

UC San Diego Health

Introduction And Use Of Pasteurized Donor Human Milk On The Mother/Baby Unit



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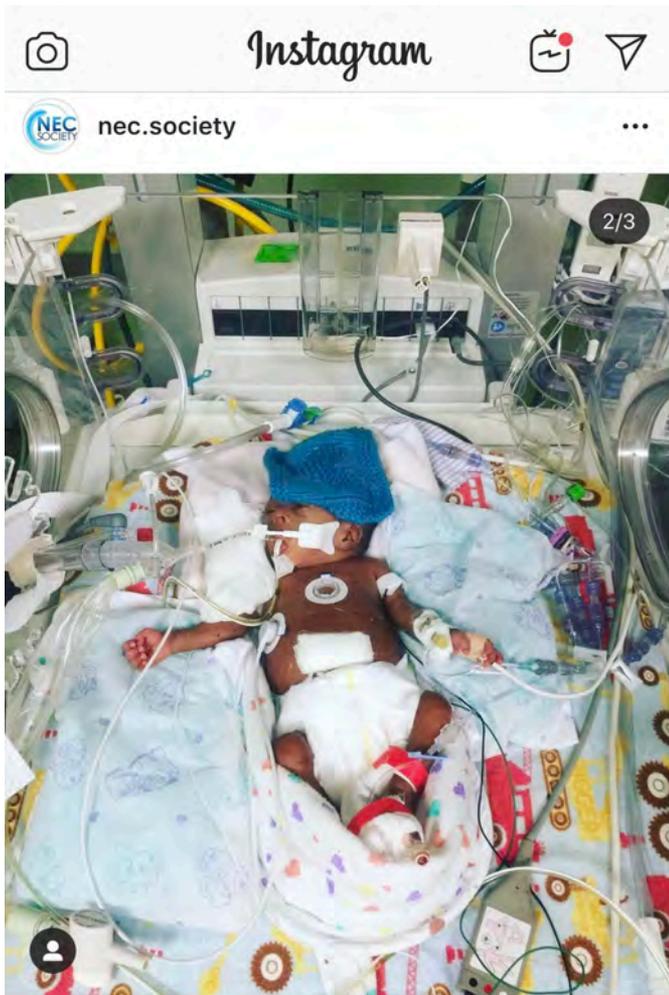
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UC San Diego Health

We know that Pasteurized Donor Human Milk (PDHM) benefits VLBW infants



- Infection
- Necrotizing enterocolitis
- Poor growth (brain & body)
- Feeding intolerance
- Poor developmental outcomes
- Long hospital stay
- Failure to breastfeed
- Readmission after going home

But what is the role of PDHM for healthy term and late preterm infants?



Objectives

- Primer on PDHM
- What is role for PDHM for healthy term infants in hospital?
 - Physiologic
 - Practical
- National metrics re: exclusive breastfeeding
- Current trends in PDHM use in mother/baby units
- Challenges regarding supplementation
- Implementation of PDHM use
- Early outcomes, use & cost data



Ospedale Innocenti
Florence Italy

Non-profit milk banking



- Regulated by HMBANA
- CDPH requires a tissue bank license
- FDA site visit
- Good Manufacturing Processes
- Food safety rules
- Milk donation is voluntary
- Donor mothers are screened and tested
- Donated milk is frozen (not fresh)
- Milk less than 12 months old (varies)
- Milk heat pasteurized
- May be donated to research if not used for clinical purposes



Maternal screening for donation



- Detailed questionnaire regarding health habits and risks for infection
- Medication query
- No tobacco, cannabis, little alcohol, no street drugs
- No living in Europe during prion outbreak
- Lab testing (Syphilis, Hep B, Hep C, HIV, HTLV 1&2)
- Approval by mother and baby physician

Milk bank processing



Donated milk is:

- Shipped/delivered to bank frozen
- Thawed
- Analyzed for nutrients (varies)
- Pooled with 1-5 mothers' milks
- Bottled and capped
- Pasteurized (30-minute Holder method)
- Cultured
- Re-frozen
- Shipped to hospitals
- Price varies (approx \$4-5/ounce)

HUMAN MILK BANKING

ASSOCIATION OF NORTH AMERICA

Mobilizing the Healing Power of Donor Milk



Challenges for Mother/Baby units regarding supplementation

- Maternal issues:
 - Many women do not make milk on a normal timetable
 - Women who cannot BF (HIV, mastectomy, ill, multiple medications, cancer patients)
- Infant issues:
 - At UC San Diego 25% of infants meet criteria for medical supplementation (BF rates >95%)
 - Attention to high risk newborns (NAS, LPI or IUGR) and delayed discharge will lead to early supplementation but discharge home exclusively BF.
- Practical issues:
 - Meeting national metrics for Ex BF rates that are imperfect
 - Hospitals want to improve their BF message
 - Families are refusing formula and/or bringing in shared milk
 - Hospitals are reluctant to expand PDHM out of the NICU
 - Milk handling on mother/baby units different than NICU



Donor Human Milk for the High-Risk Infant: Preparation, Safety, and Usage Options in the United States

COMMITTEE ON NUTRITION, SECTION ON BREASTFEEDING, COMMITTEE ON FETUS AND NEWBORN

The use of donor human milk is increasing for high-risk infants, primarily for infants born weighing <1500 g or those who have severe intestinal disorders. Pasteurized donor milk may be considered in situations in which the supply of maternal milk is insufficient. The use of pasteurized donor milk is safe when appropriate measures are used to screen donors and collect, store, and pasteurize the milk and then distribute it through established human milk banks. The use of nonpasteurized donor milk and other forms of direct, Internet-based, or informal human milk sharing does not involve this level of safety and is not recommended. It is important that health care providers counsel families considering milk sharing about the risks of bacterial or viral contamination of nonpasteurized human milk and about the possibilities of exposure to medications, drugs, or herbs in human milk. Currently, the use of pasteurized donor milk is limited by its availability and affordability. The development of public policy to improve and expand access to pasteurized donor milk, including policies that support improved governmental and private financial support for donor milk banks and the use of donor milk, is important.

INTRODUCTION

Human milk provides health benefits for all newborn infants but is of particular importance for high-risk infants, especially those born with very low birth weight (<1500 g). Donor human milk also can be beneficial to supplement the mother's own milk when necessary. The evidence to support the use of donor human milk has been reviewed,¹⁻⁶ and recent studies⁷⁻⁹ support health benefits for its use in infants with a birth weight <1500 g, especially in decreasing rates of necrotizing enterocolitis.

Donor milk banks represent a safe and effective approach to obtaining, pasteurizing, and dispensing human milk for use in NICUs and other settings. However, accessibility to donor milk in the United States

abstract

FREE

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American Academy of Pediatrics position (2019)

- Although a mother's own milk is always preferred, donor human milk may be used for high-risk infants when the mother's milk is not available or the mother cannot provide milk.
- **Priority should be given to providing donor human milk to infants <1500 g birth weight.**
- Health care providers should discourage families from direct human milk sharing
- **Other AAP resources:**
 - AAP Pediatric Nutrition Book 2019 endorses the option of using PDHM for supplement of breastfeeding outside of the NICU
 - AAP Breastfeeding and the use of human milk is in the process of being updated (stay tuned)

Trends in PDHM use in mother/baby units

Table 1. Birth Hospital Characteristics

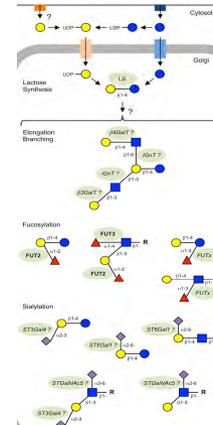
	<i>All hospitals (n = 71)</i>	<i>MA hospitals (n = 35)</i>	<i>Milk bank hospitals (n = 49)</i>
Donor milk used for healthy newborns	23 (32%)	10 (29%)	21 (43%)
Any donor milk use	52 (73%)	16 (46%)	49 (100%)
Highest level of care			
Level III or IV	39 (55%)	9 (26%)	38 (78%)
Level II	15 (21%)	11 (31%)	7 (14%)
Level 1	17 (24%)	15 (43%)	4 (8%)
Baby-Friendly Hospital Initiative-designated or on pathway	31 (51%)	15 (50%)	22 (54%)
Exclusive breastfeeding percent, median (range)	63% (7–92%)	58% (20–92%)	71% (7–90%)

Physiologic reasons to use PDHM for term newborns

Milk biology



Infant microbiome



Minimize formula exposure

Formula-Feeding

When it comes to feeding and nourishing your baby, you may decide formula-feeding is the best option for you and your little one.

[Learn More](#)

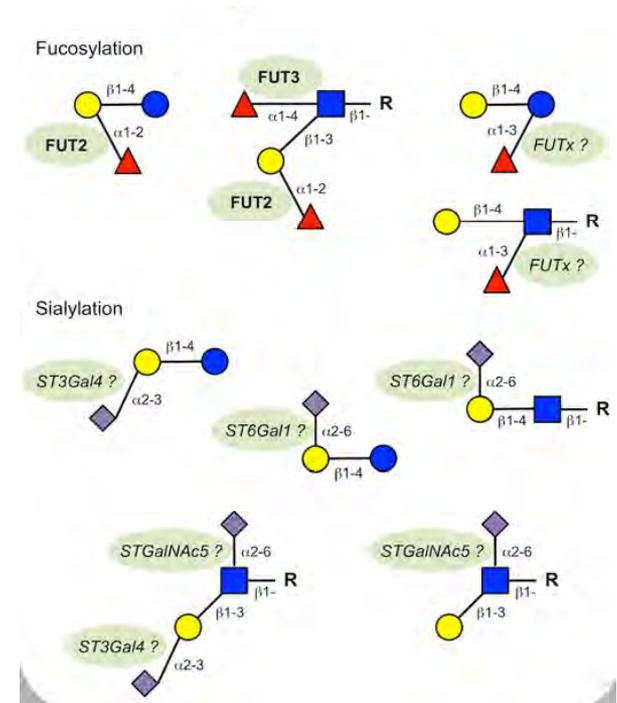


Transient neonatal ileus



Biology of human milk– much more than nutrition

- Antimicrobial factors
- Anti-inflammatory factors
- Hormones
- Growth factors
- Regulatory peptides
- Transporters
- HMO (human milk oligosaccharides)
- Probiotic Bacteria
- Living cells



