Changing Institutional Culture to Embrace Human Milk & Breastfeeding

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Objectives

- Discuss the critical role of nurses in lactation support and how nurses can change human milk and breastfeeding practices
- Describe the process of using evidence to create institutional change through use continuous quality improvement.
- Understand the role of donor human milk for NICU infants

Role of IBCLC versus Nurse

- 22,000 IBCLCs worldwide in 81 countries
- Only 2.67 IBCLC’s per 1,000 births in U.S.
- Over 3 million nurses in U.S.
- Staff nurse is with family 24 hours per day/7 days per week

Call to Breastfeeding Action

Dr. Benjamin and Dr. Spatz
January 2011

U.S. Surgeon General’s Call to Breastfeeding Action

- Research demonstrates nurses, physicians and other health professionals receive inadequate education about BF
- Surgeon General’s Call to Action details 20 key action items to improve breastfeeding in the U.S.
- Action Items 9 & 10 address need for health professional education
- http://www.surgeongeneral.gov/topics/breastfeeding/
Strategic Methods to Improve Nurses Knowledge about Human Milk and Breastfeeding

In a four year program, human milk and breastfeeding should be integrated through all years of the program.

Education of Nurses

Nursing Outlook (2007)

Nursing 361

- Study to document impact of course over 15 years
- 289 graduates of course
- Survey yielded over 80% response rate
- Research & publications
- Advocacy
- Global & political influence
- Personal and professional

Nursing 361 Exemplars


Clinician Educator Role

- 60% appointment at CHOP
- Direct all human milk and breastfeeding activities

Nursing 361 Exemplars

The Children’s Hospital of Philadelphia
- Approximately 17 patient care units
  - Newborn Infant/Intensive Care Nursery
    - 75 beds → 99 beds by end of this year
  - Surgical and non-surgical infants including ECMO
  - National and world-wide referral center for infants born with complex surgical anomalies
  - Cardiac Intensive Care Unit
    - About 20 beds for infants born with congenital heart defects
  - Special Delivery Unit opened in 2008

Changing Institutional Culture
- Must embrace ALL staff members
- Critical role of bedside nurse
- Must be data driven

Changing Institutional Culture
- Evidence based management
- Better facts + better implementation = better performance
  - http://evidence-basedmanagement.com/
Evidence Based Management
- Face the hard facts—they will tell you the truth
- Fact based decision making
- Treat your organization as an unfinished prototype
- Look for risks and drawbacks
- Avoid basing decisions on untested beliefs

Nursing Students & Nurses to Change Institutional Culture
- Nursing students
  - Hospital wide human milk management on a daily basis
    - Ensure safety
    - Monitor compliance with storage policies
    - Aware of volume (set moms up for donation)
    - Manage lactation rental station
    - Rent pumps and scales to moms for at home use
- Nurses
  - Breastfeeding champions (BRNs) in all care areas
  - Hospital wide committee
  - Hospital wide assessments and education
  - Nurse led protocols, research and scholarship

Breastfeeding Resource Nurses
- Over 650 Breastfeeding Resource Nurses (BRNs) at CHOP
- Two day-16 hour course
- Nurse receives continuing education credit for course and are paid to take course

Breastfeeding Resource Nurses
- "Breastfeeding in our culture is met with hesitation, and there are even more obstacles to breastfeeding when a newborn is NPO in the NICU. With proper education, and 24 hour availability, a BRN serves as a front line advocate for moms who wish to provide the best nutrition and protection for their sick child. We have proven that even the sickest patients can go home breastfeeding." Rosie W.

Breastfeeding Resource Nurses
- "Being a Breastfeeding Resource Nurse means that I am able to help moms provide the very best nutrition for their infants. Beginning with the initiating and encouragement of pumping during those first few days, to finally getting that first breastfeeding experience, it’s all about the moms and their babies....I’m happy to be a part of their journey!" Amanda A.

Breastfeeding Resource Nurses
- "[It is] being able to empower moms who may be discouraged about breastfeeding due to their child’s diagnosis, and providing them the resources and support to gain the confidence to become successful at breastfeeding." Demetra E.
Breastfeeding Resource Nurses

- "Being a BRN is an amazing part of my job in the NICU. It allows me to help and support a mother to achieve her goal of breastfeeding and provide her baby with the best thing for his/her development--mom’s milk!" Kim C.

- "I have been able to use my BRN knowledge to support not only our NICU moms, but our breastfeeding staff as well! The education I have received in the BRN classes has also guided my personal decision to breastfeed!" Jennie R.

