
Patient
DOES meet
criteria, click
on link



Patient is scheduled to be discharged soon. Please complete Thrive Clinic Referral form and place referral order if patient meets criteria.

ⓘ The following diagnosis meet criteria: Low Birth Weight less than 1500g, BPD / Chronic Lung Disease, Hypoxic Ischemic Encephalopathy, IVH grade 3 or 4, Periventricular Leukomalacia, History of Bowel Resection, Gastroschisis, Omphalocele, Home Feeding Tube (G-Tube or NG Tube), Teenage Mother (if less than 36 weeks & less than 3500 g), or Complex Congenital Condition.

[Thrive Clinic Referral](#)

Acknowledge Reason _____

ⓘ The patient's expected discharge date is within 7 days.

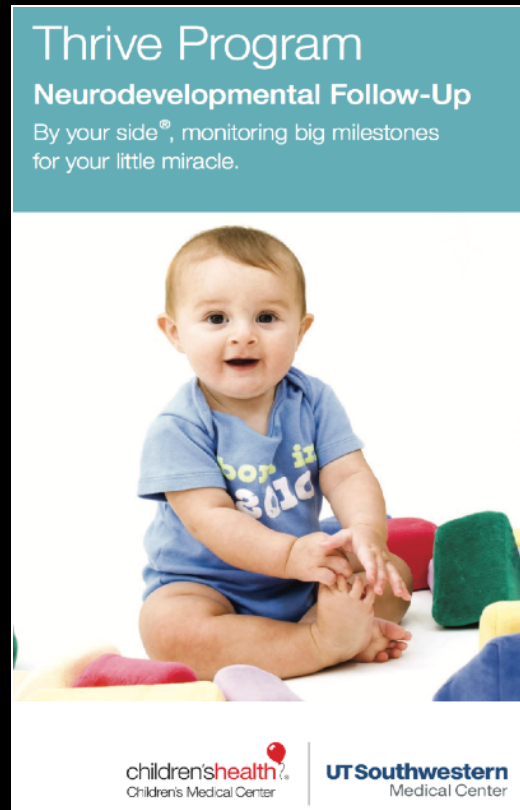
[NICU Discharge Report](#)

Option 2: Patient
does NOT meet
criteria. BPA will
no longer appear



Option 3: Unsure or
parents unavailable for
discussion. Closes BPA
and will re-appear after
12 hours

PARENT BROCHURES



**Neurodevelopmental
follow up only**

- Distributed to all Hospitals
- In service for nursing staff and NNPs completed*
- English version only at this time



**Comprehensive
Care (PCP)**

OTHER NATIONALLY MULTISITE COLLABORATIVE INITIATIVES ON NICU TRANSITION CARE

Ohio Perinatal Quality Collaborative (OPQC)




Improving Transition from NICU to Home for Infants Requiring Complex Care

NICU Graduates Change Package



Agency for Healthcare Research and Quality (AHRQ)



**Transitioning Newborns from NICU to Home:
A Resource Toolkit**



Vermont Oxford Network

iNICQ 2019: The Ins and Outs of Neonatal Care: Improving Critical Transitions for Every Newborn

Quality Improvement Project Discernment Exercise

GOAL: Your team needs to assess whether you would benefit most from working on “Ins” (admission and early care) or “Outs” (transition to home) – the 2019 collaborative focused options.

**iNICQ 2019: THE “INS” and “OUTS” of NEWBORN CARE
IMPROVING CRITICAL TRANSITIONS FOR EVERY NEWBORN**

Vermont Oxford Network Multi-Center Quality Improvement Curriculum

January – December 2019

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SUMMARY

- A comprehensive support network for an every increasing population of medically complex premature and term infants who graduate from the NICU is critically needed
 - Decrease the barriers to NICU discharge for technology dependent infants
 - Implement best practices to facilitate transition to discharge for infants and families
- An efficient standardized NICU discharge and transition process will help to decrease emergency room visits, hospital readmission, and healthcare costs
- Family engagement in their child's care early in the NICU journey will help to enhance readiness for discharge and decrease error rate.
- A statewide quality improvement project in Texas should be considered to improve the quality of the NICU transition care process, decrease morbidities and decrease Medicaid savings.