HMO's courtesy of Dr. Lars Bode

From: **Effect of Supplemental Donor Human Milk Compared With Preterm Formula on Neurodevelopment of Very Low-Birth-Weight Infants at 18 Months A Randomized Clinical Trial**

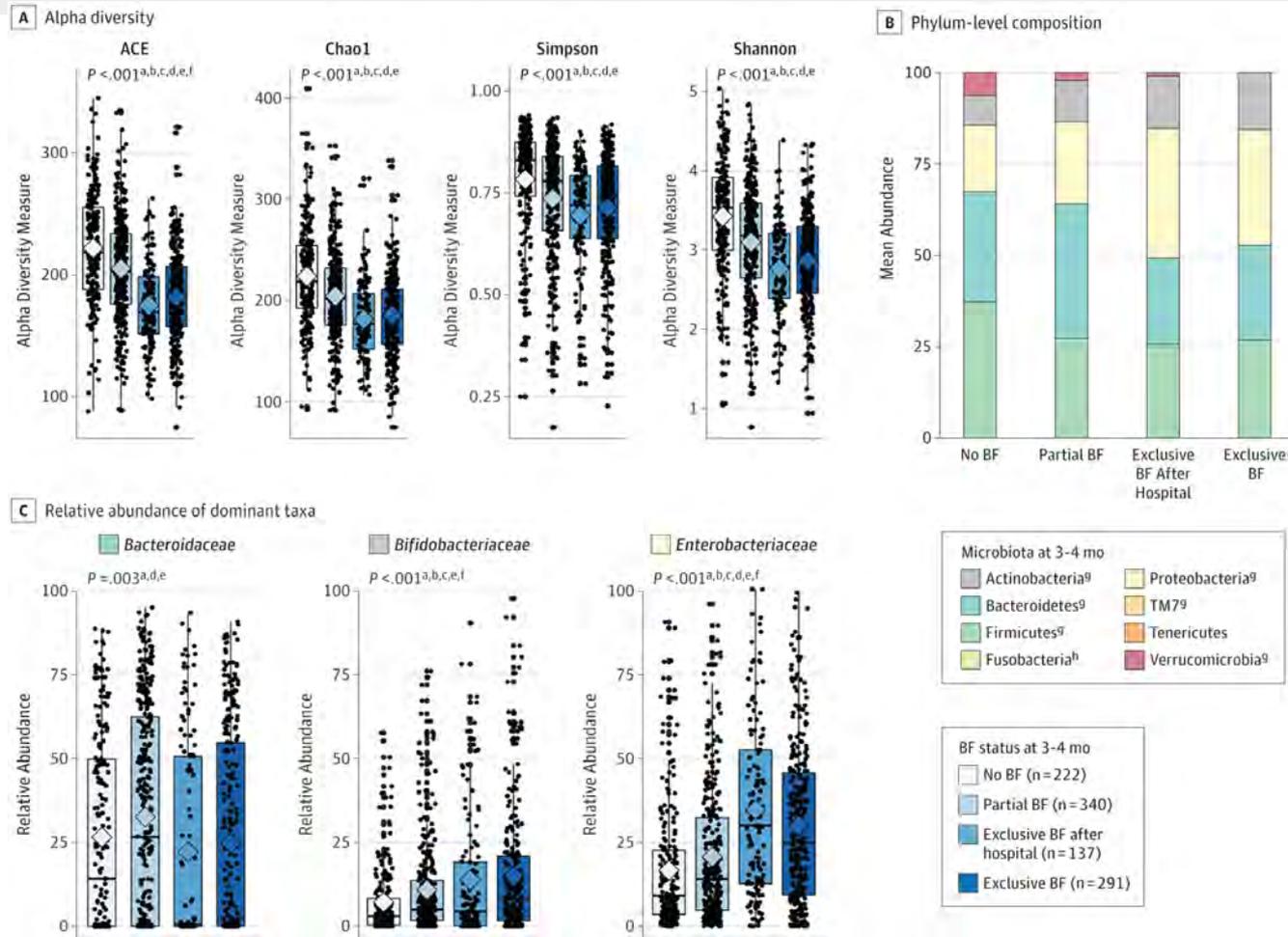
JAMA. 2016;316(18):1897-1905. doi:10.1001/jama.2016.16144

Table 4. In-Hospital Mortality and Major Morbidities^a

	No./Total No. (%)		Risk Difference, % (95% CI) ^b	P Value
	Donor Milk (n = 181)	Preterm Formula (n = 182)		
Mortality and morbidity index ^c	78/181 (43.1)	73/182 (40.1)	5.0 (-2.7 to 12.7)	.20
Death	17/181 (9.4)	20/182 (11.0)	-1.0 (-9.7 to 7.6)	.82
Late-onset sepsis	44/181 (24.3)	35/182 (19.2)	3.8 (-2.6 to 10.2)	.24
Necrotizing enterocolitis				
All stages	7/181 (3.9)	20/182 (11.0)	-7.1 (-12.5 to -1.8)	.01
Stage ≥II	3/181 (1.7)	12/182 (6.6)	-4.9 (-9.0 to -0.9)	.02
Oxygen support at 36 wk postconception	44/175 (25.1)	37/179 (20.7)	4.2 (-4.9 to 13.4)	.36
Severe retinopathy of prematurity	7/181 (3.9)	8/182 (4.4)	-0.5 (-4.6 to 3.6)	.80
Severe brain injury	38/181 (21.0)	37/182 (20.3)	4.5 (-3.7 to 12.8)	.28

From: Association of Exposure to Formula in the Hospital and Subsequent Infant Feeding Practices With Gut Microbiota and Risk of Overweight in the First Year of Life

JAMA Pediatr. 2018;172(7):e181161. doi:10.1001/jamapediatrics.2018.1161



Neonatal Ileus

- Almost universal that infants have a mild to moderate ileus at birth
- Formula, even with small volumes, often leads to vomiting and abdominal distention during first feeds
- Our observation is early PDHM feeds are very well tolerated, and on day 2-3-4 formula is better tolerated
- (Providing PDHM for infants of mothers who have a medical contraindication is a much-appreciated kindness)



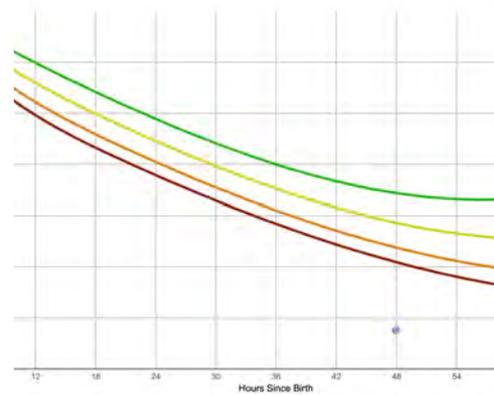
Practical reasons to use PDHM on Mother/Baby units

Reduce raw milk sharing

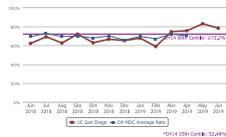


As a tip, when many women are

Reduce conflict for supplement



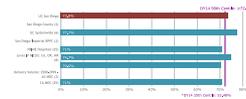
Improve ExBF rates



Period	UC San Diego	Average
Jan 2019	75.4% (160 / 204)	N/A
Feb 2019	81.1% (177 / 213)	N/A
Mar 2019	75.7% (140 / 180)	70.4%
Apr 2019	75.7% (142 / 180)	72.1%
May 2019	59.0% (95 / 161)	67.2%
Jun 2019	67.8% (118 / 174)	69.8%
Jul 2019	65.3% (113 / 173)	69.9%
Aug 2019	66.7% (104 / 156)	70.2%
Sep 2019	63.0% (121 / 190)	68.0%
Oct 2019	72.1% (152 / 183)	70.9%
Nov 2019	62.7% (98 / 153)	69.5%
Dec 2019	69.3% (115 / 160)	72.9%

Due to space constraints, only the 12 most recent data points are displayed in this table.

Peer Comparisons: 2019



UC San Diego	75.4% (160 / 204)
San Diego County	Insufficient hospitals reporting to calculate rate
UC Systemwide	72.7% (1,800 / 2,420)
San Diego Imperial RPIC	Insufficient hospitals reporting to calculate rate
PRIME Hospitals	71.5% (4,910 / 6,911)
Level IV NICU: CA, OR, WA	74.7% (2,508 / 3,356)
NCIH Level IV NICU: CA	70.5% (4,336 / 6,154)
Delivery Volume: 2500-2999 - All MDC	Insufficient hospitals reporting to calculate rate
CA MDC	71.5% (4,910 / 6,911)

Support for milk donation



WAIVER OF LIABILITY, ASSUMPTION OF RISKS OF SHARING BREAST MILK

Patient Identification

Waiver: In consideration of being permitted to use breast milk from a source other than yourself or a dedicated human milk bank while your child is an inpatient at the UC San Diego Health (hereinafter referred to as "Milk Sharing"), I, for myself, my heirs, personal representatives or assigns, as well on behalf of my baby as parent and/or guardian, **do hereby release, waive, discharge, and covenant not to sue The Regents of the University of California, its officers, employees, and agents (collectively "The Regents") from liability from any and all claims including the negligence of The Regents,** resulting in personal injury, accidents or illnesses (including death), arising from, but not limited to, Milk Sharing.

Assumption of Risks: Milk Sharing carries with it certain inherent risks that cannot be eliminated regardless of the care taken to avoid injuries. The specific risks include, but are not limited to, exposure to infectious diseases (including HIV, Hepatitis B and other viruses or bacteria), chemical contaminants, herbs, illegal drugs, and to a limited number of prescription drugs that might be in the human milk. In addition, if human milk is not handled and stored properly, it could, like any type of milk, become contaminated and unsafe to drink.

I have read the previous paragraphs and I know, understand, and appreciate:

- (1) These and other risks inherent in milk sharing;
- (2) That there are alternatives to milk sharing (e.g., artificial formula, intravenous fluids, milk banks); and
- (3) That **UC San Diego Health does not recommend Milk Sharing.**

I hereby assert that my election to Milk Share is voluntary and that I knowingly assume all such risks on behalf of myself and my minor child.

