Cooper Medical School of Rowan University

Cooper Children's Regional Hospital

MAKING SENSE OF BREASTFEEDING DATA

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Wisconsin Statewide Summit

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Disclosure

- I have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider of commercial services discussed in this CME activity.
- I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.
  - I am funded as a consultant to the CDC-NICHQ cooperative agreement Best Fed Beginnings Project as the National Faculty Chair

Objectives

- Delineate three unique surveillance systems for tracking breastfeeding data
- Define how to use breastfeeding data for improvement in breastfeeding support programs
- Understand the benefits and limitations of each tracking system

Paradigm Shifts in National Breastfeeding Efforts in the United States

1990s		2010s
Personal choice	→	Public health priority
Promotion to initiate	→	Support to implement
Individual recommendations	→	Environment/policy changes
Maternal responsibility	→	Shared accountability
Maintenance mode	→	Unprecedented activity

L. Grummer-Strawn, PhD, CDC

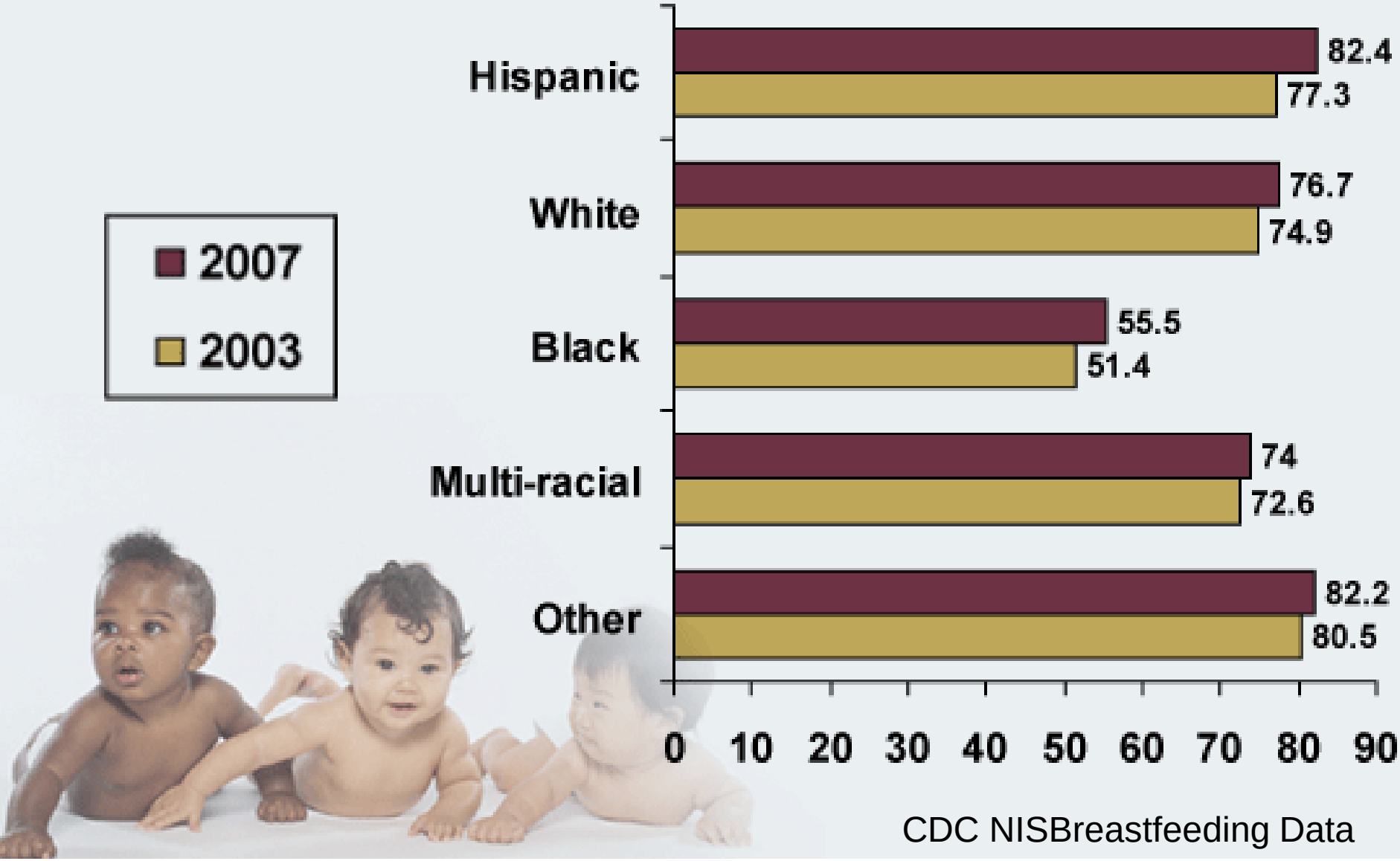
Measuring Breastfeeding Support

Outcomes	Process
Overall BF	IFS II
Exclusive BF	mPINC

National Policy

Healthy People 2020 Objectives	Baseline (year measured) %	2020 Target %
Increase the proportion of infants who are breastfed:	(2006 births)	
Ever	74.0	81.9
At 6 months	43.5	60.6
At 1 year	22.7	34.1
Exclusively through 3 months	33.6	46.2
Exclusively through 6 months	14.1	25.5
Increase the proportion of employers that have worksite lactation support programs	25.0 (2009)	38.0
Reduce the proportion of breastfed newborns who receive formula supplementation within the first 2 days of life	**24.2 (2006 births)**	**14.2**
Increase the proportion of live births that occur in facilities that provide recommended care for lactating mothers and their babies	**2.9 (2009)**	**8.1**

Children Ever Breastfed or Fed Breast Milk by Race/Ethnicity

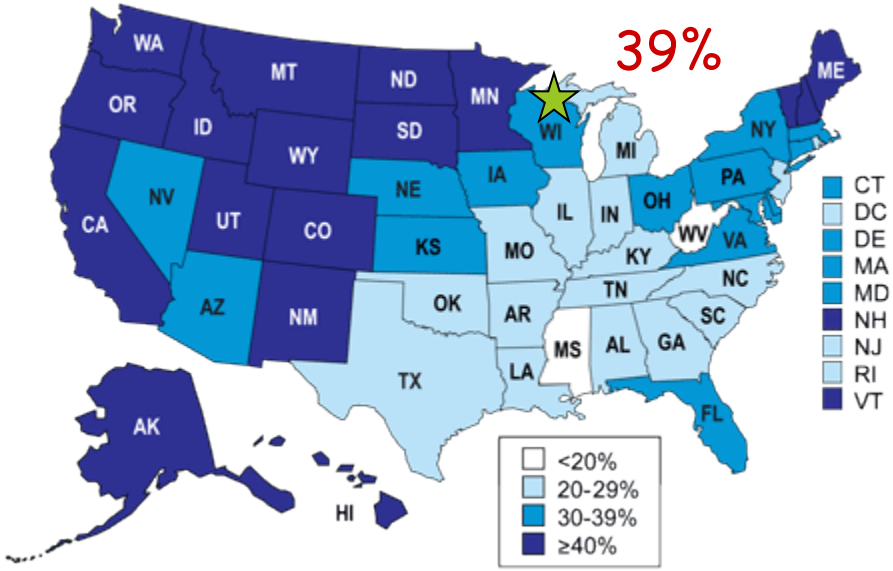


CDC NISBreastfeeding Data

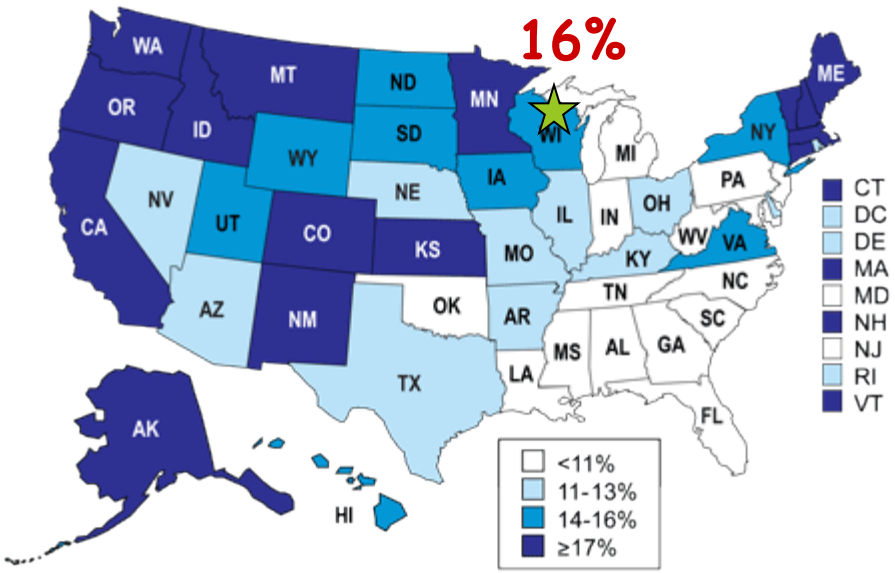
Exclusive Breastfeeding in the US

…to increase the proportion of mothers who exclusively breastfeed their infants (using NIS data)

through age 3 months to **46%**
(old target 40%)



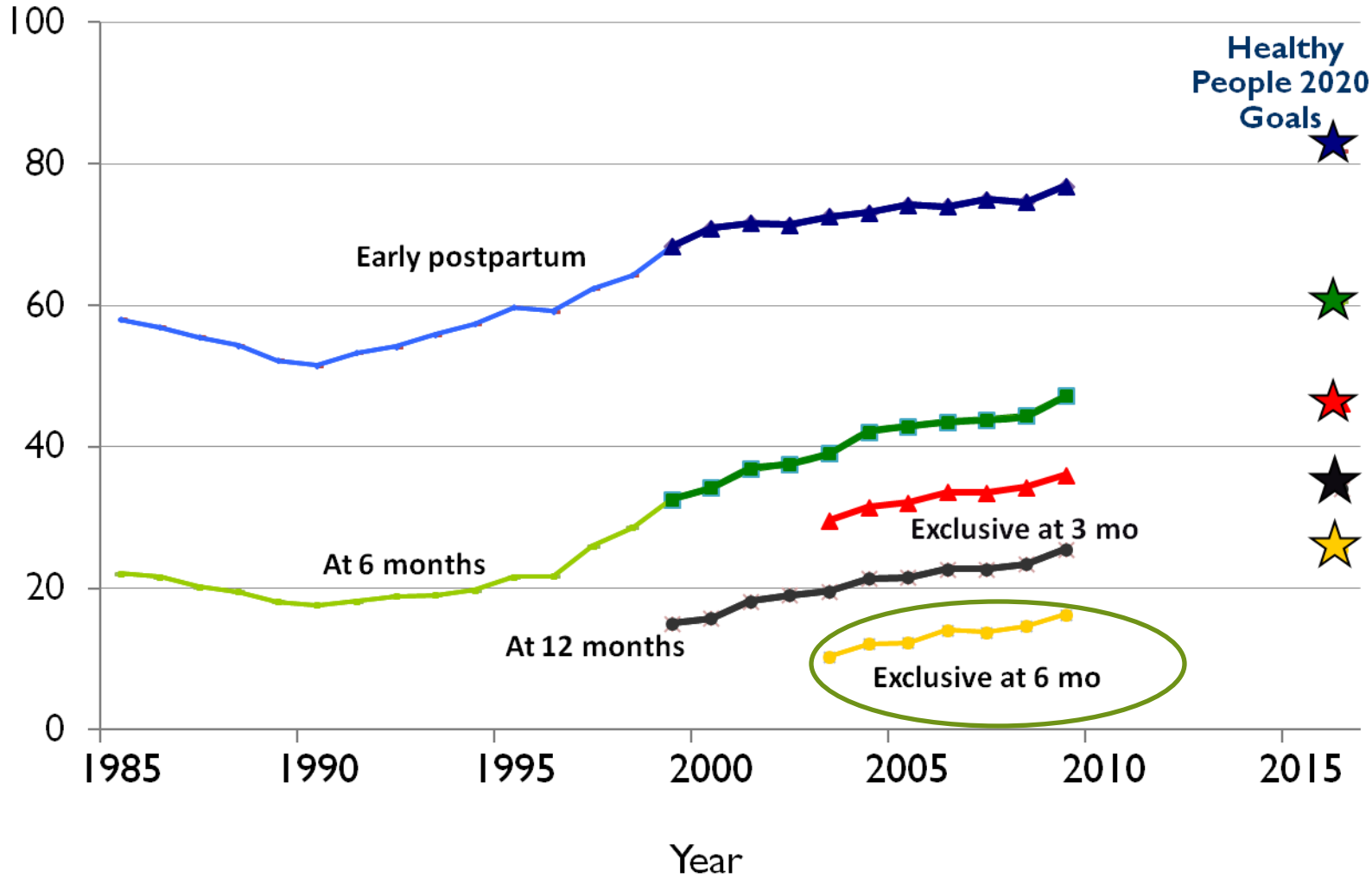
through age 6 months to **26%**
(old target 17%)