Ryan Comfort from Milk for Thought interviewed CHOP BRN’s during the national "pink bus" tour

- http://www.milkforthought.com/tour/pgcta/q

NICU BRN’s continue education and become certified breastfeeding counselors and start support group for moms

- GEMS
- www.groupofempoweredmoms.blogspot.com

Where to Start?

Evaluate your institution’s priorities
Think safety first
Pick one thing that you can be successful at improving and tackle that first!

BRNs Conduct Hospital Wide Survey of Human Milk

- Surveys were administered to all CHOP nurses regarding to basic human milk storage and safety questions
- Pictures of every inpatient unit refrigerator and freezer
- This involved standard breast milk labels, a bin system, standards and policies

Human Milk Management

- Unit based refrigerator system
- Unit based freezer system
- Standard breast milk labels
  - Pumped milk
  - Fortified milk

BRMilk Survey Results 12/09

<table>
<thead>
<tr>
<th>Mother’s Full Name</th>
<th>Inpatient Unit</th>
<th>Date Pumped</th>
<th>Time Pumped</th>
<th>Date Frozen</th>
<th>Time Frozen</th>
<th>Milk Type</th>
<th>Amount of Milk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naomi</td>
<td>NICU</td>
<td>12/09</td>
<td>10:00</td>
<td>12/10</td>
<td>11:00</td>
<td>Pumped</td>
<td>2 ounces</td>
</tr>
<tr>
<td>Rose</td>
<td>NICU</td>
<td>12/11</td>
<td>10:00</td>
<td>12/12</td>
<td>11:00</td>
<td>Fortified</td>
<td>3 ounces</td>
</tr>
</tbody>
</table>
Human Milk Management

- Following hospital wide survey unit based mandatory education completed by 100% of inpatient nursing staff
- Annual competencies and unit based skills fairs
- Human milk rate in NICU remained low

NICU 2012

Need for Accessible Evidence Based Information

Empower nurses and use your professional practice model

Nursing Standards on Intranet

- Established Breastfeeding
- Breastfeeding Assistance for the New and High Risk Infant
- Skin to Skin Care

Nursing Policies on Intranet

- Pumping Breast Milk
- Administration and Storage of Breast Milk
- Transport and Disposal of Breast Milk
- Skin to skin contact/Kangaroo Care
- Test Weights using an Electronic Scale
- Use of Nipple Shield
- Use of Supplemental Nurser System
- Use of Medela Waterless Warmer/Thawer

Other Policies

- Use of Donor Human Milk
  - In Patient Care Manual (TX-21-01)
  - Must have order and signed consent
  - All other procedures apply
- Breast Milk Post Exposure Procedure
  - In Infection Prevention and Control Manual
    - Section 4-3
      - Appendix A-Role of Nurse
      - Appendix B-Information for Families
BRNs Create Value for & Commitment to Human Milk

- BRNs collect and monitor unit based needs
  - Monthly human milk management reports demonstrate unit based usage
- Pump room usage

Pump Room Usage

- Pump room usage tracked for 6 months
- 5 pump rooms
- Average 200-300 visits per month

Need Demonstrated!

- Additional family pump rooms built
- Pump rooms for employees added to off site locations
  - Total # of pump rooms now 14

Upgrade to Symphony Pump

- 97 pumps in institution
  - Bedside pumping is the priority

Using BRNs to Change Practice and Culture

- Research and clinical practice guideline for lactation related morbidities
- CQI projects
  - Skin to skin care
  - SDU pumping initiation
  - Transition to breast
- Donor milk program
- Employee breastfeeding program
- World Breastfeeding Week

Nurse Driven Interventions

- A retrospective review of infants readmitted with early breastfeeding difficulties
  - Spatz, D.L. & Goldschmidt, K.A.
  - Funded CHOP Division of Nursing and Division of Neonatology


The Pathway

- Implemented by the bedside nurse upon admission
- Evaluation of mother-infant dyad
Skin to Skin CQI

- Initial assessment documented low occurrence
- Use of breastfeeding and developmental care committees
- Multi-faceted approach

Skin to Skin CQI

- Lunch and learn
- Visual cues
- Skills fair
- Qualitative interviews with nurses
- Refinement of policy and creation of standard
- Culminated in filming of DVD in 2005

Special Delivery Unit

- Opened in 2008
- Pumping initiation is the expectation
  - 99% pumping initiation rate
- Nurses wanted to ensure best practice
  - Pump within 2 hours of vaginal delivery
  - Pump within 4 hours of cesarean

Donor Milk

http://www.youtube.com/watch?v=fnuYyQfhzSw
Donor Milk at CHOP

- Case by case initially
- Implementation of formal program in 2006
- Must have institutional culture that values human milk
- Understand the stake holders
  - Administration/space/cost
- Health Care Provider education
- Family education
- Donor milk consent
- Milk donation process