Indemnification and Hold Harmless: I also agree to INDEMNIFY AND HOLD The Regents HARMLESS from any and all claims, actions, suits, procedures, costs, expenses, damages and liabilities, including attorney's fees brought as a result of Milk Sharing while my child is an inpatient and to reimburse them for any such expenses incurred.

Severability: The undersigned further expressly agrees that the foregoing waiver and assumption of risks agreement is intended to be as broad and inclusive as is permitted by the law of the State of California and that if any portion thereof is held invalid, it is agreed that the balance shall, notwithstanding, continue in full legal force and effect.

Acknowledgment of Understanding: I have read this waiver of liability, assumption of risk, and indemnity agreement, fully understand its terms, and **understand that I am giving up substantial rights on behalf of myself and my minor child, including my/his/her right to sue.** I acknowledge that I am signing the agreement freely and voluntarily, and **intend by my signature to be a complete and unconditional release of all liability** to the greatest extent allowed by law.

Signature of Parent on Infant's Behalf and also as Parent/Guardian of Minor Child Date: _____ Time: _____ AM / PM

Name of Child: _____ Child's Date of Birth: _____

If Interpreted: _____ Date: _____ Time: _____ AM / PM
 Telephonic Video Interpreter OR ID# _____ Language _____

If Consent Provided in Patient's Preferred Language: _____ Date: _____ Time: _____ AM / PM

Specifications Manual for Joint Commission National Quality Measures (v2015B)

[Home](#) » [Perinatal Care \(PC\)](#) » PC-05

[Print this page](#)

Release Notes:
Measure Information Form
Version 2015B

****NQF-ENDORSED VOLUNTARY CONSENSUS STANDARDS FOR HOSPITAL CARE****

Measure Information Form

Measure Set: [Perinatal Care\(PC\)](#)

Set Measure ID: PC-05

Performance Measure Name: Exclusive Breast Milk Feeding

Description: Exclusive breast milk feeding during the newborn's entire hospitalization

The measure is reported as an overall rate which includes all newborns that were exclusively fed breast milk during the entire hospitalization.

Rationale: Exclusive breast milk feeding for the first 6 months of neonatal life has long been the expressed goal of World Health Organization (WHO), Department of Health and Human Services (DHHS), American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG). ACOG has recently reiterated its position (ACOG, 2007). A recent Cochrane review substantiates the benefits (Kramer et al., 2002). Much evidence has now focused on the prenatal and intrapartum period as critical for the success of exclusive (or any) BF (Centers for Disease Control and Prevention [CDC], 2007; Petrova et al., 2007; Shealy et al., 2005; Taveras et al., 2004). Exclusive breast milk feeding rate during birth hospital stay has been calculated by the California Department of Public Health for the last several years using newborn genetic disease testing data. Healthy People 2010 and the CDC have also been active in promoting this goal.

Type of Measure: Process

Improvement Noted As: Increase in the rate

TJC PC-05

Excluded Populations:

- Admitted to the Neonatal Intensive Care Unit (NICU) at this hospital during the hospitalization
- Galactosemia
- Received parenteral nutrition
- Experienced death
- Length of Stay >120 days
- Enrolled in clinical trials
- Patients transferred to another hospital
- Patients who are not term or with < 37 weeks gestation completed

But what about...

- Moms with one breast
- Multiples
- Foster care, adoption, surrogacy
- Mother in ICU
- Hospitals that care for high risk newborns in couplet care (rather than NICU)
- Hospitals that encourage mothers try to breastmilk feed even if they don't do it exclusively

California PRIME quality measures: ExBF

Project Name: **Exclusive Breast Milk Feeding (2.1.2)**
 Executive Sponsor: Marie Webber

Clinical Leads: Lisa Stellwagen
 Event Locations: In-patient



Gap: Capture of exclusive breast feeding in Epic. Donor milk availability and access (refrigerators requested). Supplementation for medical indications or maternal insistence after education.

Numerator	Denominator	Rate	PRIME Threshold	Steering Target
1349	2048	65.87%	> 67.32%	> 69.00%

Despite QI work on standardizing weight loss and jaundice assessment, introduction of glucose gel for hypoglycemia, and extensive RN education, we are still not meeting the state target **and continues to trend down.**

Exclusive Breast Milk Feeding Rate Trend



These are Term Neonates not in NICU during the measurement period (FY17-18), exclusions are based on CMQCC guidelines.

Recommended Tactics:

- (1) PDHM consent process to be obtained prenatally by OB and Midwife providers, and in hospital by pediatric team
- (2) The EPIC build complete for documentation, and consent confirmation, and milk orders
- (3) The 24 hour milk technician staff that PRIME facilitated last summer has been a key part of making this work.
- (4) W&I Quality Team plan to start without waiting for the fridges in mothers rooms and our tentative start date is March 18th.
- (5) We have verified that Mothers' Milk Bank at Austin has sufficient stores of PDHM to supply our term neonatal needs.
- (6) Our outstanding needs for optimal implementation are:
 - a. Funds to purchase the individual refrigerators for all Postpartum rooms which we believe will improve the safety, convenience, and nursing impact of this project
 - b. The cost of the additional donor milk is currently unknown. We plan to track it carefully and circle back when we have better data.

Update:

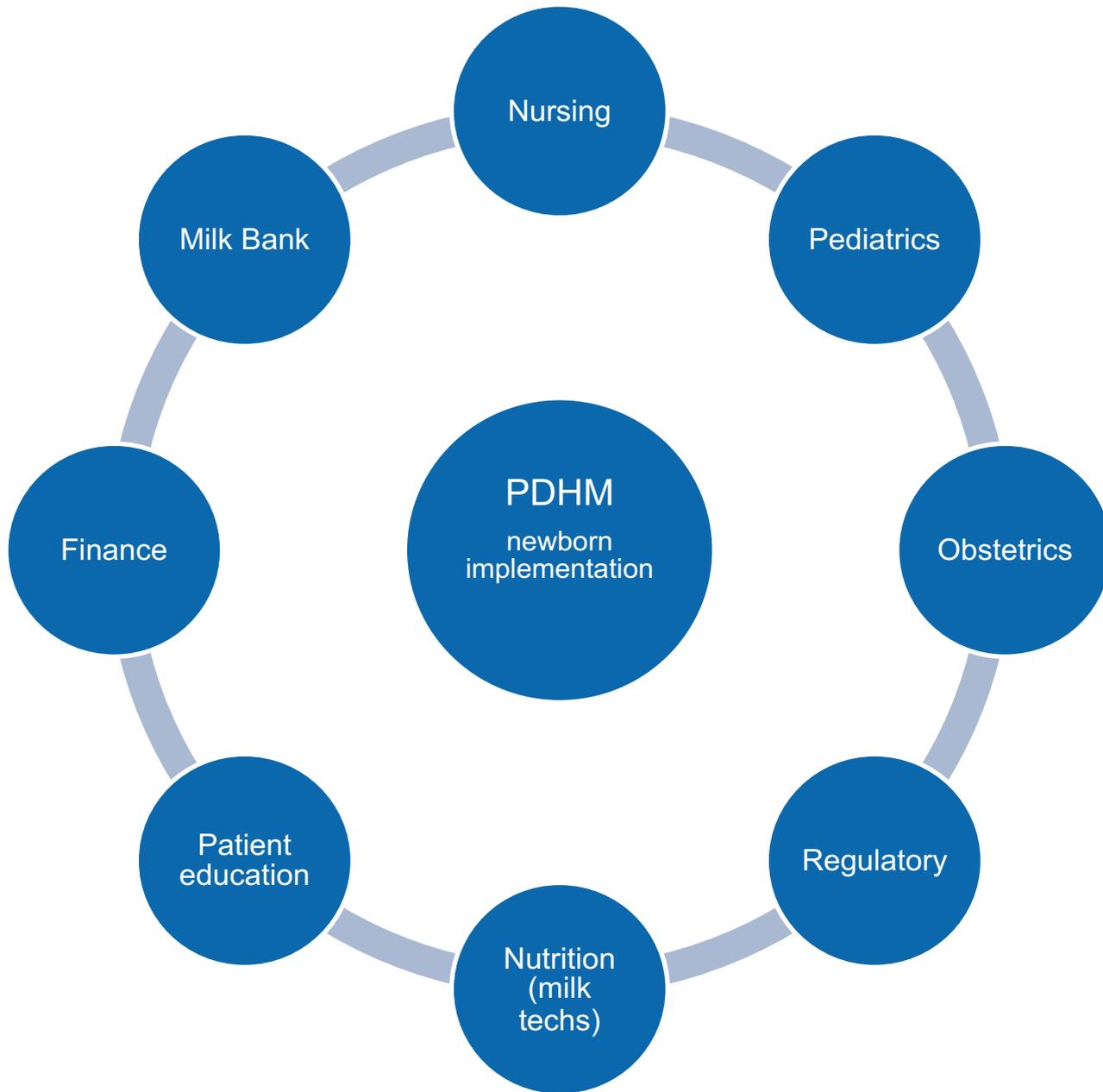
- (1) UC lactation teams met last month. The other UC hospitals are not doing this in an organized fashion.
- (2) Consent implemented 3 weeks ago, almost all families supporting. Tracking milk donor usage and metric rates.
- (3) Donor refrigerators are still being requested to support program.