By the year 2020

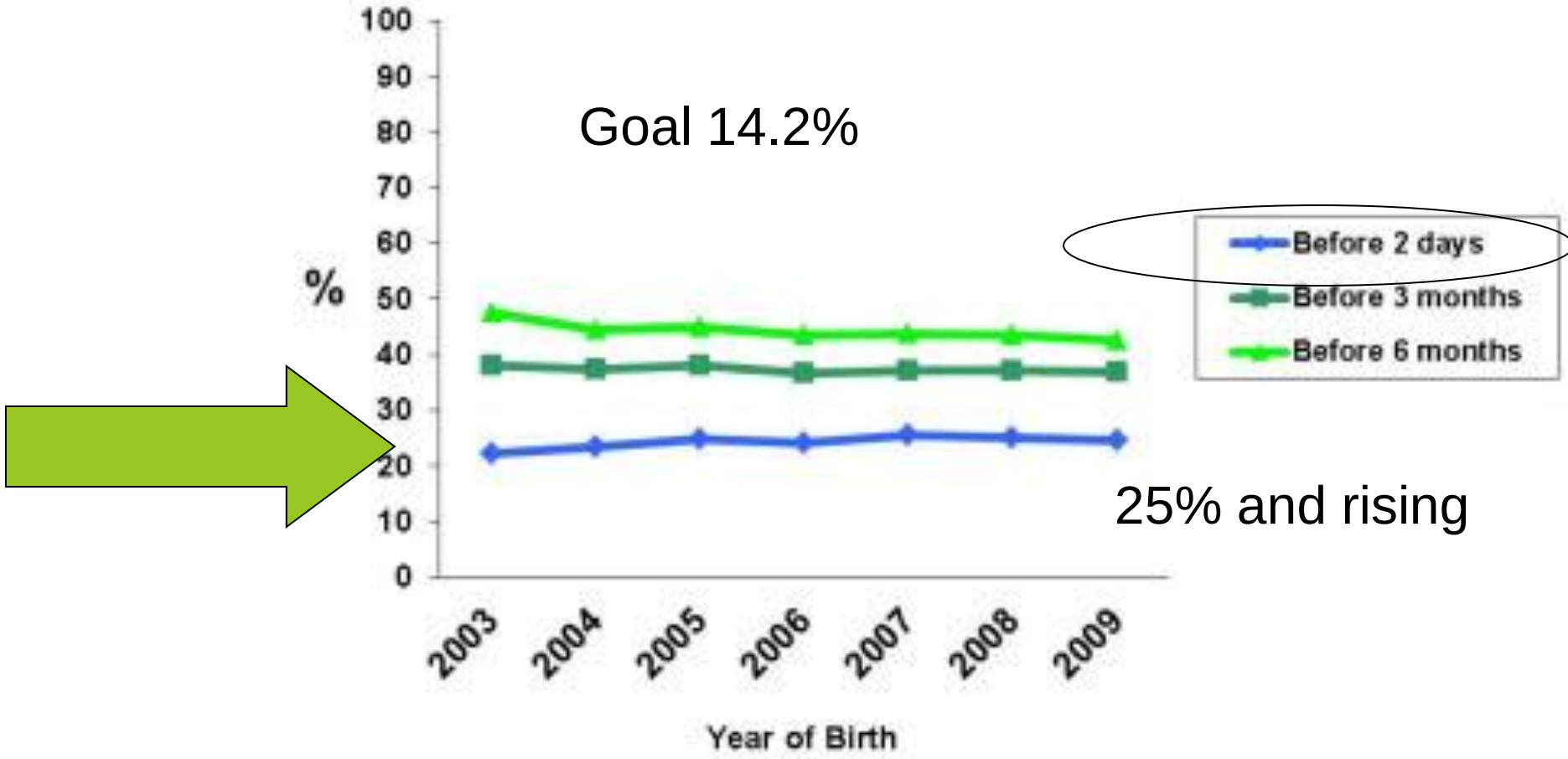
http://www.cdc.gov/breastfeeding/data/NIS_data/data_2007.htm

US breastfeeding rates, 1985-2009



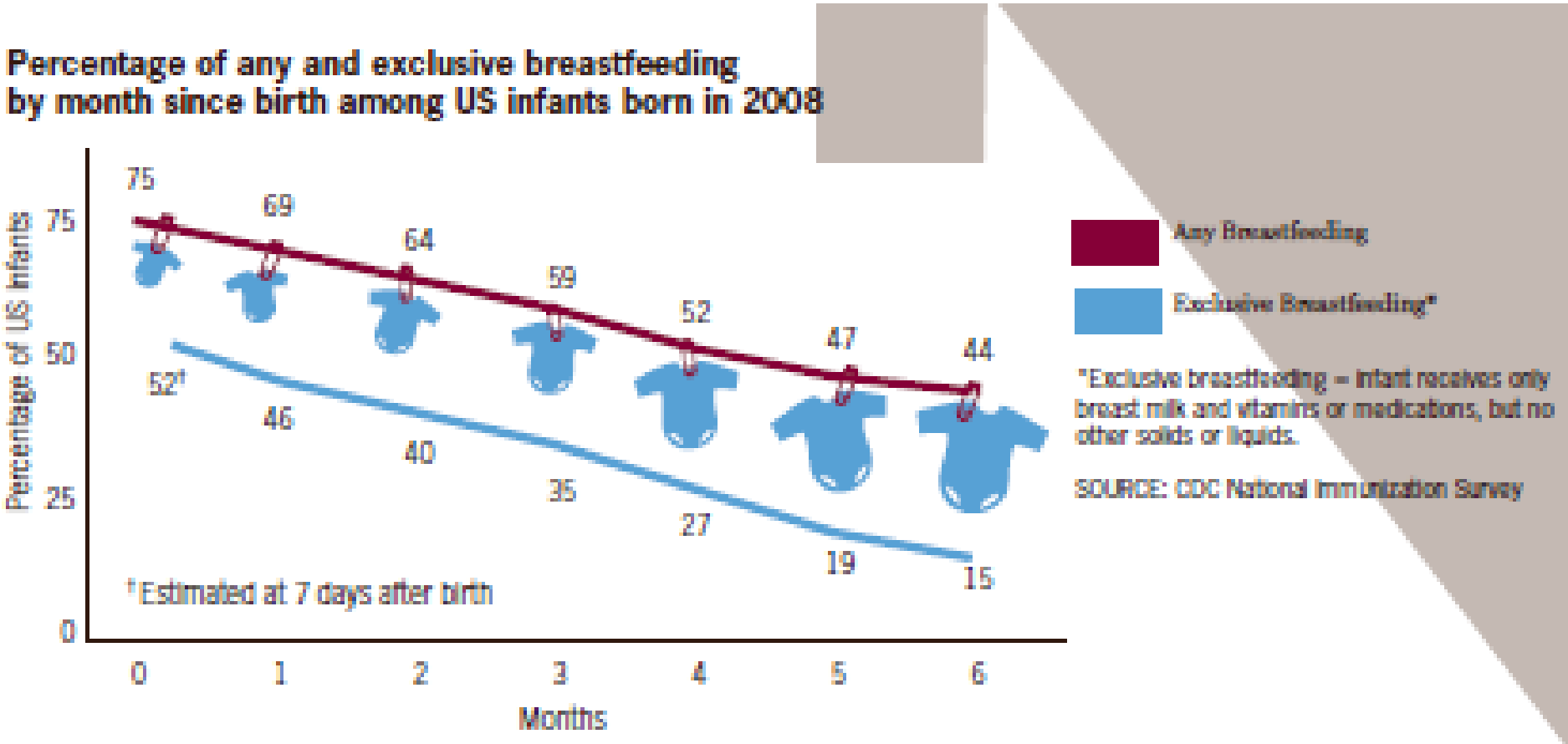
http://cdc.gov/breastfeeding/data/NIS_data/index.htm

Percent of U.S. breastfed children supplemented with infant formula



http://cdc.gov/breastfeeding/data/NIS_data/index.htm

Breastfeeding *Support* is Necessary



CDC's Surveillance of Breastfeeding

- **Monitoring of rates** (NIS, PedNSS, PRAMS, etc.)
- **Infant Feeding Practices Study II**
- **CDC Survey of Maternity Practices in Infant Nutrition and Care (mPINC)**

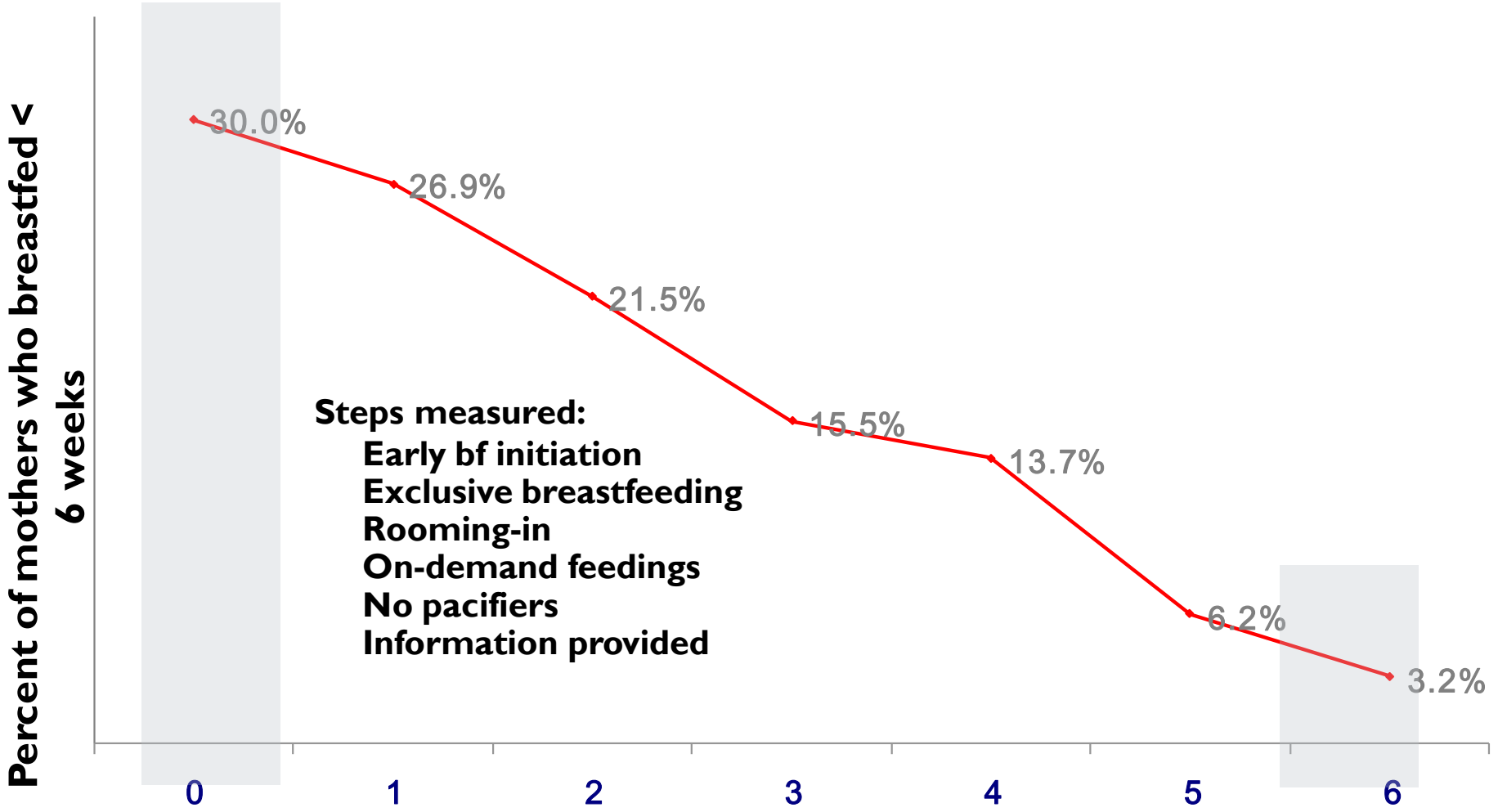
- **Actions:**
  - Surgeon General's Call to Action to Support Breastfeeding
  - Federal Interagency Breastfeeding Workgroup
  - Breastfeeding Report Card
  - CDC Guide to Breastfeeding Interventions

Mothers do not breastfeed as long as they intend

- 80% of women intend to breastfeed.
- 77% start breastfeeding.
- 16% exclusive breastfeeding at 6 mos.
- **60% of mothers do not breastfeed as long as they intend**
  - problems with latch
  - problems with milk flow
  - poor weight gain
  - pain

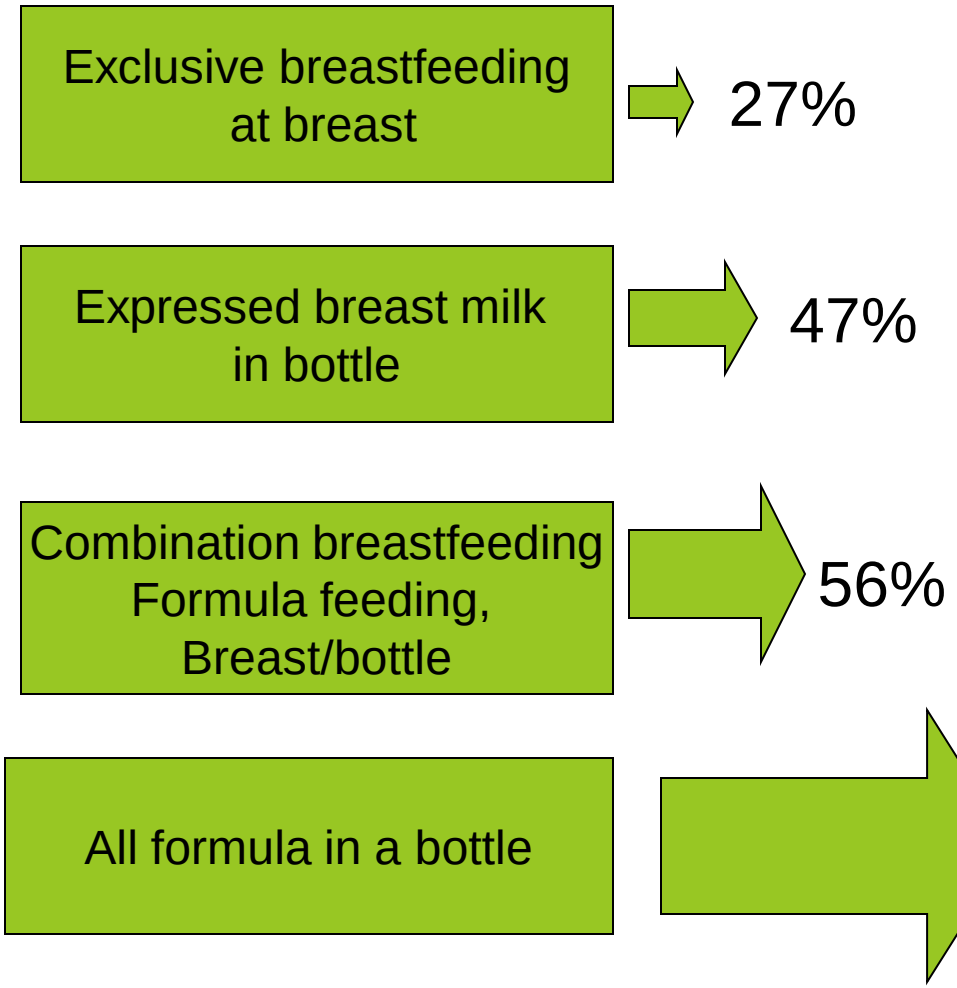
Source: Infant Feeding Practices Study II and National Immunization Survey, 2012

The number of *Baby Friendly* steps in place predicts risk of breastfeeding cessation



(DiGirolamo et al., 2008 IFS II)

Breastfeeding Leads to Self-Regulation



How often does your infant empty the bottle/cup after 7 months of age?