Educational Process

- Health care providers
  - Use of hospital wide breastfeeding committee
  - Use of unit based committees
  - Scripts for speaking to families
  - Train the trainer
  - Policies
- Families
  - Mothers own milk is always best
  - Approach is key

Donor Milk Usage

Cost Considerations

- Cost expenditure for donor milk in last fiscal year was $155,693.71
- Average usage 9-11 patients per day
- Number of ounces utilized 59-135 ounces per day
- Current purchase price $4.25

- On a per day/per patient average this equals
  - $426 per day
  - $47 per patient
Justifying Cost of Donor Milk

- Total parental nutrition (TPN) at CHOP costs between $1,044.02 for 250 ml bag to $1,990.19 for a 3,000 ml bag
  - In the CHOP NICU on any given day 35 infants are on TPN
  - Based on average cost of TPN and average usage
  - $50,276.10 is spent per day
  - $18.4 million is spent per year


Employee Breastfeeding

- Hospital wide breastfeeding committee identified need to expand programming to support our employees
  - Additional pump rooms built
  - Personal use purchase program started in 2010
    - Over 1,000 pumps sold to employees at cost
  - Prenatal class for employees
  - Symphony® loaner program for offsite locations

- http://www.youtube.com/watch?v=AO7Lwl-glK4

World Breastfeeding Week

- Participate in state wide poster competition
  - Unit based poster competition with all units competing
    - Grand rounds
    - BRN STAR Award
    - Pink Bus tour!

World Breastfeeding Week

- Grand Rounds
  - Sigma Theta Tau Leadership project
  - BRN STAR recipient
Latch on America Tour

- Selected by Milk for Thought
- Over 300 community members attended

The Future of Human Milk

Optimizing Feeding of Human Milk

- Human milk management center opened 8/2/12!
  - Human milk nutrient analysis
  - Skim milk

  Guest Editor: The Journal of Obstetric, Gynecologic, and Neonatal Nursing series on “Breastfeeding the Cornerstone of Childhood Nutrition”


Human Milk Management Center

Cold Centrifuge

Skim Milk for Chylothorax
Milk in Poured into Containers

Containers Placed in Cold Centrifuge

Skim Milk
- Fat layer is removed
- Skim milk poured off

Milk is Drawn up in Capillary Tubes

Two Capillary Tubes per Sample
- Spun at 3 minutes in centrifuge
- Balance specimens
Check Creamatocrit

- Creamatocrit should read < 1% on reader or visually only thin layer

Nutrient Analysis

- Mid-infrared analyzer (Miris)
  - Demonstrated to be practical, reliable, and efficient
  - Casadio, et al. (2010). *Journal of Human Lactation*

- Targeted fortification
  - Only add to milk what is needed to reach target

Fortification

Prolacta Plus

Human Milk Fortifier

- Human milk fortifier
  - $5.63/ml
  - $168.9 per 30 mls

- Consider cost of product versus total parental nutrition, septic care, etc

Cost Justification

- Medical NEC costs on average $74,004
  - Range $47,501-$100,957

- Surgical NEC costs on average $198,040
  - Range $159,261 to $236,819

- Cost savings with Prolacta+
  - 3.9 NICU days
  - $8,167
### CHOP Then & Now

<table>
<thead>
<tr>
<th>Category</th>
<th>Then</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td># LC FTEs</td>
<td>1.0</td>
<td>2.4</td>
</tr>
<tr>
<td># pumps in institution</td>
<td>4</td>
<td>97</td>
</tr>
<tr>
<td># pump rooms</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Rental station</td>
<td>none</td>
<td>96 pumps and scales</td>
</tr>
<tr>
<td># trained staff nurses</td>
<td>none</td>
<td>Over 60</td>
</tr>
<tr>
<td>MCU use of human milk</td>
<td>Approximately 35%</td>
<td>Average over 75.8% (not a birth hospital)</td>
</tr>
<tr>
<td>Donor milk program</td>
<td>None</td>
<td>Average use about 100 ounces per day</td>
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<tr>
<td>SDU</td>
<td>None</td>
<td>90% plus pumping initiation</td>
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<tr>
<td>Standards and policies</td>
<td>None</td>
<td>12 on intranet</td>
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<tr>
<td>Professional practice</td>
<td>None</td>
<td>Integrated</td>
</tr>
<tr>
<td>Employee &amp; family resources</td>
<td>None</td>
<td>Comprehensive web-based resources</td>
</tr>
<tr>
<td>Employee lactation program</td>
<td>None</td>
<td>Award winning</td>
</tr>
</tbody>
</table>