Event Dates: FY 2019
 Last Updated: April 25th 2019

KEY: = Plan with defined workflow and ownership
 Seal Team = **TOC Care Management, PHSO, Pharmacy, Care Navigation Hub or IS**

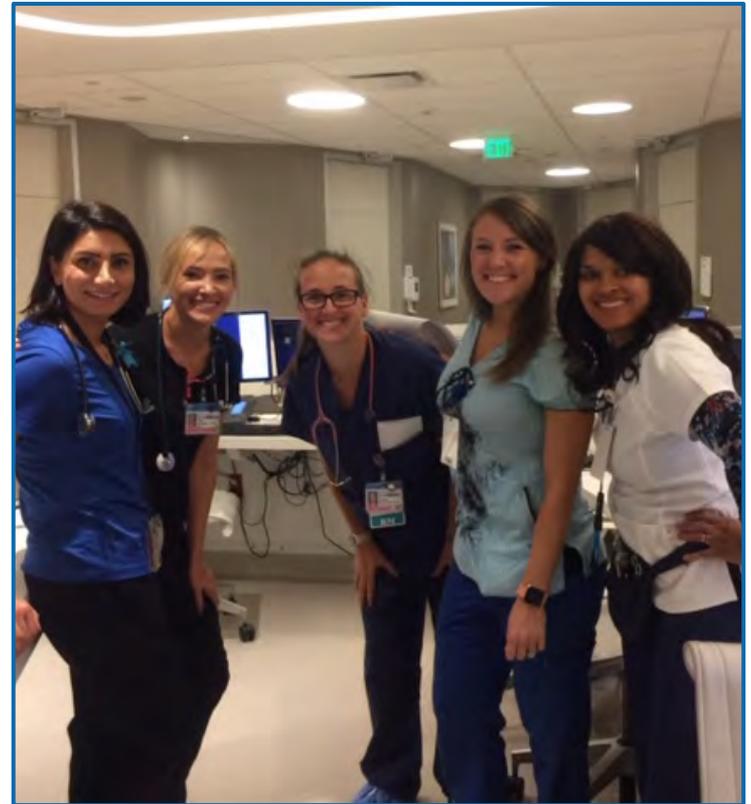
Donor Milk policies at UC San Diego Health

- 2008: UCSD took part in the Prolacta Trial & developed SPIN Program
- 2009: NICU offered PDHM after consent to all babies under 1500 grams until reach 34 weeks, or bowel injury, or physician discretion
- 2015: Expanded PDHM in NICU to birth weight of 2000 grams
- 2019: Extended PDHM:
 - BW < 2000 grams until reach 34 weeks
 - Infants with medical indication for supplement for 72-96 hours
 - Mothers with HIV, mastectomy, adoption/surrogacy



PDHM implementation

1. Task force created using multidisciplinary approach
2. Tissue Bank license
3. Considerations for PDHM use in infants > 34 weeks including supplementation guidelines
4. Consent process
5. EPIC orders/MOMS system
6. Clear designation of consent
7. Milk technicians
8. PDHM workflow for nursing
9. Policies and Guidelines updated



It took a village... and 2 years!

- Key players:
 - Newborn Medicine team took the lead
 - Lactation Consultant team
 - RN staff
 - Registered Dietician and milk techs
 - Nursing and hospital leadership were on board
- Key challenges:
 - Regulatory concerns
 - Consent
 - EPIC orders
 - Diet tech issues
 - Feeding process in mothers' room



Tissue Bank License

- Tissue Bank license covers all units in Women & Infants Services
 - ✓ NICU
 - ✓ Postpartum
 - ✓ L&D



Consideration for PDHM use in infants > 34 weeks

Considerations for Pasteurized Donor Breastmilk Use in Infants >34 Weeks

- Donor breastmilk (DBM) should be considered when mother intends to exclusively breastfeed, is pumping regularly but has insufficient supply or breastfeeding is medically contraindicated (HIV+, mastectomy, etc)- compassionate milk use
- If mother available, attempt to get expressed breastmilk (EBM) by breastfeeding, hand expression or pump; mother needs to continue expression to stimulate milk production and supply breastmilk.
 - Medical Indication (infant) for Supplementation:
 - “Bridge Milk” for infant of mother whose milk supply does not meet infant’s nutritional needs:
 - Late preterm/small for gestational age
 - Excessive weight loss not improving with exclusive breastfeeding/EBM
 - Hyperbilirubinemia judged to be secondary to poor intake
 - Hypoglycemia unresponsive to breastfeeding
 - Maternal/Infant separation (ie mom in PACU or long C/S and can’t pump/express milk)
 - Duration of DBM/Transition to Formula:
 - Evaluate at 72 hours
 - If mother’s milk supply increasing and getting close to infant’s nutritional needs (getting > ½ EBM), continue DBM and re-evaluate @ 96 hours
 - If mother’s milk supply low and not increasing, transition to formula
 - If BF contraindicated, transition to formula
 - Re-evaluate at 96 hours
 - If mother’s milk supply increasing and most likely to be able to have full supply in next 24 hours (infant only getting small volume of DBM), continue DBM
 - If mother’s supply still insufficient and not nearing infant’s nutritional needs, transition to formula
 - Transition to formula for all babies at 120 hours

Supplementation policy

Supplementation or Bottle Feeding Volumes

- DOL 1: ~5-10 ml/feed
- DOL 2: ~10-20 ml/feed
- DOL 3: ~20-30 ml/feed
- DOL 4: ~30-40 ml/feed
- DOL 5: ~40-50 ml/feed
- DOL 6: 50-60 ml/feed
- 1 week- 1st month: ~60-90 ml/feed

Possible Indications for Supplementation in Healthy, Term Infants

<i>Infant</i>	<ol style="list-style-type: none"> 1. Hypoglycemia that is persistent or recurrent despite appropriate, frequent breastfeeding. 2. Signs or symptoms that may indicate inadequate milk intake: <ol style="list-style-type: none"> a. Clinical or laboratory evidence of dehydration that is not improved after skilled assessment and proper management of breastfeeding. b. Weight loss >10% from birth weight and/or > 75% weight loss/age (Newborn Weight Tool). c. Continued meconium stools DOL5. <ol style="list-style-type: none"> i. Even though there is a wide variation between infants, urine and stool patterns after 2-3 days of life may be useful in determining adequacy of breastfeeding. d. Hyperbilirubinemia due to suboptimal intake despite appropriate feeding interventions. e. Excessive fussiness or crying not attributed to pain or other medical cause. 3. Late preterm, SGA or IUGR infant that is not effectively breastfeeding despite early intervention and education.
<i>Maternal</i>	<ol style="list-style-type: none"> 1. Delayed lactogenesis with inadequate intake of infant. 2. Primary glandular insufficiency as evidenced by abnormal breast shape, poor breast growth during pregnancy or minimal indication of secretory activation. 3. Breast pathology or prior surgery resulting in poor milk production. 4. Temporary cessation of breastfeeding due to certain medications or temporary separation of mother and infant without EBM available. 5. Intolerable pain during feedings unrelieved by interventions.

Title:	Feeding Guidelines: Healthy Infants ≥ 35 weeks
<input type="checkbox"/> Policy <input type="checkbox"/> Procedure <input checked="" type="checkbox"/> Guideline <input type="checkbox"/> Other	
Patient Population: <input type="checkbox"/> High Risk Ob/Labor, Delivery and Recovery <input type="checkbox"/> Post-partum <input checked="" type="checkbox"/> Low Risk Infant <input type="checkbox"/> High Risk Infant	
Unit(s) Affected: <input checked="" type="checkbox"/> L&D/BC/Anepartum <input type="checkbox"/> NICU <input checked="" type="checkbox"/> Postpartum	
Ancillary Services: <input type="checkbox"/> Pharmacy <input checked="" type="checkbox"/> Nutrition <input type="checkbox"/> Respiratory <input type="checkbox"/> Social Work <input checked="" type="checkbox"/> Lactation	
Effective Date: 3/15	
Revision/Review Date(s): 12/15, 8/17, 11/19	

STATEMENT/SCOPE:

This guideline defines normal feeding patterns for healthy infants 35 weeks and above who do not have a prolonged NICU stay or require specialized diet modifications. The guideline also describes when additional interventions may be needed including supplementation, pumping and nipple shields.

RELATED POLICIES:

Women and Infant Services Policies and Procedures:

- [Breastfeeding: Infants](#)
- [Hypoglycemia: Management of Infants](#)
- [Breastmilk: Medications/Drugs](#)
- [Breastfeeding: Care of Sore Nipples](#)
- [Milk Sharing: Human Milk from an Outside Source](#)
- [Pasteurized Donor Human Milk](#)
- [Feeding Progression Guidelines: NICU](#)
- [Cleaning of Breast Pump Parts and Reusable Feeding Supplies](#)
- [Breast Pump](#)

I. DEFINITIONS

- LPI: Late preterm infant
- AGA: Appropriate for gestational age
- SGA: Small for gestational age
- IUGR: Intra-uterine growth restriction
- SNS: Supplemental Nursing System; feeding tube with syringe at breast
- FF: Finger feeding; feeding tube with syringe on finger
- EBM: Expressed breast milk
- IEATS: Individualized Enteral Advancement Table (use at provider discretion, available on [W&IS Pulse Site: Lactation page](#))
- PDHM: Pasteurized donor human milk
- Supplementary Feedings/Supplementation: any feeding in addition to or instead of direct breastfeeding

Infant Hypoglycemia Management Algorithm: ASYMPTOMATIC INFANT <24 HOL*

- Infant born to diabetic mother
- LGA[∇] infant with weight >97%
- SGA[∇] infant with weight <10%
- Infant <37 weeks gestation
- Infant with cord blood pH < 7.1

FEED
BY 1
HOL**

- Check glucose:
- 1) 30 min after first feeding completed
 - 2) Q AC until ≥45 x 3 consecutive AC checks

- Follow responses below
- If symptoms develop, switch to Symptomatic Infant algorithm