Pediatrics. 2010 Jun;125(6):e1386-93. IFS II data.

CDC Survey of Maternity Practices in Infant Nutrition and Care (mPINC)

- Assesses Ten Steps to Successful Breastfeeding in all birthing facilities
- 2007, 2009, 2011
  - 2 functions
    - Education of hospital leadership & staff
    - National monitoring of practices
  - August 2011: CDC director issued Vital Signs report (1.3 billion media impressions)

National Survey of Maternity Practices in Infant Nutrition and Care (mPINC)

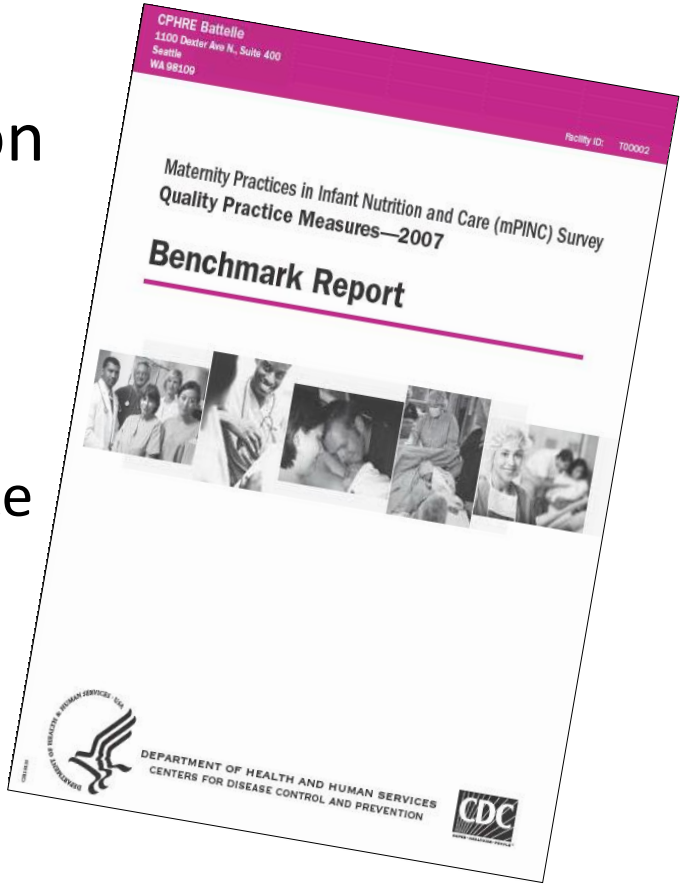
- National survey of U.S. hospitals (n=3,143) and birth centers (n=138); 82% response rate
- The survey contained 52 questions about birth facility's maternity practices, training, personnel, policy, and facility characteristics; Mean score=63 in 2007
- 24% of birth facilities reported supplementing more than half of healthy breastfed newborns during the postpartum stay
- 70% of facilities reported providing discharge packs containing infant formula samples to breastfeeding mothers

mPINC Dimensions

- Labor and delivery care (Step 4)
- Postpartum care
  - Feeding of breastfed infants (Step 6)
  - Breastfeeding assistance (Step 5, 8 & 9)
  - Contact between mother and infant (Step 7)
- Discharge care (Step 10)
- Staff training (Step 2)
- Structural and organizational aspects of care delivery (Steps 1, 3 and the Code)

Benchmark Reports

- Individual policies/practices (36 items)
  - Rationale, explanation, ideal response, actual response, score (0-100)
- Subscores for each dimension
  - Percentile within
    - Nation
    - State
    - Facilities of comparable size
- Composite Quality Practice Score



Basic design

- Census design
- Single key informant
- Paper or web-based
- Anonymous
- Based on WHO/UNICEF Ten Steps
- Total of 52 questions
  - Numeric responses
  - Checklists
  - Likert scale (e.g. Few, Some, Many, Most)

Do You Know Your Score?

Maternity Practices in Infant Nutrition and Care (mPINC) Survey

Quality Practice Measures—2007

Benchmark Report





I. Labor and Delivery Care

SAMPLE

Subscore 0

Subscore Percentiles

National	0
State	2
Comparable size	1

0 100

Measure	Rationale	Explanation	Ideal Response	Your Response	Your Score
Initial skin-to-skin contact	Skin-to-skin contact improves infant ability to establish breastfeeding.[9]	This measure reports how many patients experience mother-infant skin-to-skin contact for at least 30 minutes within 1 hour of uncomplicated vaginal birth.	Most	Few	0
		This measure reports how many patients experience mother-infant skin-to-skin contact for at least 30 minutes within 2 hours of uncomplicated Cesarean birth.	Most	Few	0
Initial breastfeeding opportunity	Early initiation of breastfeeding increases overall breastfeeding duration & reduces a mother's risk of delayed onset of milk production.[10]	This measure reports what percent of patients have the opportunity to breastfeed within 1 hour of uncomplicated vaginal birth.	≥90	5	0
		This measure reports what percent of patients have the opportunity to breastfeed within 2 hours of uncomplicated Cesarean birth.	≥90	0	0
Routine procedures performed skin-to-skin	Performing routine newborn procedures & assessments skin-to-skin increases infant stability, is safe for mother & infant,[11] & improves breastfeeding outcomes by reducing unnecessary separation of mother & infant.[12]	This measure reports how often patients have routine infant procedures performed while mother & infant are skin-to-skin.	Almost always	Rarely	0









II. Postpartum Care—
a. Feeding of Breastfed Infants

SAMPLE

Subscore 25

Subscore Percentiles

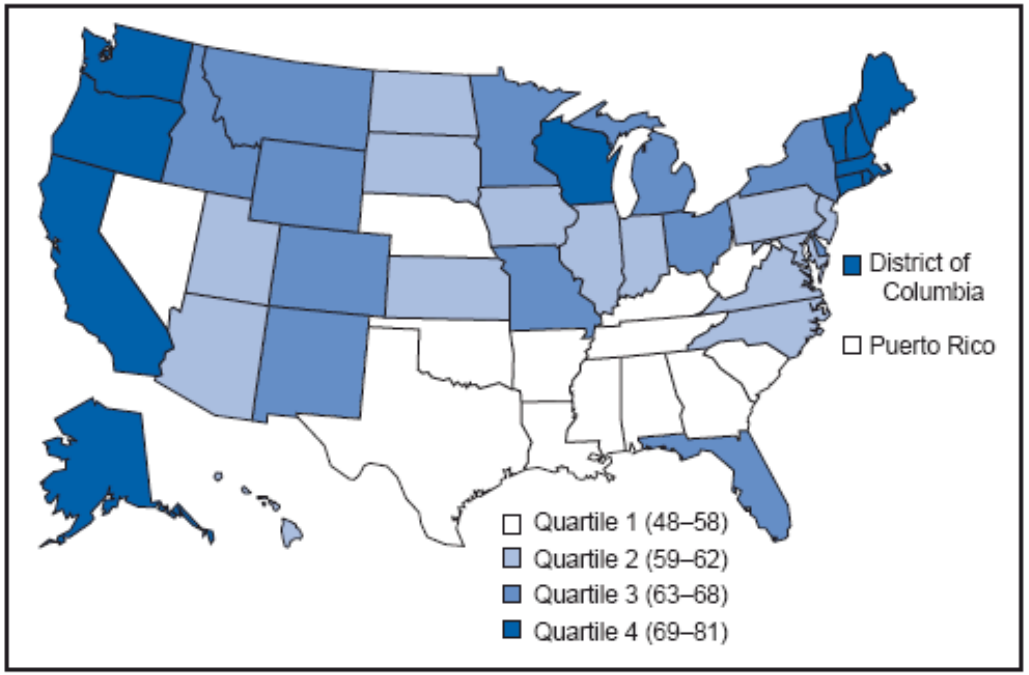
National	2
State	6
Comparable size	4

0 — 100

Measure	Rationale	Explanation	Ideal Response	Your Response	Your Score
Initial feeding received after birth	Neonatal immune system development depends on transfer of specific antibodies through colostrum & is impaired by prior introduction of non-breast milk feeds.[13,14]	This measure reports what percent of breastfeeding infants receive breast milk as their first feeding after uncomplicated vaginal birth.	≥90	5	0
		This measure reports what percent of breastfeeding infants receive breast milk as their first feeding after uncomplicated Cesarean birth.	≥90	5	0
Supplementary feedings	The AAP & ACOG *Guidelines for Perinatal Care*[15] & Academy for Breastfeeding Medicine guidelines for supplementing feedings in healthy[16] & hypoglycemic[17] neonates all recommend against routine supplementation with formula, glucose water, or water.	This measure reports what percent of breastfeeding infants receive non-breast milk feedings.	<10	95	0
		This measure reports whether breastfeeding infants receive glucose water and/or water.	No	No	100

Regional Variation of mPINC Scores

FIGURE. Mean total maternity practice scores,* by quartile — Maternity Practices in Infant Nutrition and Care Survey, United States, 2007

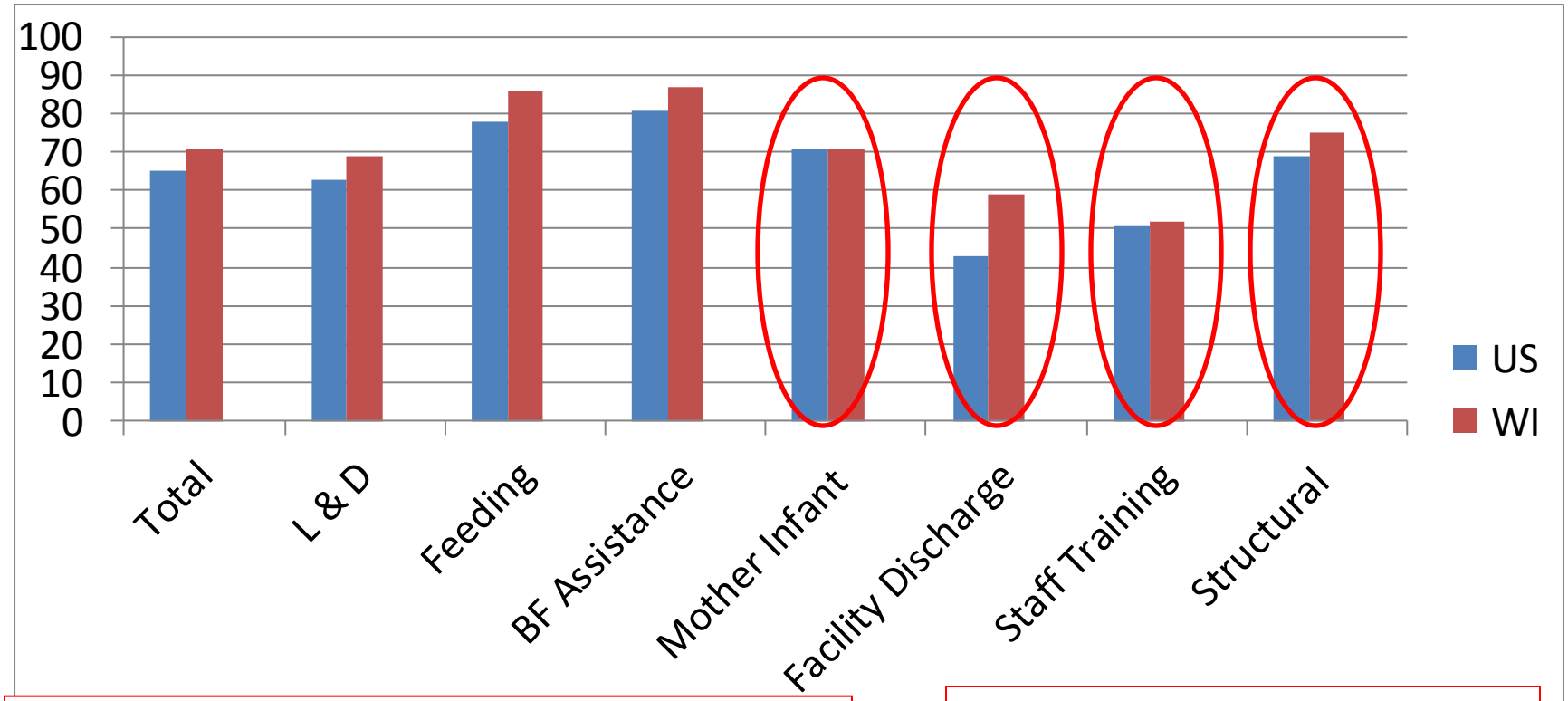


* Maximum possible mean score is 100. Additional information regarding survey questions and scoring is available at http://www.cdc.gov/mpinc.

