Cohort Based Value Driven Health Care Model

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Jennifer Arnold, MD
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Tuesday December 11, 2018 9:30 and 11:15 AM
Nothing to disclose

- Prabhu Parimi, Chris Snyder, Jennifer Arnold, MD, and Kathryn Bryant, BSN today have no relevant financial or nonfinancial relationship(s) within the services described, reviewed, evaluated, or compared in this presentation.
Objectives

- Identify innovative clinical care approaches to streamline care delivery that enhances outcomes and creates value
- Use a framework to design practice-specific cohort approaches
- Generate PDSA cycles to test change ideas with a specific emphasis on a cohort approach and value to stakeholders
<table>
<thead>
<tr>
<th>Topic</th>
<th>Lead Facilitator (s)</th>
<th>Time</th>
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<tbody>
<tr>
<td>Review the Cohort-based value driven healthcare model</td>
<td>Prabhu Parimi, MD</td>
<td>30 min</td>
</tr>
<tr>
<td>Mature Model: Neonatal Abstinence Syndrome</td>
<td>Kathryn Bryant, BSN</td>
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<tr>
<td>Small group exercise- Creating your own cohort model</td>
<td>Jennifer Arnold</td>
<td>30 min</td>
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<tr>
<td>The elevator speech- Garnering support for your cohort model</td>
<td>Jennifer Arnold</td>
<td>20 min</td>
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<tr>
<td>Wrap Up and Questions</td>
<td>Prabhu Parimi</td>
<td>10 min</td>
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Our Journey

Maternal, Fetal & Neonatal Institute
Vision Statement

Provide value-based care across the continuum from pre-conception to early childhood with an emphasis on improving the health outcomes of the high risk mother/infant dyad.

Current State

Proposed Plan
Cohort Based Care Model

Target Population
- General/Specific
- Steady/Changing
- Homogenous/ Heterogeneous

Disease
- Acute or Chronic

Intervention
- Prevention or Treatment

Cohorts
- Clinical Expertise
- Improves quality, safety and outcomes
- Reduce practice variation
Significance in Neonatal Perinatal Medicine

Neonatal Cohorts

- Neonatal Abstinence Syndrome
- GI Inflammation
- Congenital Heart Disease
- Hypoxic Ischemic Encephalopathy
- Extremely Low Birth Weight
- Maternal Toxic Stress

Short term Outcomes

- Periventricular leukomalacia
- Retinopathy of Prematurity
- Bronchopulmonary dysplasia
- Pulmonary Hypertension
- Medical and Surgical NEC
- Cholestatic Hepatitis
- Lean Body Mass

Long term Outcomes

- Neurodevelopmental Impairment
- Metabolic Phenotype
- Respiratory Disorders
Donabedian Framework

**Structure**
- Physician Champion
- Clinical Provider Team
- Dedicated RN Staff
- Ancillary Staff
- Case management and Social work
- Pharmacy
- Nutrition
- IT and Health Informatics

**Process**
- Cohort Build
- Multidisciplinary Team Meetings
- Clinical Practice Guidelines
- Morbidity and Mortality Review
- Root Cause Analysis
- Cohort Specific Dash Boards
- Parent Engagement and Experience
Phases of Cohort Development

- Mature (Phase 1)
- Mature (Phase 2)
- Neonatal Abstinence Syndrome
- Intestinal Rehab
- Cardiac
- Hypoxic Ischemic Encephalopathy
- ELBW infants
Cohort Strategy - Value

German Neonatal Network
- Cohort <29 weeks
- Exclusive Formula (n=239)
- Exclusive Breastmilk (n=223)
- Mixed Breastmilk/Formula (n=971)


BPD

<table>
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<tr>
<th>Diet Type</th>
<th>Odds Ratio (95% CI)</th>
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<tbody>
<tr>
<td>Exclusive Formula</td>
<td>2.59</td>
</tr>
<tr>
<td>Mixed Breastmilk/Formula</td>
<td>1.61</td>
</tr>
<tr>
<td>Exclusive Breastmilk</td>
<td>1.33-5.04</td>
</tr>
<tr>
<td>Mixed Breastmilk/Formula</td>
<td>1.15-2.25</td>
</tr>
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Odds of development of BPD compared with exclusive breast milk.
Follow-up (NICHE) Program Model

Vision

- Subspecialty NCQA Designated Clinics in 3-5 years
- Regional Expansion to North and South Market in 3-5 years
A Mature Cohort Model

Neonatal Abstinence Syndrome

Kathryn Bryant, BSN
Neonatal Abstinence Syndrome Cohort

Background

- 2016: Challenges identified to providing consistent, quality care for infants with NAS.
  - Large staff of approximately 200 nurses
  - Inefficient resource utilization
- 2017:
  - Nursing cohort implemented
    - Nurse experts identified
    - Geographical cohorting established
Neonatal Abstinence Syndrome Cohort

Implementation of cohort:

- Review of the evidence:
  - Consistency and trust lead to improved outcomes for mothers and babies
    - Improved bonding
    - Increased number of breastfeeding infants
    - Increased staff satisfaction
  - Caring for infants with NAS can lead to nurse burnout and moral distress
    - Limited number of shifts per month working in NAS cohort
    - Provided dedicated PCT support to assist with care
    - One location for all NAS patients – concentration of resources
Neonatal Abstinence Syndrome Cohort

Cohort implementation

- Interested parties recruited:
  - Keep focus on staff who are actively engaged and have a passion for this population
  - RNs, PCTs, music therapy, social work, psychology, physicians, rehab therapy, volunteer services.
  - Provided additional training to stakeholders
    - Finnegan Scoring
    - Developmental Care
    - VON NAS Curriculum
  - Created NAS Committee
    - Stakeholders meet quarterly
    - Ownership of practice
Improved outcomes for families:

“I wanted to let someone know about my experience with the NICU this time in comparison to 6 years ago with my other child. In 2012 I had my son...he had NAS and was sent to the NICU. The nurses told me I would be unable to breastfeed since I was still taking methadone. Honestly, at the time I felt very judged and uncomfortable. At times I didn’t want to stay with him due to that feeling I got from some nurses...In July, 2018 I welcomed another baby...I came into the NICU having much greater knowledge of NAS...I loved all the information I got and felt much more comfortable...this time the nurses were absolutely amazing! They explained so much to me about my baby’s scores and went over each one with me. They also told me it would be great for me to breastfeed!...I’m so happy I made the decision to return...& have my baby at All Children’s NICU!”
Neonatal Abstinence Syndrome Cohort

Continuing Progress:

2018:

- Received $2.5 million gift for babies with NAS
- NAS Follow-up Clinic opened
  - Developmental follow up through age 5
- Outreach to pregnant women expanded
  - Prenatal care services
  - Education
Group neonates with similar conditions

When Prabhu Parimi, M.D., joined Johns Hopkins All Children’s Hospital in St. Petersburg, Florida, two years ago, he found a care model that didn’t fit his vision for optimal patient outcomes, including a continuum of care from pre-birth through early childhood. “What I saw was that despite the babies being in one unit, care seemed fragmented,” says Parimi, director of its Maternal, Fetal & Neonatal Institute and Neonatology Division chief. “It struck me that grouping them together was the best way to address this problem.”

Idea No. 3 Results

Using the grouping model for babies with NAS, the hospital had:

- A 41 percent reduction in the use of pharmacotherapy
- An increase in the use of mother’s milk in the eligible population, from 69 percent to 100 percent
- A reduction in average length of stay from 16 days to nine days

Over the last year, the first phase of this plan took shape with a focus on a Neonatal Abstinence Syndrome (NAS) cohort. NAS babies were located together in one area of the NICU, along with a dedicated team of clinical experts specific to the needs of this patient population. Additionally, a team of NAS-specific providers was assembled to perform a dedicated rounding process for the NAS group.

The biggest investment children’s hospitals need to make to replicate this approach is time, Parimi says. Still, it only took a matter of months for the team at All Children’s to fully implement this new strategy—from the new co-location and staffing model to getting all of the team members in sync. In addition to the measurable benefits, Parimi says this drives an important culture shift. “Establishing a cooperative effort across the care providers is the most important part of it,” Parimi says. “Caring for patients this way will change the physician culture toward one of collaboration and relationship building.”

Neonatal Abstinence Syndrome Cohort

2018 Johns Hopkins Medicine Clinical Excellence Award
Clinical Collaboration and Teamwork Award
Break Out Session

Simulation

Jennifer Arnold, MD
Break Out Session

- Create your own cohort model (15 min)
  - Small groups of 6-8 participants
  - Use the cohort-based care delivery model worksheet
- Report back (15 min)
Develop and Practice Your Elevator Speech

Brief, persuasive speech to garner support from a key stakeholder
The Elevator Speech

- **Target Audience**
  - Critical stakeholder that you need buy-in from
    - Ex: CEO, Physician-in-chief, COO, Chief of Patient Safety, etc

- **Content - It’s a pitch**
  - Identify your goal of the pitch - get a meeting, get approval?
  - Describe what you plan to do - creation of the cohort model
  - Describe what makes you/your team uniquely prepared to accomplish the proposal and what the value is of the proposal
  - Close with the “ASK”
  - Thank you

- **Duration - length of an elevator ride**
  - 30-60 seconds
Tips for an Effective Elevator Speech

- First two sentences are most important and should grab the attention of the listener- the hook
- Information should be condensed to express the most important ideas within a short time frame
- Use simple language, avoid statistics
- Adjust the pitch to the person who is listening
- Don’t forget the ASK- at the end, what do you want to accomplish
- Exhibit passion!
- Practice!
Now Let’s Practice

- Within your small group
  - Identify a “pitcher”
  - Identify a “listener”
  - Practice- 60 seconds
  - Group feedback
Cohort-Based Model development- consider three key factors:

- Target Population
- Disease
- Intervention

Cohort-based approach includes a homogenous population, when compared to Population-based approach

Dynamic Health Care decision Model