<45

FIRST HYPOGLYCEMIC EPISODE	SUBSEQUENT HYPOGLYCEMIC EPISODES	REMINDERS
<ul style="list-style-type: none"> • Place S2S, administer glucose gel AND breastfeed immediately <ul style="list-style-type: none"> • If breastfeeding poorly, initiate hand expression & feed EBM while S2S • If feeding method is formula only, give 10-15 mL formula while S2S • Check BG 30 min after feeding completed • If repeat BG <45, give 2nd dose of glucose gel AND breastfeed again, supplementing with 10-15 mL EBM/DBM/formula <ul style="list-style-type: none"> • Check BG 30 min after feeding completed • After 2nd glucose gel dose: <ul style="list-style-type: none"> ➢ If BG 30-44, feed 20-30 mL of EBM/DBM/formula <ul style="list-style-type: none"> • Check BG 30 min after feeding completed • If BG remains <45, obtain blood gas or STAT lab glucose. If BG confirmed <45, notify provider, transfer to NICU, place PIV & start IV glucose with goal BG ≥50 ➢ If BG <30 or unable to feed again, notify provider & transfer to NICU. Obtain blood gas or STAT lab glucose. If confirmed <30, place PIV & begin IV glucose with goal BG ≥ 50 	<ul style="list-style-type: none"> • Place S2S, administer glucose gel[∇] AND breastfeed immediately, supplementing with 10-15 mL EBM/DBM/formula <ul style="list-style-type: none"> • If feeding method is formula only, give 10-15 mL formula while S2S • Check BG 30 min after feeding completed • If repeat BG remains <45, give 2nd dose of glucose gel[∇] AND breastfeed again, supplementing with 10-15 mL EBM/DBM/formula <ul style="list-style-type: none"> • Check BG 30 min after feeding completed • After 2nd glucose gel dose: <ul style="list-style-type: none"> ➢ If BG <45, notify provider & transfer to NICU. Obtain blood gas or STAT lab glucose. If confirmed <45, place PIV & begin IV glucose with goal BG ≥ 50 <p>∇ if infant has received a total of 4 doses of glucose gel & then has BG <45, notify provider, transfer to NICU, place PIV & start IV glucose with goal BG ≥50</p>	<ul style="list-style-type: none"> • Once BG < 45, infant needs 3 consecutive AC BG ≥ 45 before stopping screening. If IV glucose given, infant needs 3 consecutive AC BG ≥ 50 off IVF before stopping screening • Check another AC BG at 24-48 HOL; BG should be ≥ 50 • Do not give more than 2 doses of glucose gel per hypoglycemic episode • New gel tube per dose • An infant may receive up to 4 doses of glucose gel total • If radiant heat necessary, finger or bottle feed

≥45

- **Continue AC BG checks until ≥ 45 for 3 consecutive AC checks**
- **Check another AC BG at 24-48 HOL; BG should be ≥ 50**
- **Continue current feeding method until mother's milk is in**

[∇] On Fenton growth chart until 39w6d; WHO for ≥40w0d

* Between 24-48 HOL, BG should be ≥50. After 48 HOL, BG should be ≥60.

** If first feeding delayed >1 HOL due to maternal issue, check BG before giving supplement. If BG ≥45, first feeding may wait another 30-60 min as long as infant remains asymptomatic

GLUCOSE GEL DOSING		
WT (KG)	Total Dose (mL)	¼ Dose (mL)
2- 3.4 kg	1.5	~0.375
>3.5 kg	2	~0.5

Hypoglycemic Infant

Medical Indications for Supplementation



Breastfeeding Management: Healthy Term AGA Infant

Encourage/support breastfeeding:

1. Skin to skin (S2S) after delivery if mom and baby stable
2. Attempt first BF within 1 hour of delivery. If mom not able, start hand expression or pumping for milk stimulation.
3. Breastfeed on demand based on feeding cues with goal of 8-12 feeds/24 hours. Continue frequent S2S.
4. Minimal Q shift breastfeeding assessment, additional assistance as needed. Ongoing breastfeeding education.

Normal newborn sleep-wake cycles:

- Alert, awake first 2 hours
- 1-2 wakeful periods in next 10 hours
- After 12-24 hours more awake and feeds better
- Cluster feeding at night (every few hours) is normal

Is baby waking and breastfeeding effectively every few hours?

- Expressible milk/colostrum
- Good positioning and alignment
- Signs of milk transfer
- Maternal comfort during feeds
- Signs of adequate hydration

NO

Are maternal risk factors present?

- History of breast surgery
- Hypoplastic breasts
- Advanced maternal age
- History of infertility/PCOS
- Inverted nipples/nipple shield use
- PPH/anemia
- PET/magnesium
- History of milk production issues

YES

Is baby having breastfeeding problems?

- Infrequent feeds
- Poor latch, suck or milk transfer
- Dimpling of clicking with feeds
- Latch score < 7 or < 10 minutes at the breast

YES

Assist with Breastfeeding:

1. Nipple pointed towards baby's nose when latching for deep latch
2. Baby with wide open mouth with both lips flanged
3. Baby's chin buried and nose free in the "drinking position"
4. Baby's tummy firmly against mom's body
5. Hand expression and breast compression with breastfeeding

Additional considerations

1. If baby not affectively feeding or inadequate milk production start mother hand expressing or double pumping with mechanical breast pump and "hands on pumping"
2. Notify Lactation consultant, consider OT consult if needed
3. Notify provider of feeding issues/concerns

Evaluate indications for supplementation

- Hypoglycemia unresponsive to breastfeeding
- Clinical or laboratory evidence of dehydration not improving with breastfeeding
- Excessive weight loss (>10% from BW or >75% for age)
- Delayed bowel movement (>48 hours) or continued meconium on DOL5
- Excessive crying or fussiness not due to pain or other medical cause
- Failure to latch or sustain sucking

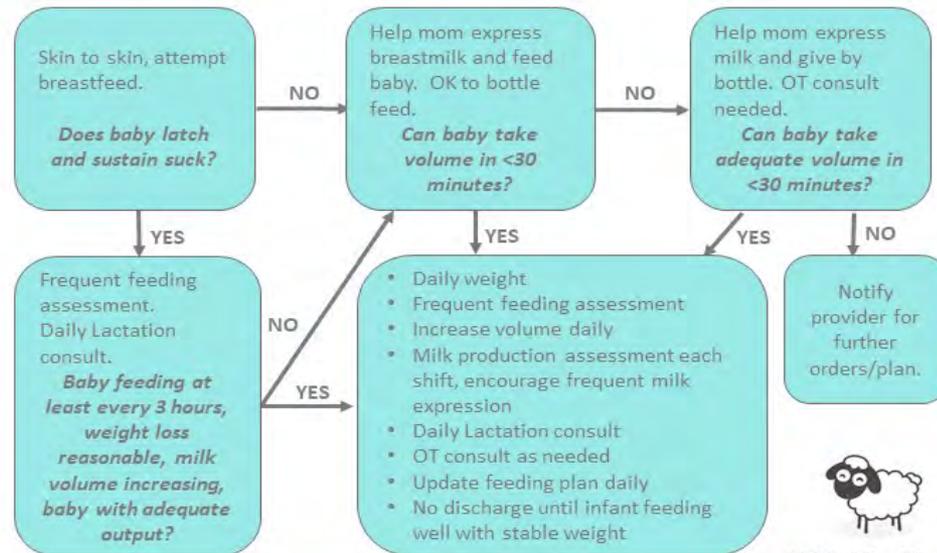
Breastfeeding Management: Early Term/Late Preterm/SGA/IUGR Infant (Little Baby Bundle)

Assist with early feedings/milk production

1. Skin to skin (S2S) after delivery if mom and baby stable, increase temperature in room.
2. Assist with breastfeeding within 1 hour of delivery, if baby unable to feed, help mother express milk/stimulate milk production.
3. Hand expression/breast compressions during breastfeeding will facilitate milk transfer.
4. If baby not latching or sustaining suck, express milk and give EBM.
5. Limit feeds to <30 minutes to assist with metabolic stability.

Support ongoing breastfeeding/breast milk feedings

1. Encourage skin to skin and increase temperature in room to assist with metabolic stability.
2. Baby to breastfed on demand but should be woken at least every 3 hours to feed.
3. Mother to hand express/pump after every feed unless infant breastfeeding well to help stimulate milk production.
4. Use feeding method that allows infant to take adequate volume in <30 minutes.
5. Daily Lactation consult/follow up with updated feeding plan. Occupational Therapy consult if baby bottle feeding or other concerns.
6. Excessive weight loss is concern for inadequate milk production/transfer.
7. Provider to document feeding order and plan daily.



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Late Preterm, SGA, IUGR Infant



UC San Diego Health

Parent Requests Formula (no medical indication)



Breastfeeding Management: Mother Requesting Formula

Mother Requests Formula

Ensure feeding preference is an informed decision including benefits of breastfeeding and provide tailored education. If family decides to formula feed after education, document feeding preference and provide safe formula preparation education.

1. Ask more questions to understand her concerns.
2. Re-state and validate concerns.
3. Review normal feeding patterns and milk production.
4. Document appropriate education points.

Assess a feed and provide assistance:

1. Assist with positioning and latch.
2. Demonstrate hand expression and breast compression with feeds.
3. Notify Lactation/provider if baby still unable to latch or sustain sucking.
4. Offer mechanical pump to supply EBM to baby.

Indications for supplementation present?

- Hypoglycemia unresponsive to breastfeeding
- Clinical or laboratory evidence of dehydration not improving with breastfeeding
- Excessive weight loss (> 10% from BW or >75% for age)
- Delayed bowel movement (>48 hours) or continued meconium on DOL 5
- Excessive crying or fussiness not due to pain or other medical cause
- Failure to latch or sustain sucking
- Maternal insufficient milk supply

YES or family still prefers to offer infant formula

1. Educate family on potential risks of supplementation with formula.
2. Help mom preserve breastfeeding:
 - Frequent skin to skin
 - Breastfeed with feeding cues
 - Breast compression and hand expression with feeds
 - Pump every time baby receives formula and offer EBM to baby first followed by limited amount of formula, preferably avoiding bottle feeding initially.

NO

- Provide reassurance and education to the family
- Evaluate at least every 12 hours for changes in clinical status.

Consent process

- Initial plan to have consent done by OB/CNM prenatally; difficult to enforce across multiple clinics and providers
- 2nd plan was to have inpatient provider or Lactation obtain consent if needed
- Ultimately consent primarily done by nursing staff in anticipation of need for supplementation

Parent handout for information on PDHM

UC San Diego Health

Donor Human Breast Milk

Parent Handout

Breast milk is the best first food for babies! Breast milk provides the best nutrition, helps with normal growth and development, and reduces the risk of your baby getting sick. Cow's milk formula does not have any of the special immune or infection fighting ingredients of breast milk. When mother's own breast milk is not available or there is not enough, pasteurized donor human milk from a donor milk bank is often the next best choice. Pasteurized donor human milk has many of the unique properties that protect your baby from infection and is easier to digest than infant formula.

UC San Diego Health (UCSDH) provides donor human milk from an approved Human Milk Banking Association of North America (HMBANA) donor milk bank. This milk bank follows guidelines to make sure the safest milk possible is provided. Before women donate milk, they have blood tests similar to when blood is donated. The breast milk that is donated by healthy mothers is also carefully tested. It is heat treated (pasteurized) just like with cow's milk to kill any germs that could cause disease. This process destroys all human cells and most bacteria and viruses in the milk. The milk is tested after heating to check again for any bacteria. There is a very small chance that your baby could become sick from germs in the donor human milk. Please discuss any questions or concerns with your baby's health care team.