CDC. Maternity Practices in Infant Nutrition and Care, MMWR Morb Mortal Wkly Rep. 2008 Jun 13;57(23):621-5.

mPINC Scores US/WI

34% of WI facilities follow recommended guidelines for supplementation



14% of WI facilities have comprehensive Breastfeeding policies inclusive of the Ten Steps to Successful Breastfeeding

15% of facilities report that most infants remain with their mothers for 23/24 hours per day

Source: CDC mPINC 2009

Labor and Delivery Care

Average score: 70

Inappropriate practices are common, especially among surgical (cesarean) births.

Few/some mothers have ≥ 30 min. skin-to-skin contact with the infant.

Less than half of breastfeeding patients begin breastfeeding within…

Percent of facilities

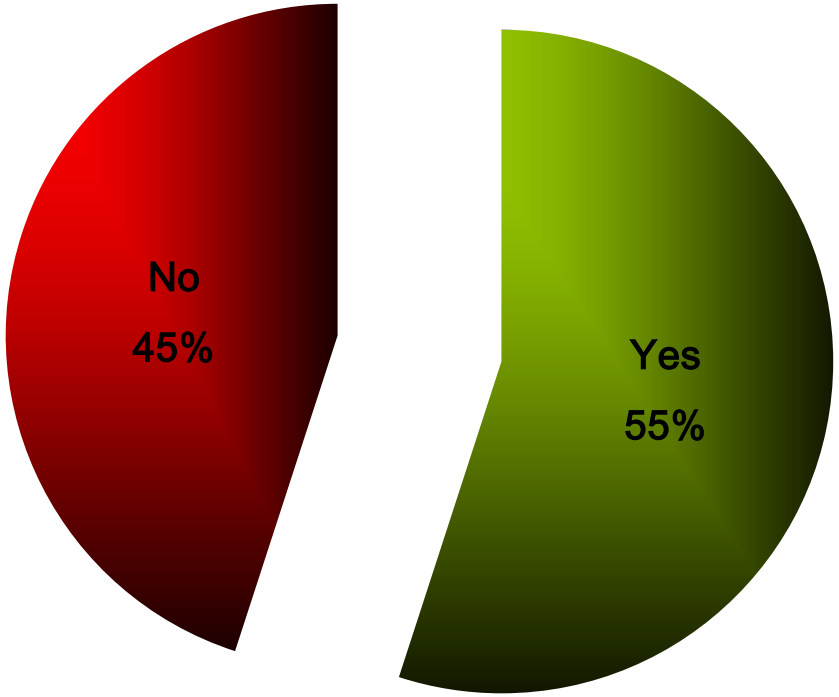
Vaginal births	Surgical births
22.9%	37.0%
…1 hour 11.7%	…2 hours 20.5%

Best Fed BEGINNINGS
Improving Breastfeeding Support in U.S. Hospitals

NICHQ
National Initiative for Children's Healthcare Quality

Many facilities unnecessarily separate mothers and infants during newborn procedures.

Are mother and baby usually skin-to-skin while staff are completing routine newborn procedures?

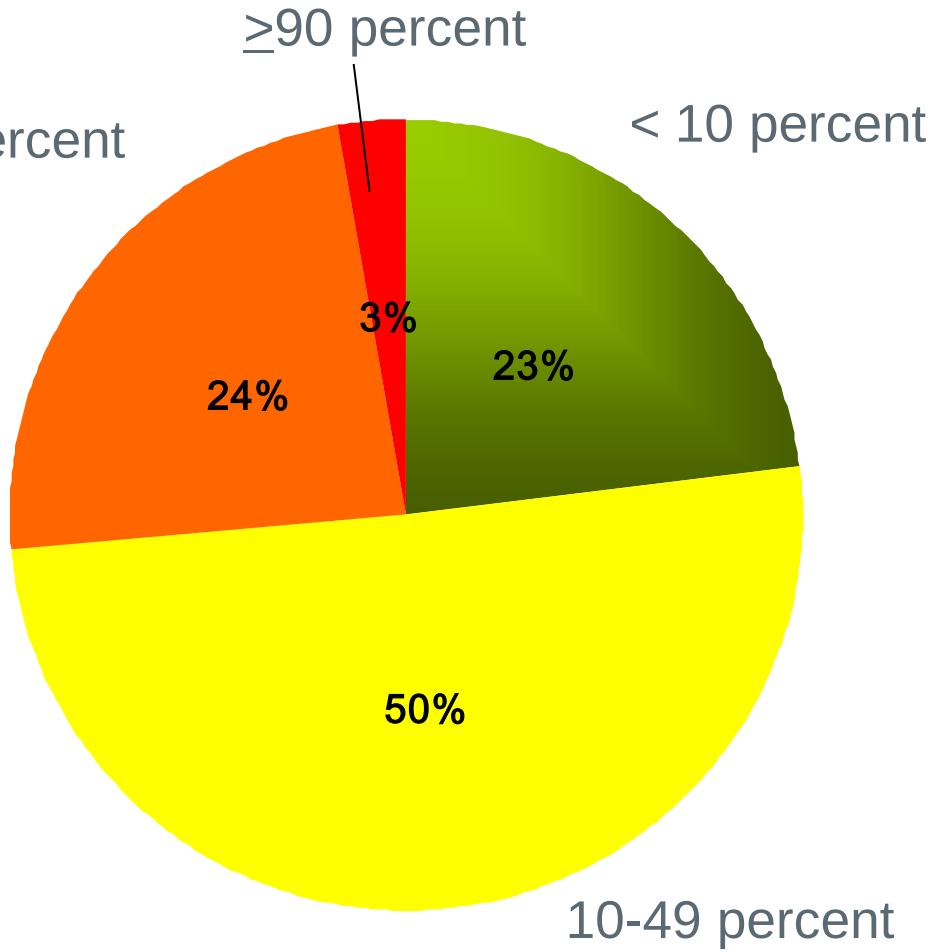


NB: Routine newborn procedures include Apgar, foot printing, ID banding, etc.


Feeding of
Breastfed Infants
Average score: 81

High rates of supplementation.

What percent of healthy breastfed infants receive non-breast milk feedings?

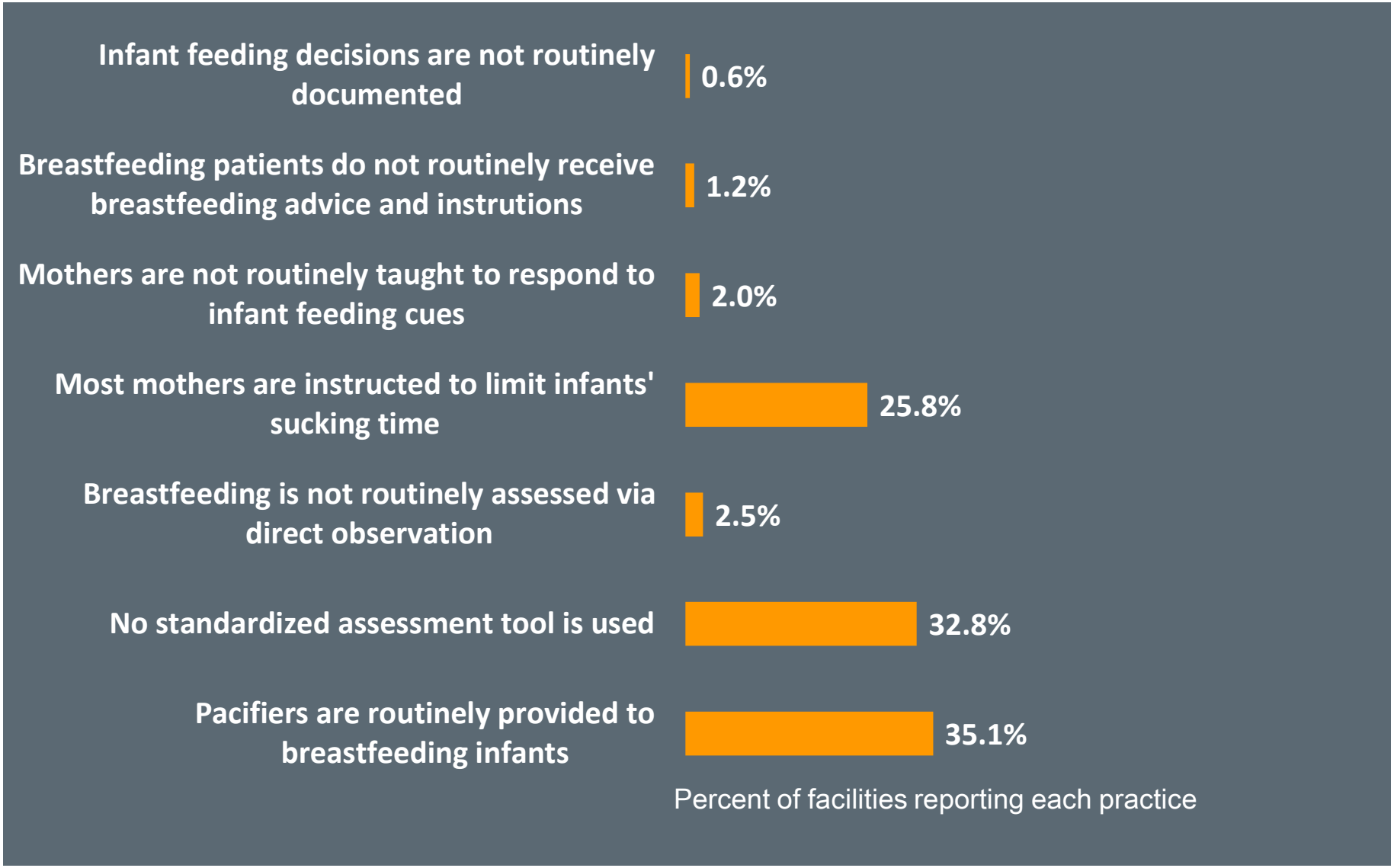


(18.7% supplement with water or glucose water.)

Breastfeeding Assistance

Average score:
84

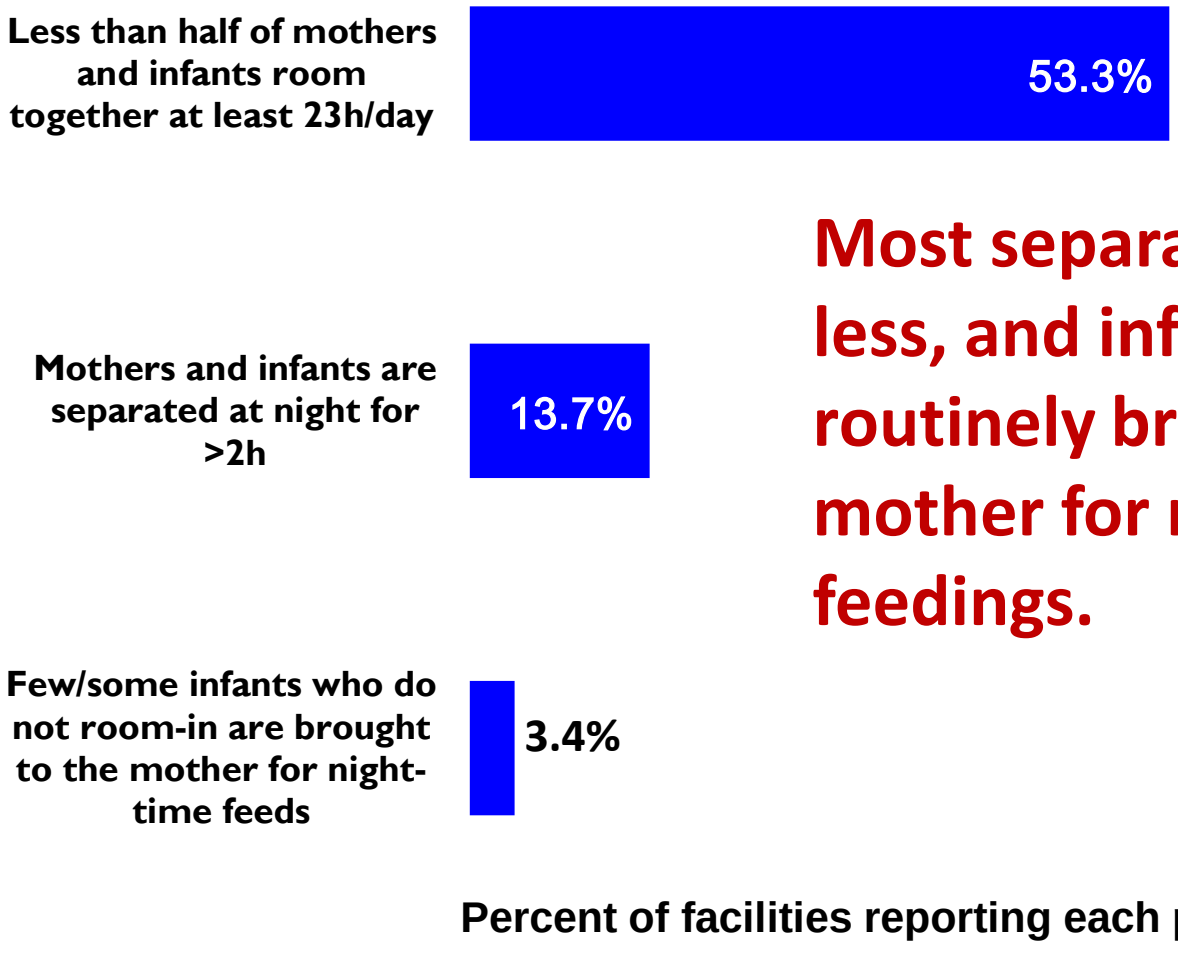
Although most mothers receive some kind of breastfeeding instruction, information/practices may be inappropriate