Your baby's UCSDH care team recommends donor human milk if your milk supply is not meeting your baby's needs. Donor milk can be provided for:

- Premature babies until baby reaches 34 weeks gestation
- Any baby who has a medical need for additional nutrition and whose mother is not yet making enough milk, up until the 3rd day of life

Receiving donor milk depends on the supply available for use. Premature and sick babies will receive donor human milk before healthy babies. If you want to continue to use donor milk past this time, please ask your baby's health care team to inform you how it may be ordered.

If your baby needs extra milk after delivery, we would like to offer you the opportunity to choose pasteurized donor breastmilk from a certified milk bank instead of using formula. You are free to say no to donor breast milk or ask for more information.

Thank you!

UC San Diego Health Newborn and Lactation Teams

For more information on Donor Milk and Breastfeeding check out:

- MothersMilk App (download for apple/android)
- San Diego Mothers' Milk Bank website: <https://health.ucsd.edu/mothersmilk>
- HMBANA website: <https://www.hmbana.org>



PDHM consent by RN, LC or provider

UC San Diego Health						
USE OF PASTEURIZED DONOR HUMAN MILK CONSENT OR REFUSAL						
<p>Breast milk provides the best nutrition, helps with normal growth and development, and reduces the risk of your baby getting sick. Cow's milk formula does not have any of the unique immune or infection fighting ingredients of breast milk. When mother's own milk is not available or there is not enough, pasteurized donor human milk from a donor milk bank is often the next best choice. Pasteurized donor human milk has many of the unique properties that protect your baby from infection and is easier to digest than infant formula.</p> <p>UC San Diego Health (UCSDH) provides donor human milk from an approved Human Milk Banking Association of North America (HMBANA) donor milk bank. This milk bank follows guidelines to make sure the safest milk possible is provided. Women who donate milk have blood tests similar to when blood is donated. The breast milk that is donated by healthy mothers is carefully tested. It is heat treated – pasteurized – to kill any germs that could cause disease. This process destroys all human cells and most bacteria and viruses in the milk. The milk is tested after heating to check again for any bacteria. There is a very small chance that your baby could become sick from germs in the donor human milk. Please discuss any questions or concerns with your baby's health care team.</p> <p>Your baby's UCSDH care team recommends donor human milk if your milk supply is not meeting your baby's needs. Donor milk will be provided for:</p> <ul style="list-style-type: none">• premature babies until the baby reaches 34 weeks gestation.• babies whose mother does not have enough milk for baby. <p>This benefit will depend on the donor human milk supply available. Premature and sick babies will receive donor human before healthy babies. UCSDH does not provide donor human milk upon discharge.</p> <p>I have received this education about donor human milk and the UCSDH staff have answered my questions about donor human milk. If my baby needs a supplement in addition to my breastfeeding, I prefer that the following be provided:</p> <p>CHECK ONE: <input type="checkbox"/> <i>CONSENT</i> the use of donor human milk for my child. OR <input type="checkbox"/> <i>REFUSE</i> the use of donor human milk for my child and want my child to receive cow's milk formula if additional nutrition is required.</p>		Patient Identification				
Parent/Authorized Guardian Signature	Parent/Authorized Guardian Print Name	Date	Time	AM / PM		
If Interpreted:						
<input type="checkbox"/> Telephone	<input type="checkbox"/> Video	Interpreted Sig OR ID#	Language	Date	Time	AM / PM

Clear designation of PDHM consent

Documentation that parent/guardian consented to use of PDHM triggers banner for easy recognition of consent

The screenshot shows a clinical documentation interface with several tabs: Documentation, NBN Daily Cares, NBN Intake/Output, NBN Assessment, NBN Transition, Infant Transfer Check..., and NICU NBN Proc... The 'NBN Intake/Output' tab is active, displaying a table with columns for dates and values. Below the table, there are sections for 'Glucose Result', 'Breast Milk Verification (Only for Use During MOMS Downtime)', and 'Use of Pasteurized Donor Human Milk'. The 'Use of Pasteurized Donor Human Milk' section has a dropdown menu labeled 'Consent...' which is currently set to 'Parent/Guardian Use of Pasteurized...'. A 'Selection Form' dialog box is open, showing options: 'Consented and filed', 'Offered and refused', and 'Other (comment)'. An arrow points from the text on the left to the 'Consent...' dropdown.

The screenshot shows a clinical summary page with a navigation bar at the top containing icons for Summary, Results Review, Problem List, Flowsheets, Notes, Chart Review, Manage Orders, Order Review, Growth Chart, Delivery Summary, Birth Resuscitation, Admit-Txfr-Disch, Charging, and Bilirubin. Below the navigation bar, there is a 'Summary' section with a search bar and a list of reports. A pink banner at the top of the summary section reads 'Parent/Guardian Approved Use of Pasteurized Donor Human Milk'. Below the banner, there is a 'Non-Urgent Communication to Provider' section with a 'Comment' button and a link to 'Guidelines for Non-Urgent Communication to Provider'. The guidelines link points to a text box that says 'Requests should be for items to be addressed six hours or greater in the future, or on the next nursing shift.'

EPIC order/Timeless-MOMS system

Diet

Diet Specified Feedings Start supplementation if infant is 35-35 6/7 weeks OR not effectively breastfeeding. Frequency: On demand at least every 3 hours. Volume: refer to Feeding Guideline Healthy Infant >35 weeks. Route: SNS if infant is able, b...

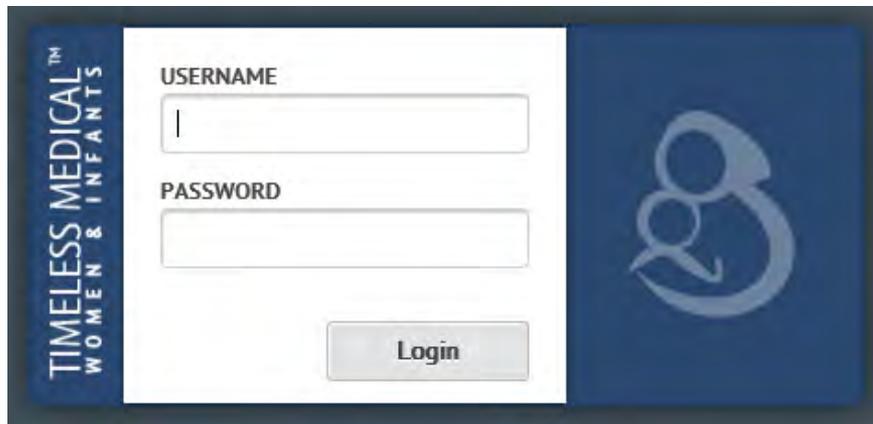
ONGOING, Starting Fri 1/3/20 at 1324, Until Specified

1. Breast Milk: MBM, DBM 34 wks and above
2. Breast Milk Calories (kcal/oz): 20
5. Formula (RTF = Ready-To-Feed liquid): Enfamil Gentlease (Term) RTF
6. Formula Calories (kcal/oz): 20
8. Route: PO

Start supplementation if infant is 35-35 6/7 weeks OR not effectively breastfeeding. Frequency: On demand at least every 3 hours. Volume: refer to Feeding Guideline Healthy Infant >35 weeks. Route: SNS if infant is able, bottle feed if infant is unable to take appropriate volume in < 30 minutes or is sleepy at breast Additional instructions: Mother to pump after feeds

Modify Discontinue 

- PDHM order is part of Standard Admission Orderset
- Interfaces with Timeless-MOMS system



TIMELESS MEDICAL™
WOMEN & INFANTS

USERNAME

PASSWORD

Login

Milk preparation room and milk tech program

- Hospital supported program with 24/7 milk tech coverage
- Registered Dietician oversees diet techs and distributed responsibilities among different shifts
- Changed to 18 hour coverage with cross coverage of shifts to improve work load
- Thawed milk is good for 48 hours



Unit milk handling



- Milk is prepped in milk preparation room each day
- Bar coding system to track milk and ensure correct administration
- Milk techs prepare community syringes and put in L&D and Postpartum refrigerators
- RNs assign milk to proper baby when needed by scanning baby and then milk
- Lactation consultants help with milk ordering
- Charge nurses interact with milk techs and night to ensure adequate volumes

Community syringes

- Initially had individual syringes assigned to patients as needed but found milk wasn't always available when needed and milk was wasted (couldn't be reassigned if not used)
- Changed to community syringes that could be scanned and assigned to baby as needed
- Par maintained by milk tech with help from Lactation Consultants and charge nurses



Struggle with milk storage

- Considered individual refrigerators for each patient room
 - Expensive
 - Bulky
 - Who is responsible for cleaning?
 - Temperature monitoring difficult
- Settled on unit milk refrigerators
 - Feedings brought to mothers' room every feeding or every other feeding (milk okay at room temp for 4 hours)
 - Milk warmers in nutrition room to warm milk if needed



Process in mother's room



1. Mom calls RN when ready to feed (or RN brings in room when does assessment)
2. RN brings syringe to room, scans baby and then scans syringe
3. Can warm in nutrition room or warmer in room (good at room temperature x 4 hours)
4. Family uses as would formula and reports volume to RN
5. RN records volume and feeding method in I&O flowsheet



Transition to formula

UC San Diego Health

How to Get Pasteurized Donor Human Milk for Your Baby After You Go Home

Mother's Milk: Mother Nature's Most Powerful Prescription

Human milk is the very best food for most babies. It is especially critical for pre-term or ill infants who are at greater risk for intestinal infections. Mom's own milk is always preferable but when it is not available, milk given generously by screened donor mothers may be the next best thing. For some infants, continuing to provide donor milk after going home can be good for baby's health. Most types of insurance will not pay for donor milk once baby leaves the hospital. However, for some ill babies with intestinal issues, insurance or MediCal may cover the cost for several months after baby goes home.

Availability of Milk

UC San Diego Health purchases donor milk from Mothers' Milk Bank donors they prioritize and provide milk first to those babies with a medical need. Healthy infants can obtain milk only when the needs of babies with a medical need have been met. The responsibility for making such decisions rests with the Executive Director, in consultation with your baby's doctor. Contact at Austin if you have questions about your baby's eligibility to receive donor milk.

How to purchase milk

If you are interested in obtaining donor milk for your baby either because of a medical condition in the baby or because you are not able to make enough milk, here are some things you can do:

1. Talk to your baby's provider to see if there is a medical need/benefit.
2. Call your insurance and see if they cover donor milk for your baby.
3. Call your MediCal worker to see if MediCal will cover milk for your baby.
4. Call MMBA at 512-494-0800 or 877-813-6455 (www.milkbank.org) done several days before going home from the hospital.
5. If your infant is healthy, consider providing some donor human milk mixed with formula or your milk.
6. Pregnant women who know they cannot breastmilk feed their baby should call and purchase milk before baby is born. UC San Diego Health generally provides donor milk for about 3 days in the hospital, but is dependent on milk supply. Premature babies are always the priority.
7. Ask your provider to fill out the form provided, if your baby has a medical need, you will need a formal letter of necessity from your baby's doctor.
8. MMBA ships milk out Monday-Thursday, with shipments arriving within 2-3 business days.

02023 (6-19)

UC San Diego Health

Dear Mothers' Milk Bank at Austin,

Infant name: _____

Infant date of birth or Due date: _____

Infant gestational age: _____

Infant birth weight: _____

This is a healthy term infant. Mother has low milk supply, insufficient milk for infant needs or a condition which is incompatible with breastmilk feeding. The family of this infant wishes to feed the child donor milk after hospital discharge.

Rx:

Please dispense Pasteurized Donor Human Milk for this child:

Dispense quantity: _____ ounces of milk

Refills: 0 / 1 / 2 / 3 / PRN

Provider printed name: _____

Provider signature: _____

Provider email: _____

CA Medical License number: _____

Provider institution: UC San Diego Health

Neonatology/Newborn telephone: 858-249-1703 Fax: 619-543-3812
Jacobs Medical Center, 9300 Campus Point Drive, La Jolla CA, 92037
Hillcrest Medical Center, 200 West Arbor Drive, San Diego CA, 92103

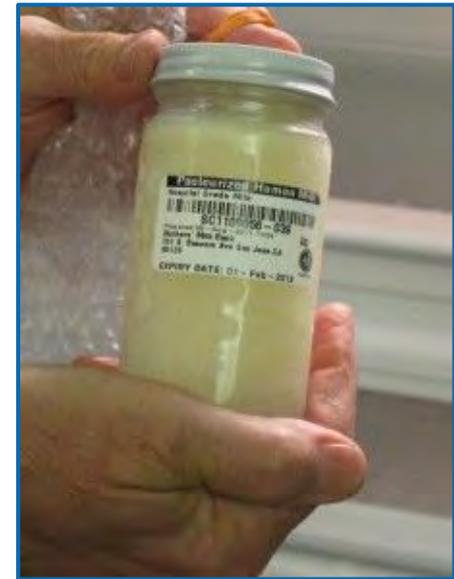
Please email order form to orders@milkbank.org or fax to (512) 428-8950.

- Provider assesses infant's daily nutritional needs to determine need for continued supplementation
- Transition to formula at discharge or sooner if mom not pumping or not getting close to full milk volume by 72 hours
- Rx given if PDHM supplementation desired after discharge (may not be available)

What to do if no milk prep room or MOMs?

Breast Milk Verification (Only for Use During MOMS Downtime)							
RN Verification #1						I have v...	
RN Verification #2						I have v...	
Use of Pasteurized Donor Human Milk							
Parent/Guardian Use of Pasteurized							

- 1 bottle assigned to each baby; good for 48 hours once thawed
- RN to draw up milk as needed
- 2 RN verification to ensure accurate administration



Lessons learned and unintended consequences



- RN buy in was amazing and change to workflow easier than anticipated
- More supplementation than before (sometimes easier to supplement than get a baby to breast feed)
- Mothers not pumping as consistently
- Shortage of PDHM and rationing based on need
- Families upset when unable to get PDHM at home

Next steps, upcoming projects

- Lactation working education to display on pump explaining milk production and importance of early and consistent pumping
- Additional education regarding medical indications for supplementation
- Education for staff regarding transition to formula
- Promoting milk donation for mothers who end up with an over supply



Importance of on-going education and “speaking with one voice”



To: Our UC San Diego Mother/Baby Unit staff:

We are so excited to announce the introduction of Pasteurized Donor Human Milk (PDHM) for all neonates at UC San Diego Health! The improvements in support for breastfeeding mothers and infants at this institution started many years ago and led to the Baby Friendly Hospital Initiative, now a UNICEF/WHO program. Our continuing work to improve nutritional care in the NICU and the SPIN program led to the use of PDHM in our NICU in 2008. Over the years, we have found that other infants also benefit from having the earliest feeds be breast milk. Our new project of starting a milk bank at UC San Diego has given us the opportunity to open up the provision of donated milk to more infants at our institution.

Although the science of the benefit of PDHM is strongest for critically ill, premature, cardiac and GI babies, recent evidence supports that even a feeding or two of infant formula can change the intestinal bacterial balance for the healthy term infant for many months. We worry that these short exposures of cow's milk protein may have other effects on the infant and there is interest in trying to avoid this exposure if possible. I believe that this offering of PDHM to all our families sends a potent message about the importance of mother's milk for all babies. Lastly, the state has imposed some strict guidelines for exclusive breastfeeding rates that are difficult for a hospital with many complicated mother baby pairs to succeed. This has led to some extra support from the hospital for us to introduce the new policy that we have been thinking of for many years.

To address all of this we are electing to offer PDHM to supplement breastfeeding babies, if they have a medical indication, for a short period of time. This is 100% at the discretion of the family, we do not expect that everyone will want to feed their baby PDHM, nor do we want to force it on reluctant families.

We are very excited to be at the forefront of a policy of global introduction of PDHM at our institution. We know it has been a complicated and long process and we will surely encounter some bumps in the road. The implementation team has been working on this for over a year and will love to have your feedback and improvement suggestions as we progress- so please give us your comments!

Thank you for helping us all advance the care for our families at UC San Diego Health! Lisa Stellwagen

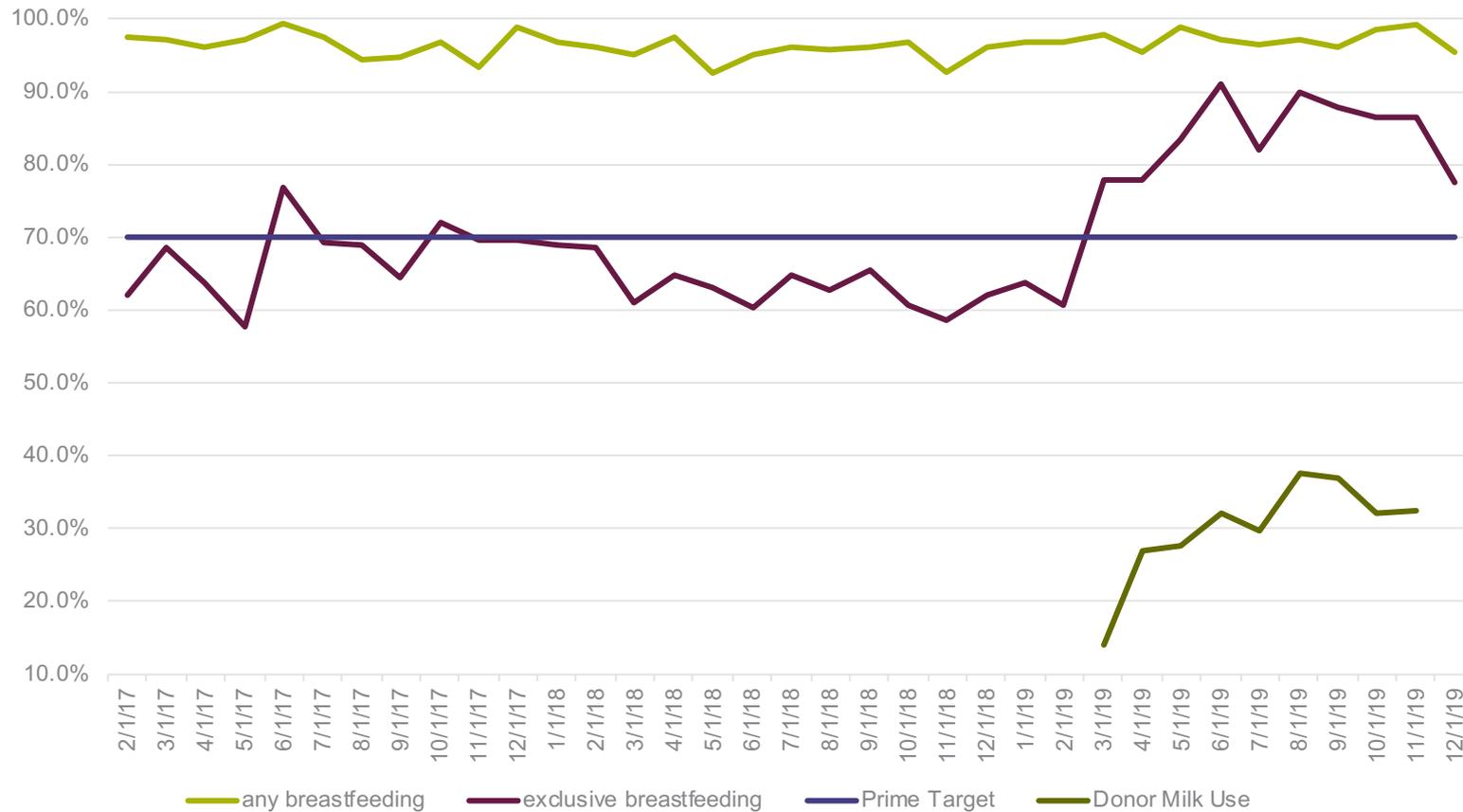
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- Consistent messaging important
- Buy in from leadership key
- Ongoing education for staff and providers
- Strong support from nutrition department necessary for success
- Lots of questions when project first rolled out but RNs quickly became independent