Mother-Infant Contact

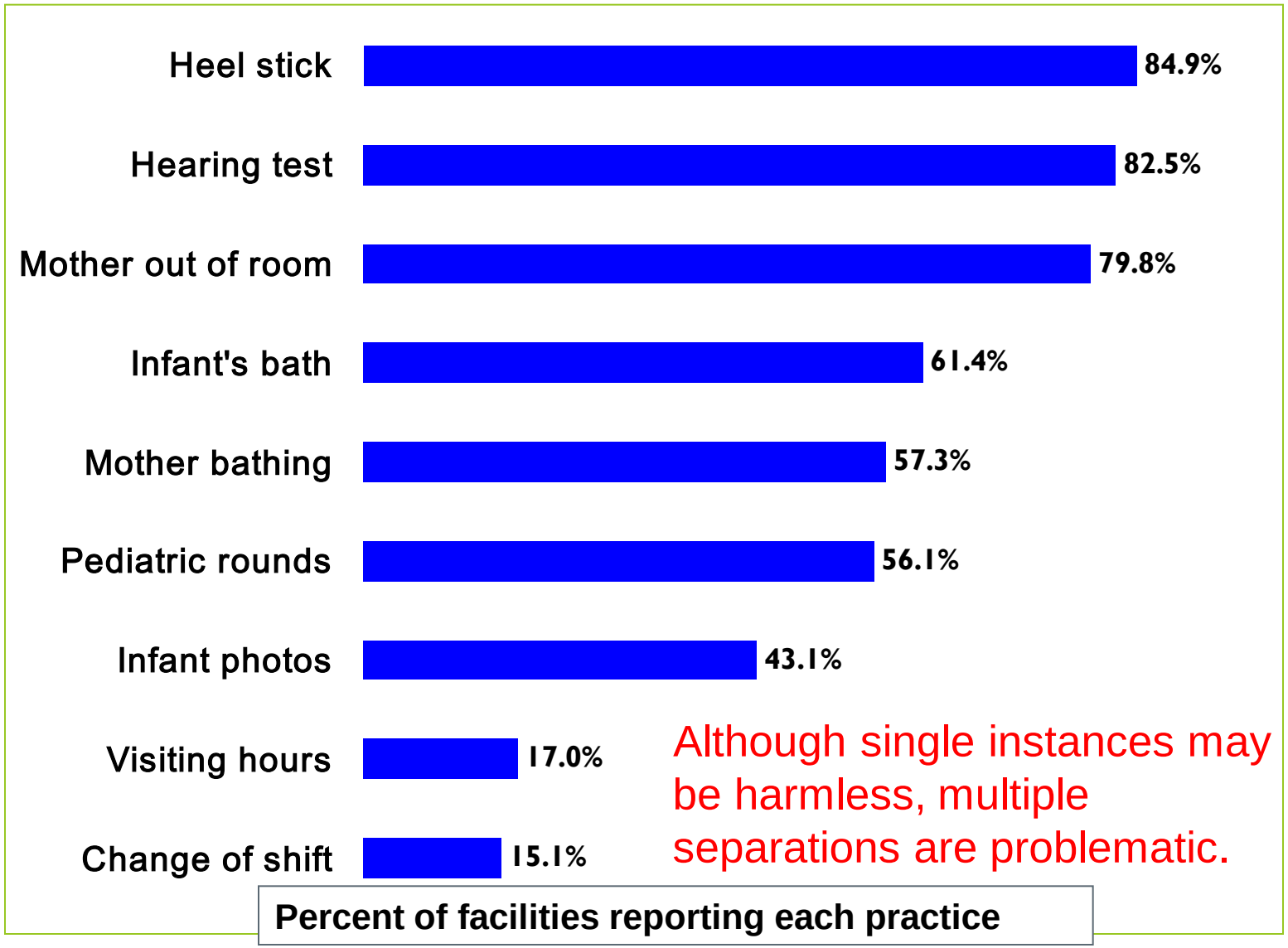
Average score: 74

24 h rooming-in is not standard practice at most facilities.



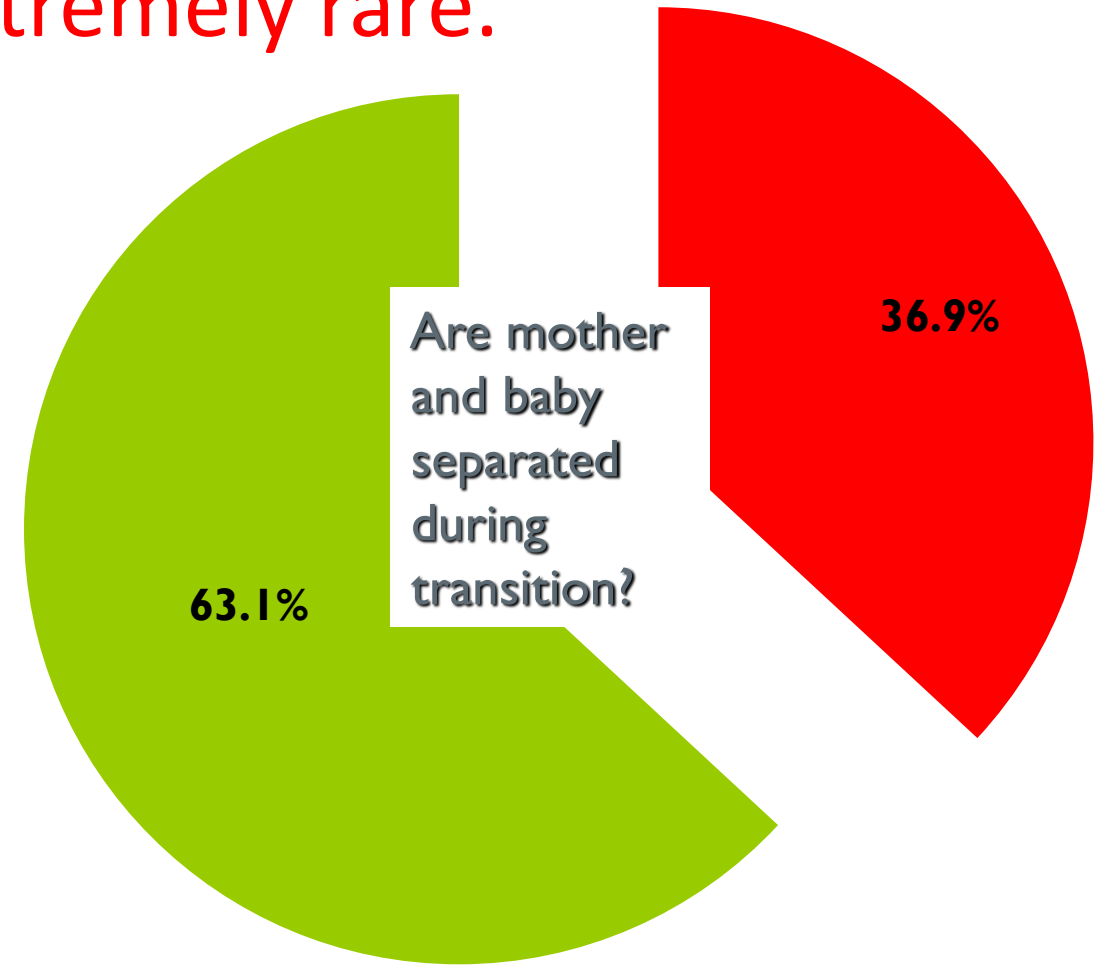
Most separations are 2h or less, and infants are routinely brought to the mother for night-time feedings.

Most facilities separate mothers and infants for a variety of (unnecessary) reasons.



One-third of facilities separate mothers and infants during transition to postpartum care.

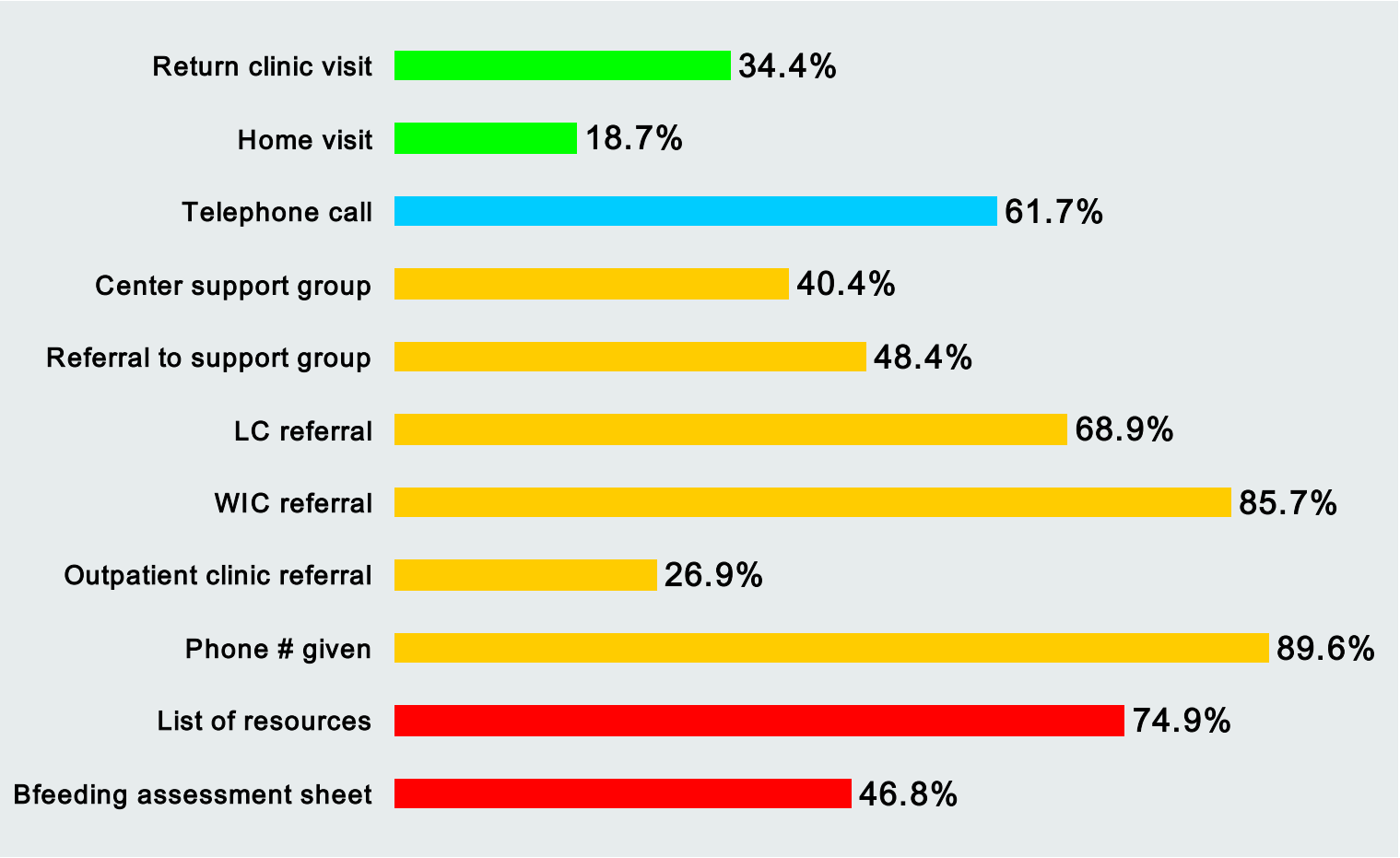
Medically necessary separation during this time is extremely rare.