UC San Diego Health

Breastfeeding and PDHM use rates 2017-2019

Breastfeeding Rates at Jacobs



Data courtesy of Dr. Michelle Leff

UC San Diego Health

Impact of PDHM expansion

- Breastfeeding rates:
 - Exclusive breastmilk feeding rates increased by 23%
 - PRIME EXBF rate increased by 25%
 - Overall breastfeeding rates stayed stable at infant discharge: 96.7%
- Hospital cost/benefit:
 - MOMS training for all staff
 - Expanded milk tech program
 - Cost of PDHM
 - Meeting PRIME metric earned hospital significant funds
- Estimates of PDHM usage/cost for 12 months:
 - NICU: 10,856 ounces/year cost: \$50,000
 - Mother/Baby: 9,355 ounces/year cost: \$44,000
 - Non- NICU infants given PDHM: 536 (32% of all births)
 - Each infant received average of 8.7 ounces/ \$40 per supplemented infant (\$15 per day)

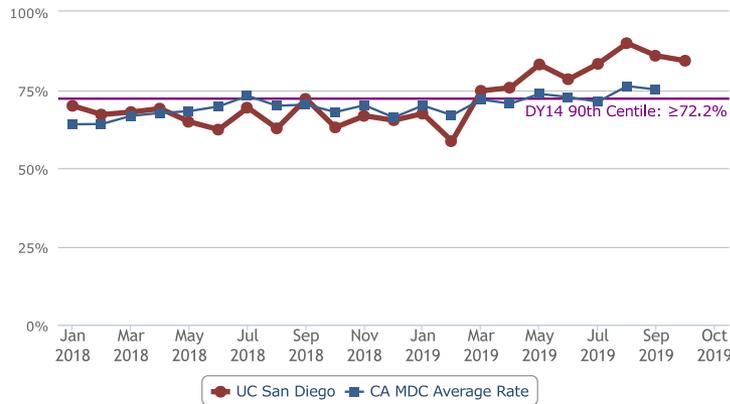
UC San Diego births in 2019= 3549

**Report from the CMQCC Maternal Data Center*
UC San Diego
PRIME: Exclusive Breast Milk Feeding (PC-05)**

Measure PRIME: Exclusive Breast Milk Feeding (PC-05)[†]

Definition Exclusive breast milk feeding during the newborn's entire hospitalization in the PRIME population

Hospital and Peer Trends

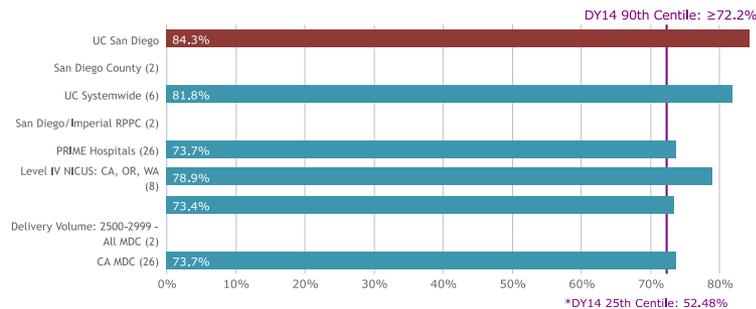


*DY14 25th Centile: 52.48%

Period	UC San Diego	CA MDC Average
Oct 2019	84.3% (188 / 223)	N/A
Sep 2019	85.9% (183 / 213)	75.1%
Aug 2019	89.9% (204 / 227)	76.2%
Jul 2019	83.3% (185 / 222)	71.2%
Jun 2019	78.4% (160 / 204)	72.7%
May 2019	83.1% (177 / 213)	73.7%
Apr 2019	75.7% (140 / 185)	70.6%
Mar 2019	74.7% (142 / 190)	71.9%
Feb 2019	58.6% (95 / 162)	66.9%
Jan 2019	67.4% (118 / 175)	70.0%
Dec 2018	65.3% (113 / 173)	66.2%
Nov 2018	66.7% (104 / 156)	70.1%

Due to space constraints, only the 12 most recent data points are displayed in this table.

Peer Comparisons: May - Oct 2019

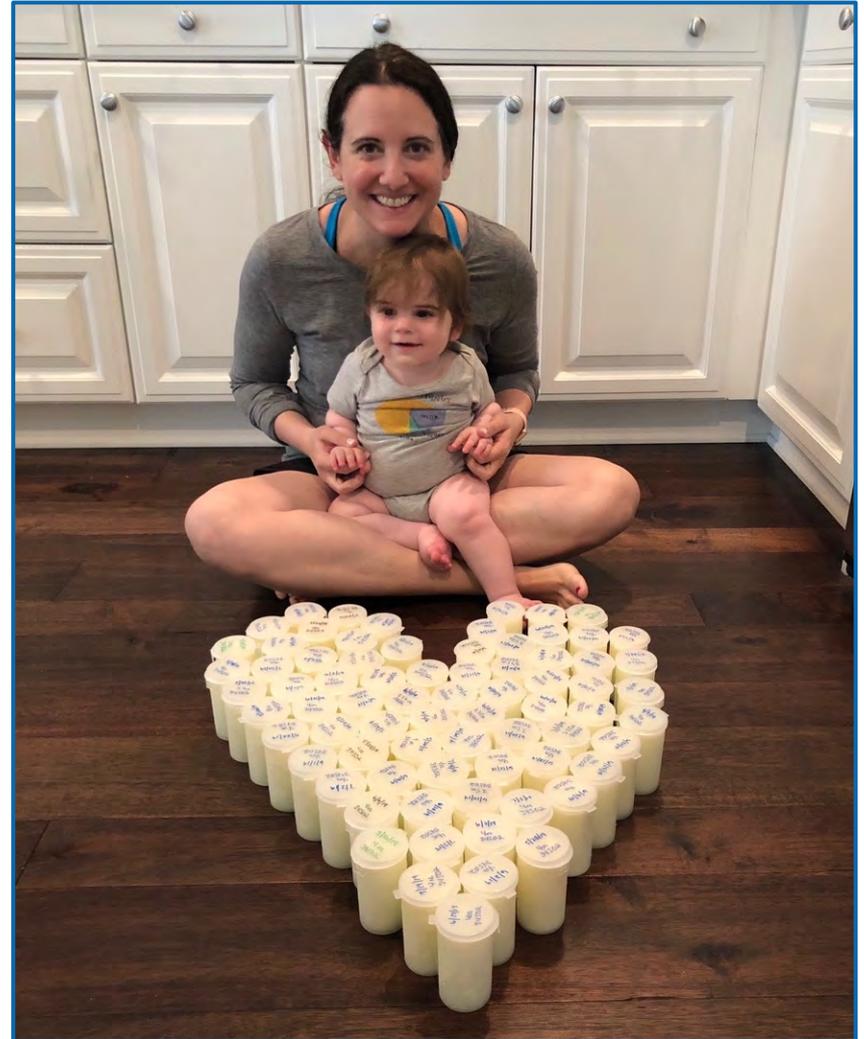


*DY14 25th Centile: 52.48%

UC San Diego	84.3% (1,097 / 1,302)
San Diego County	Insufficient hospitals reporting to calculate rate
UC Systemwide	81.8% (2,276 / 2,783)
San Diego/Imperial RPPC	Insufficient hospitals reporting to calculate rate
PRIME Hospitals	73.7% (5,251 / 7,125)
Level IV NICUS: CA, OR, WA	78.9% (2,779 / 3,522)
NICU Level III/IV - CA MDC	73.4% (4,517 / 6,150)
Delivery Volume: 2500-2999 - All MDC	Insufficient hospitals reporting to calculate rate
CA MDC	73.7% (5,251 / 7,125)

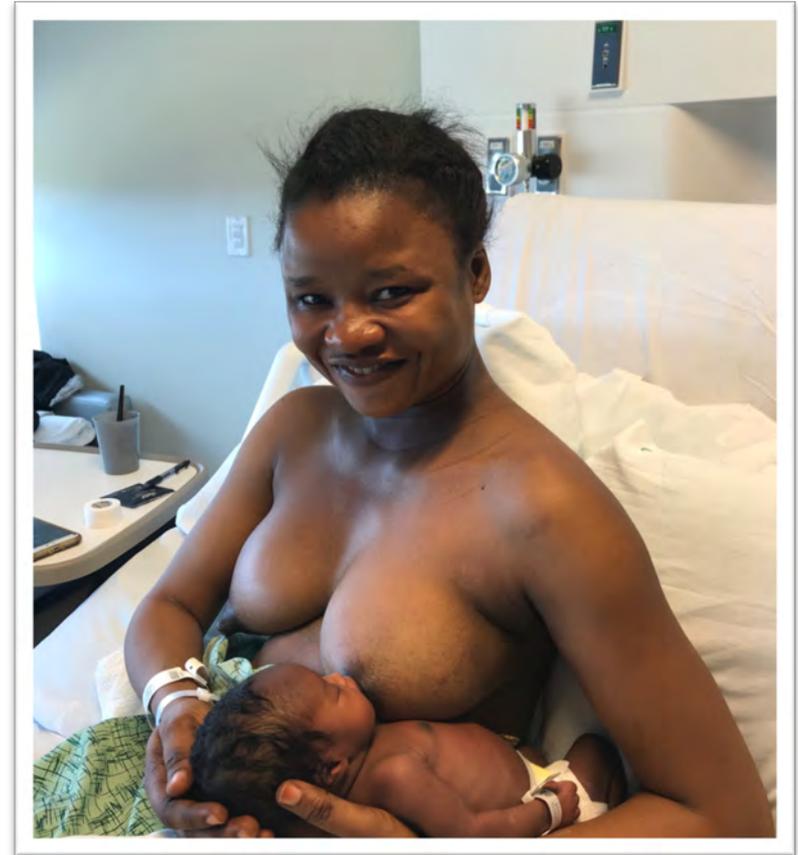
Ethical issues

- Is there enough milk for us to be using PDHM for low risk infants?
- Aren't NICUs the priority?
- Do donor mothers know their milk may not go to a sick infant?
- Are they okay with that?



Summary & Recommendations

- Get buy-in from all service lines in hospital
- Streamline the process
- Allow RN and MD to get consent
- Clear guidelines for supplementation
- Consider nurse workflow on L&D (hypoglycemia)
- Consider nurse workflow on Postpartum (frequent feeds)
- Protect mother's milk supply... keep her pumping!
- Family education & transition home



References

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Questions?