Discharge Support

Average score: 49

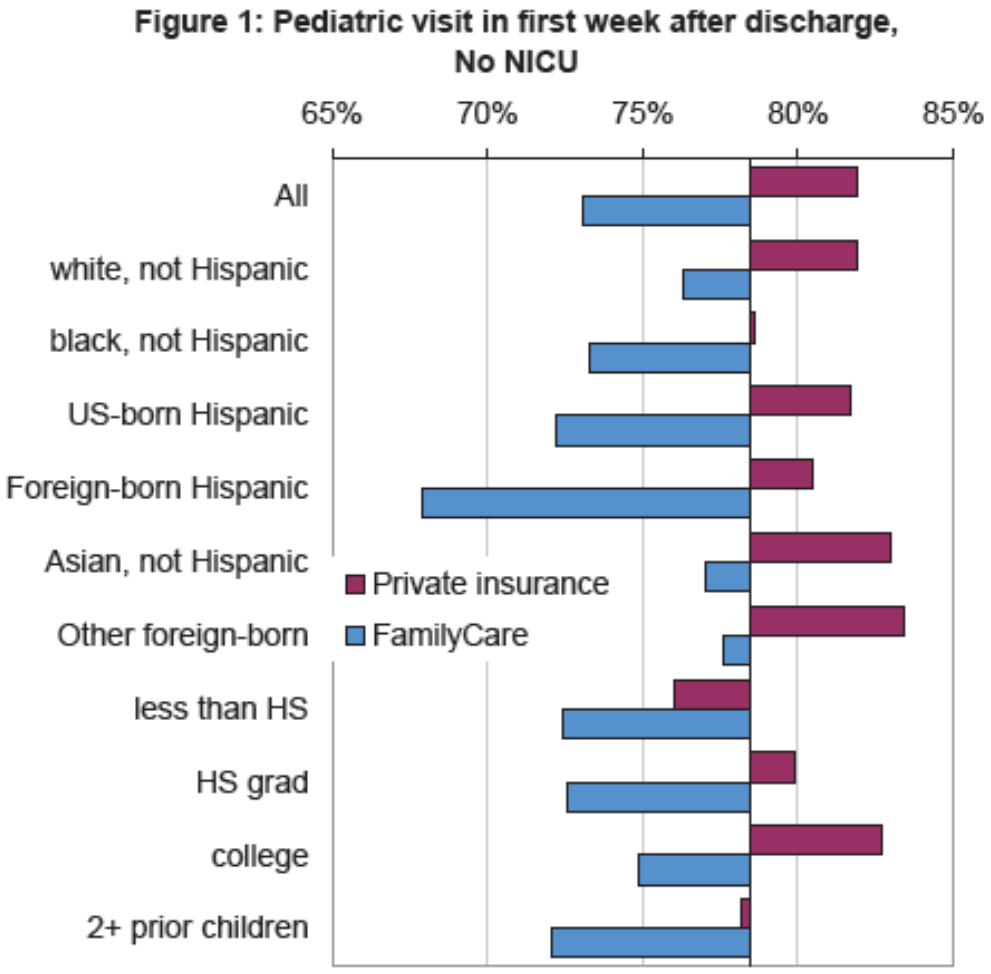
Best Care Least Often



Percent of facilities providing care

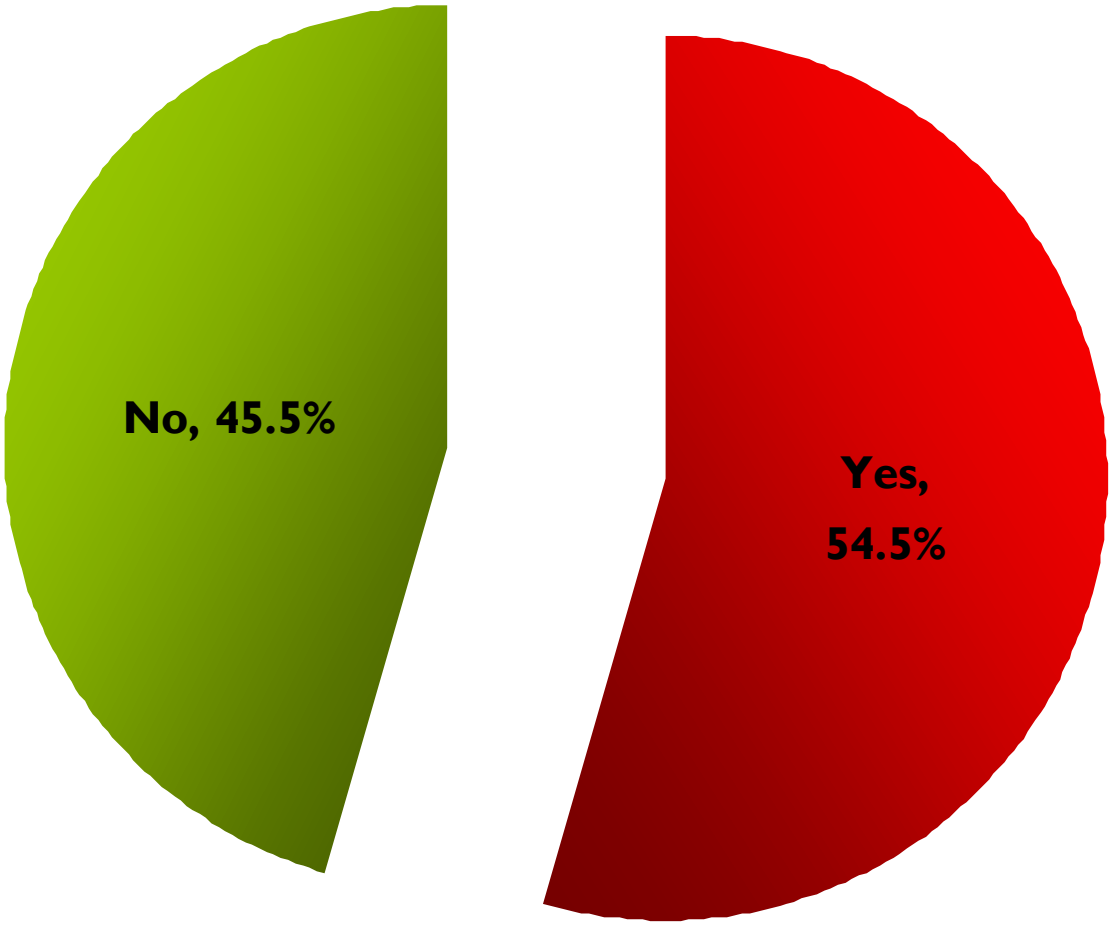
Source: CDC mPINC 2012

Newborn Follow-up



Source: NJ PRAMS 2010

Over half of facilities provide infant formula samples to breastfeeding mothers, which is unsupportive of breastfeeding

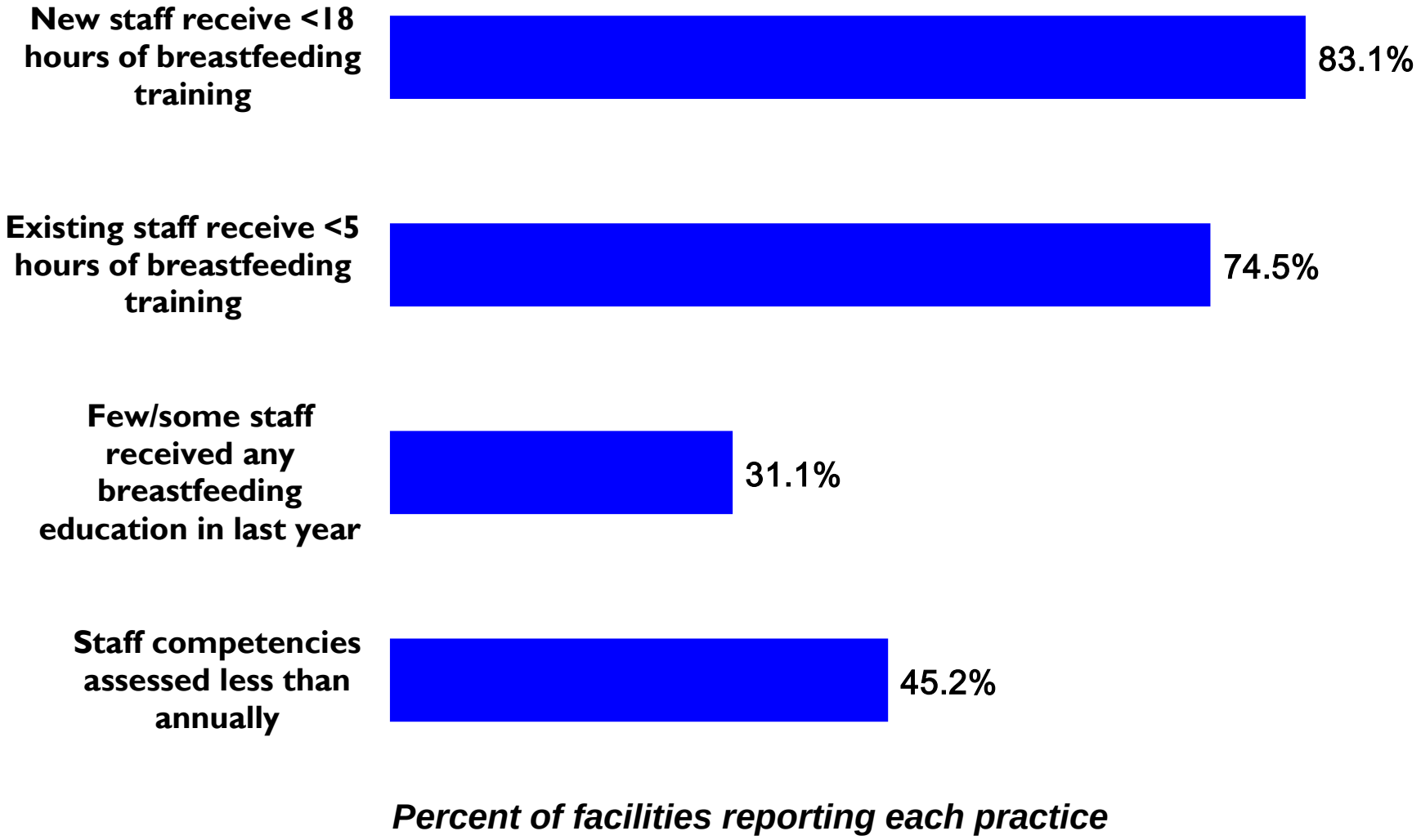


Are discharge packs containing infant formula provided to breastfeeding mothers?

Staff Training

Average score: 57

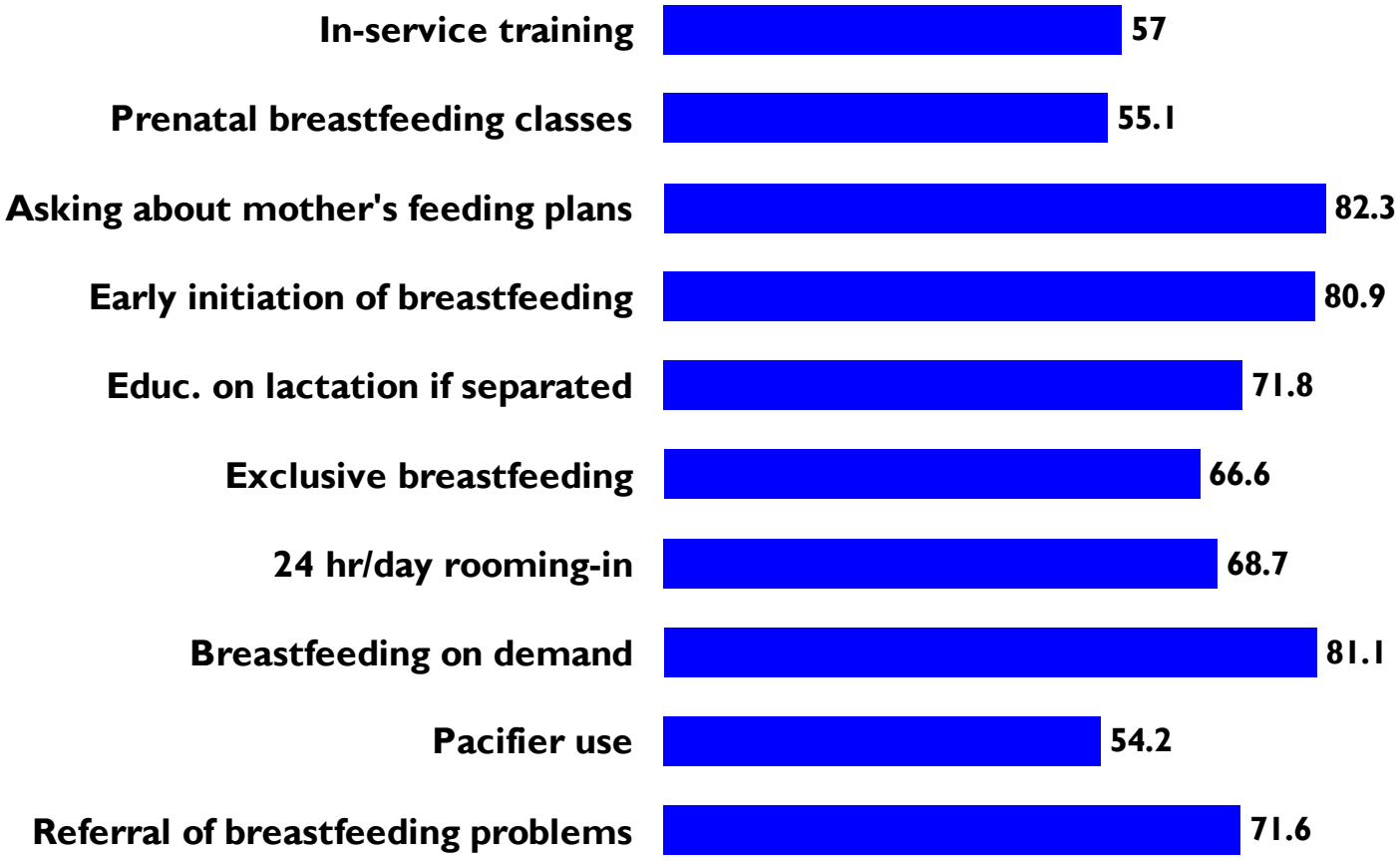
Breastfeeding training and skills assessment of new and existing staff is inadequate.



Structural and Organizational Aspects of Care Delivery

Average score: 71

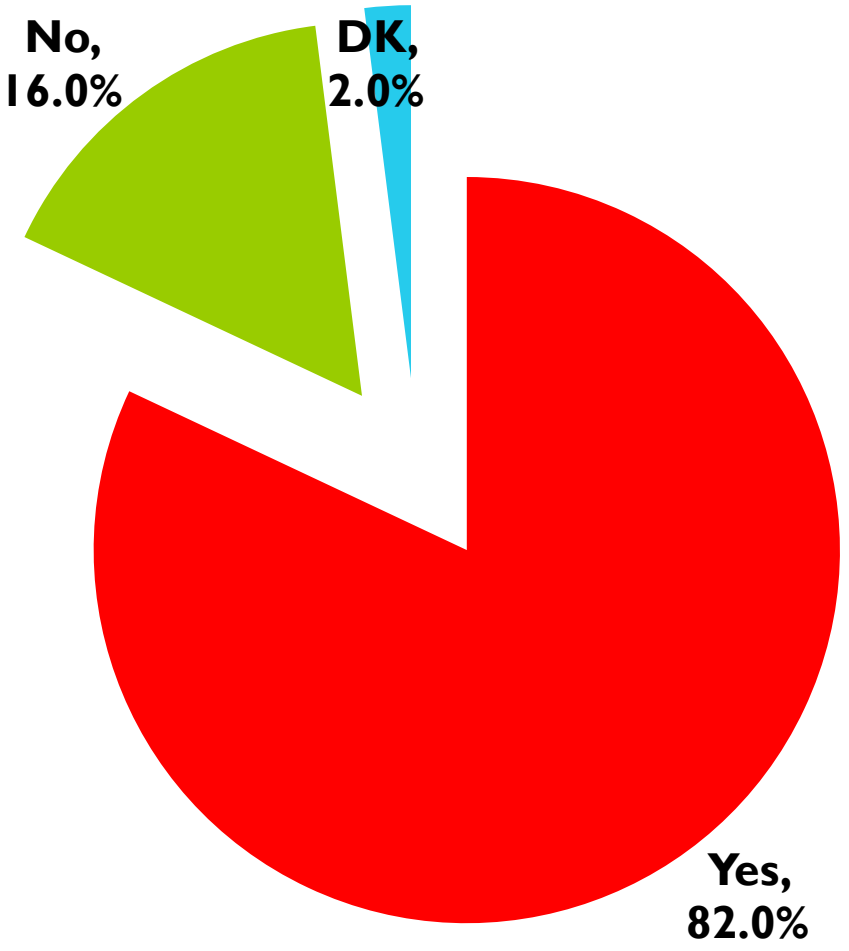
Approximately half of the breastfeeding policies in place at facilities address the major aspects of breastfeeding support.



Percent of facilities reporting each element

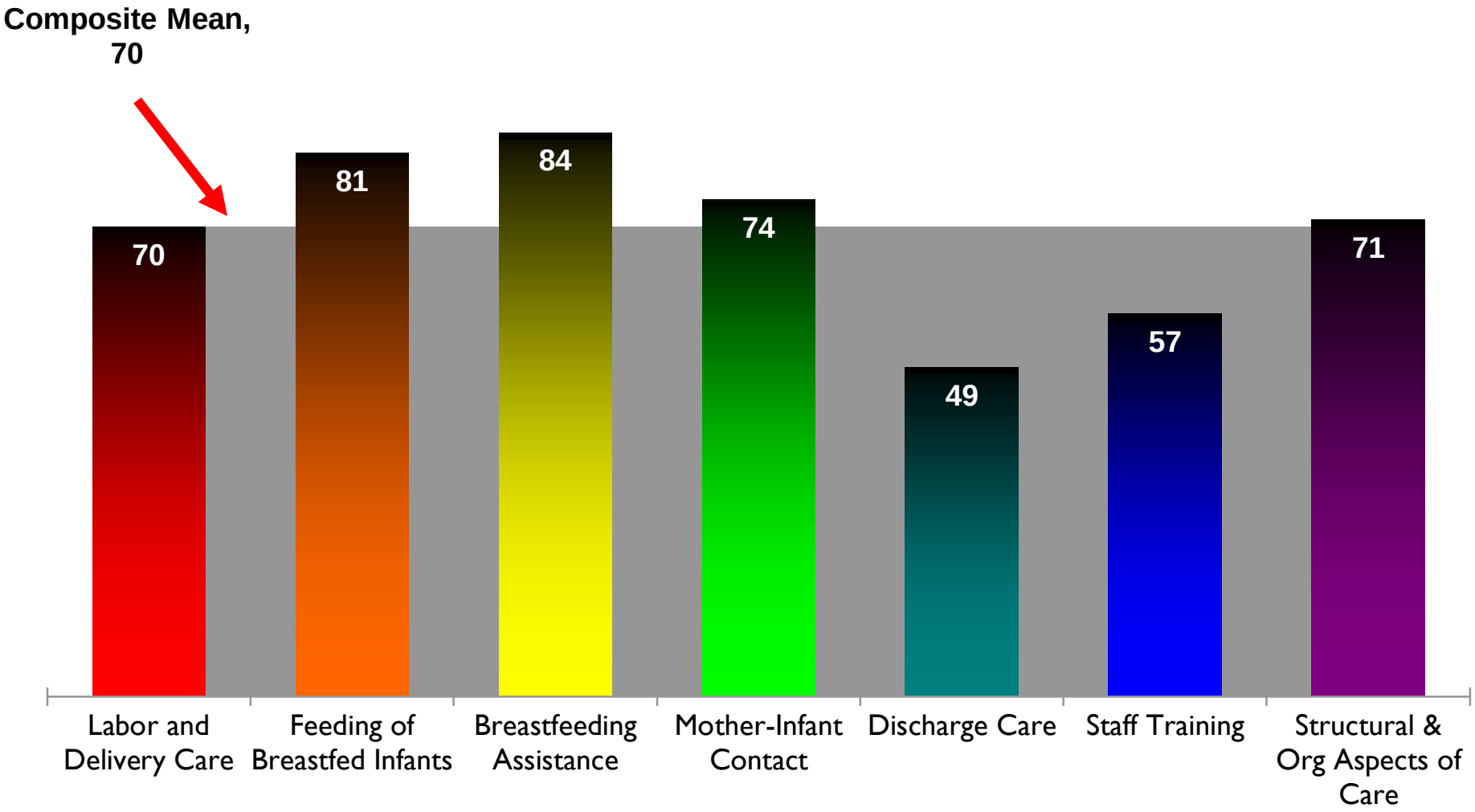
Almost all facilities receive their infant formula free of charge.

This contradicts AMA policy recommendations and makes adherence to HACCP plans more difficult

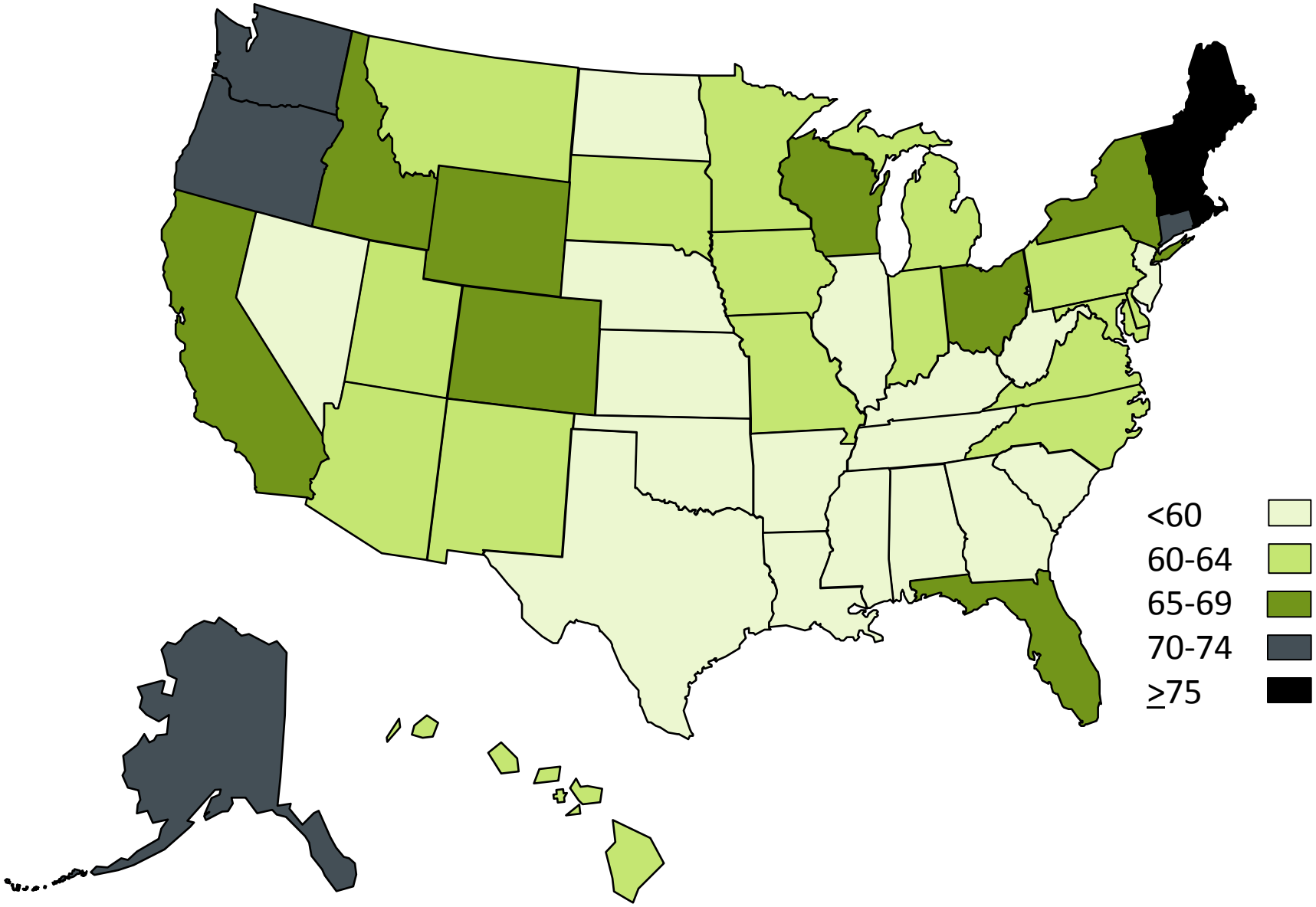


Does your facility receive infant formula free of charge?

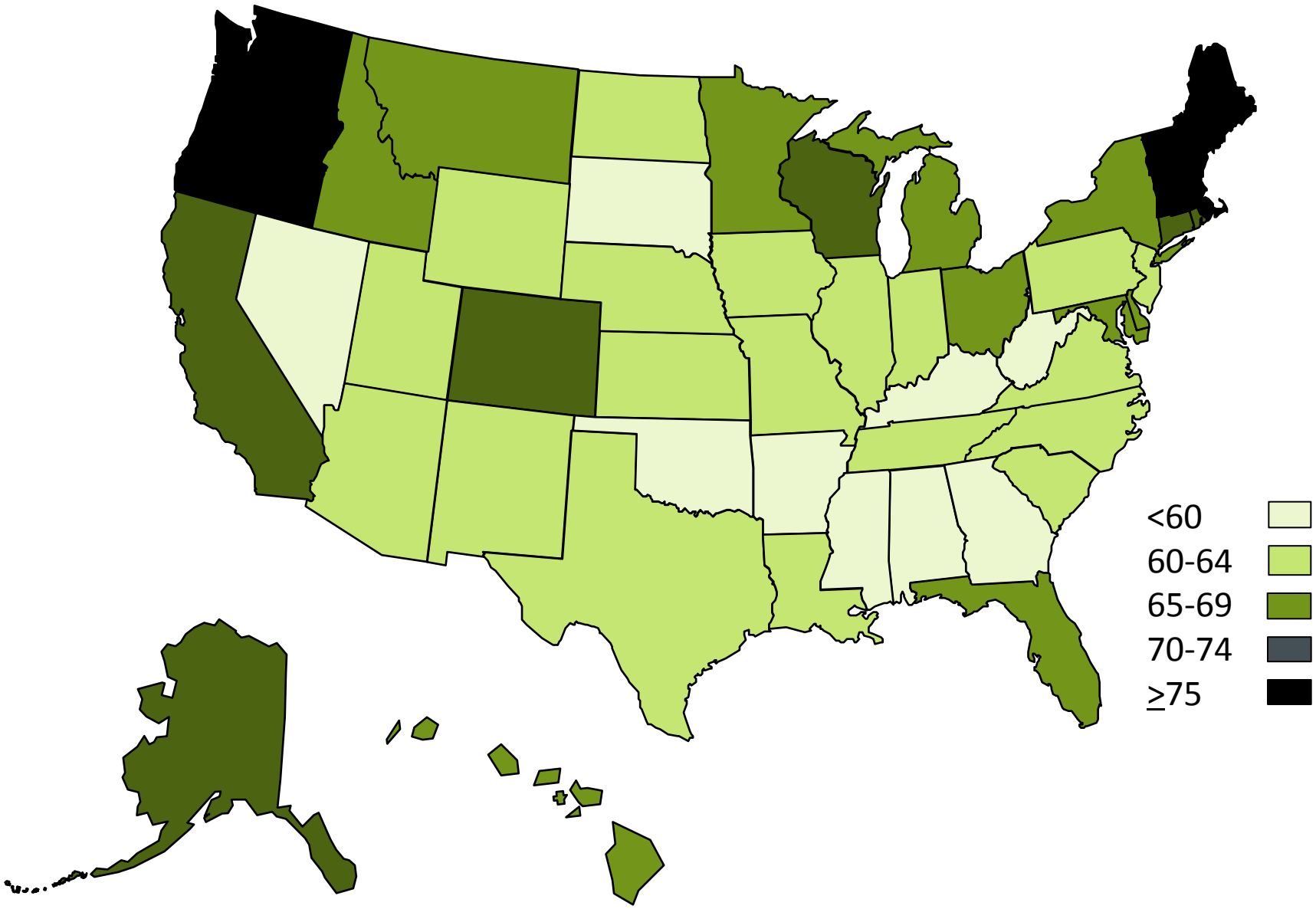
National scores by dimension, 2011



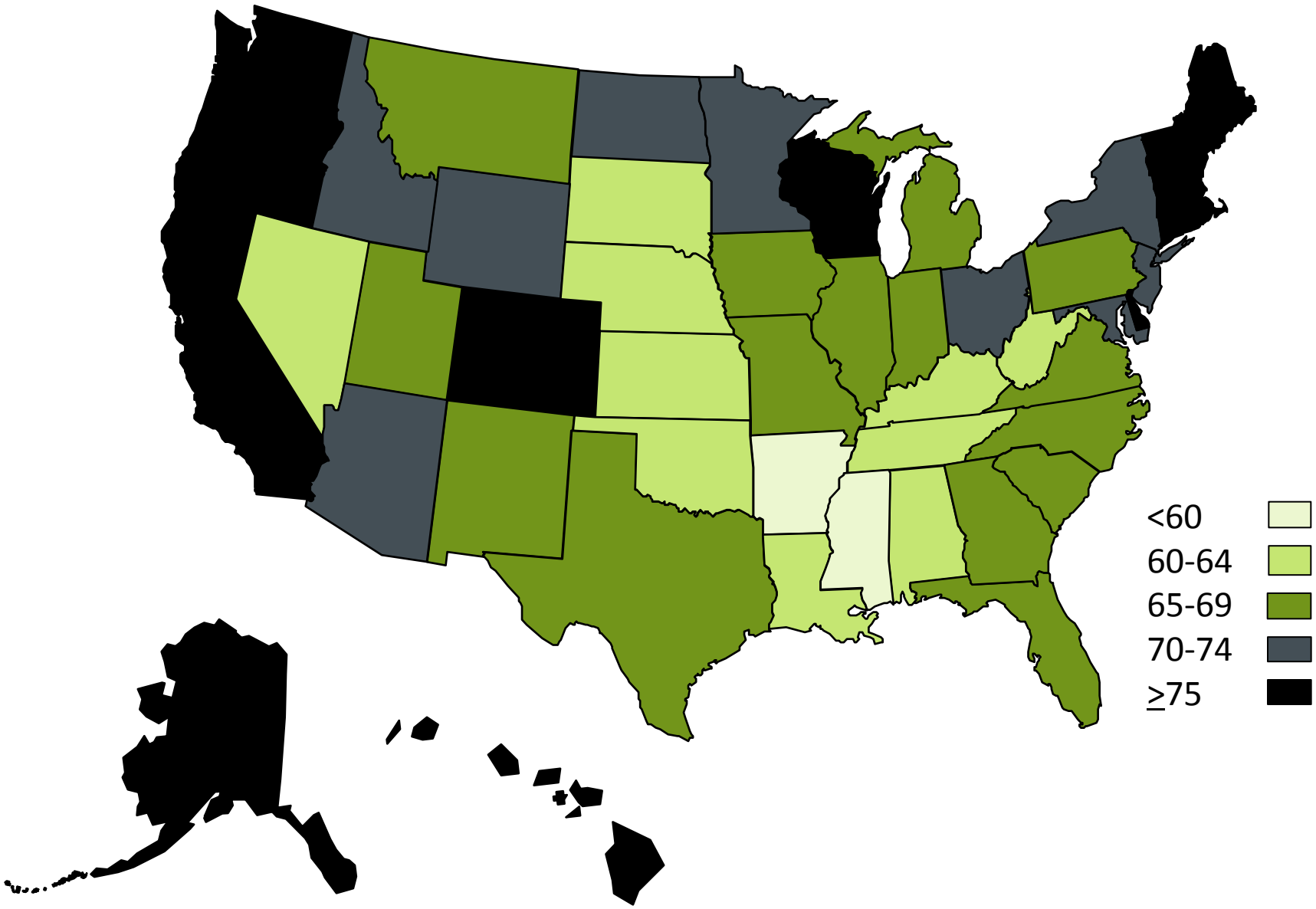
Mean mPINC Score, 2007



Mean mPINC Score, 2009

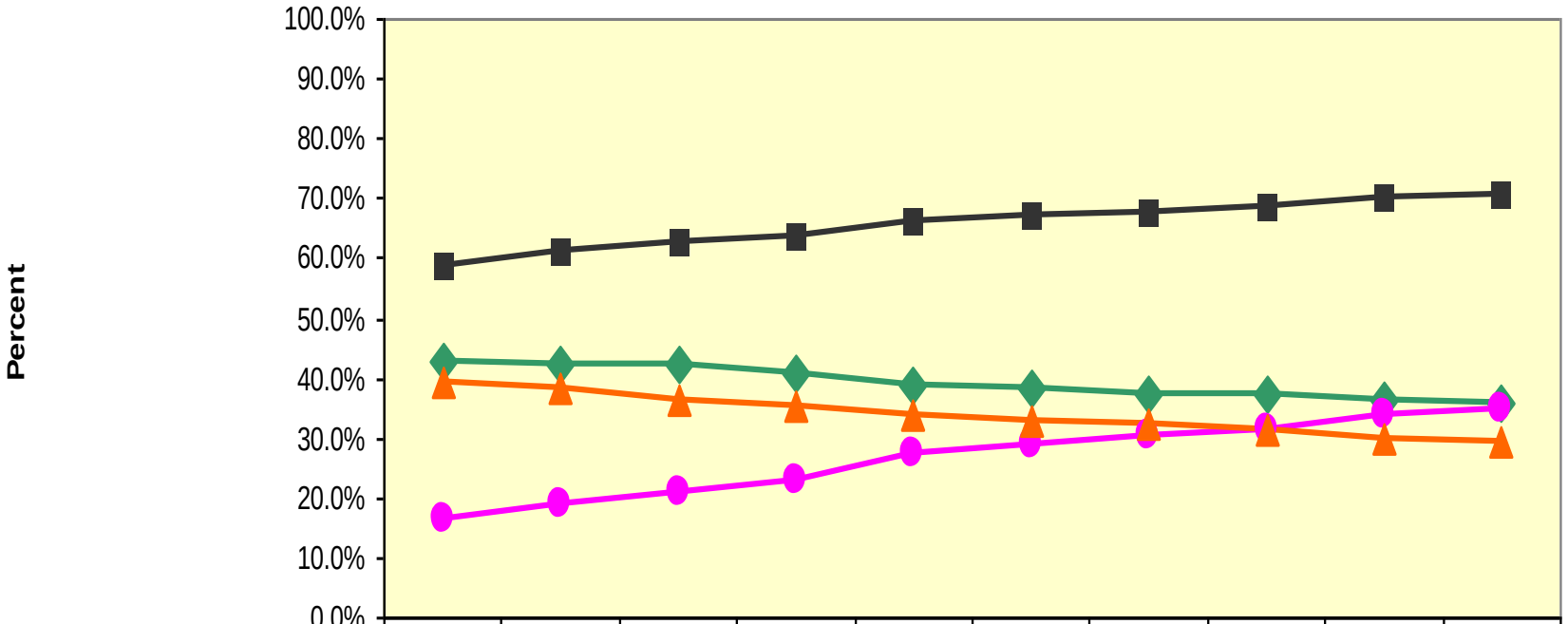


Mean mPINC Score, 2011



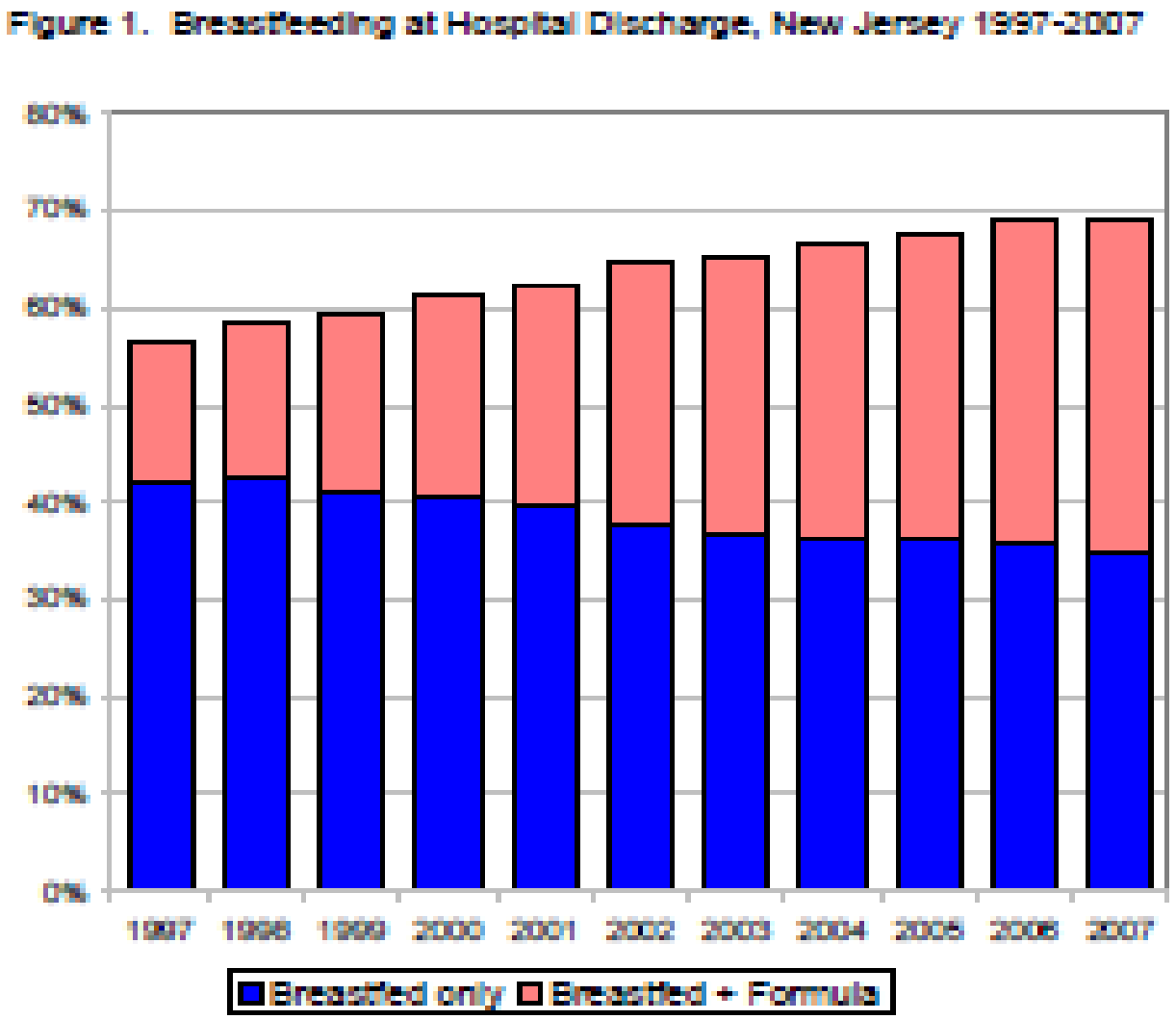
Breastfeeding Trends in NJ Using NJ EBC

Infant Feeding in the 24 Hours Prior to Hospital Discharge from New Jersey Delivery Hospitals



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Exclusive Breastfeeding	42.6%	42.2%	42.2%	40.6%	38.7%	38.2%	37.3%	37.2%	36.3%	35.6%
Combination Feeding	16.2%	18.8%	20.7%	23.1%	27.2%	29.0%	30.4%	31.5%	33.8%	34.9%
No BF	39.2%	38.4%	36.3%	35.4%	33.8%	32.6%	32.1%	31.2%	29.8%	29.4%
Any BF	58.8%	61.0%	62.9%	63.7%	66.0%	67.2%	67.8%	68.7%	70.1%	70.4%

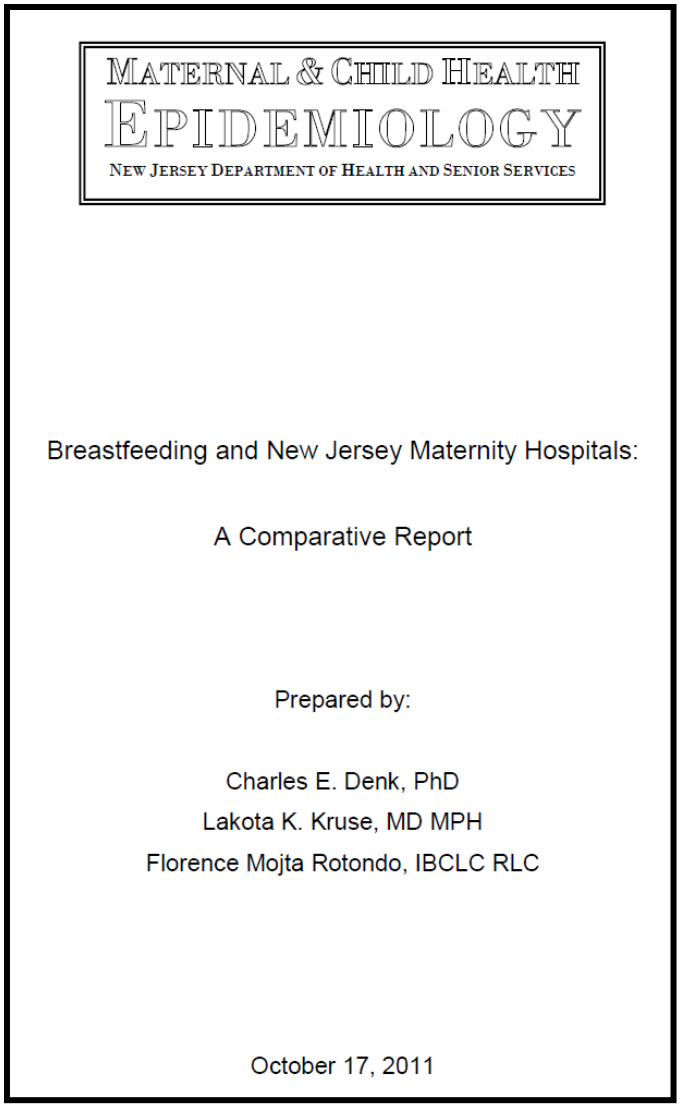
Trends in Breastfeeding in NJ by Hospital at Discharge



Annual Report Card in NJ

Published on line

http://www.state.nj.us/health/fhs/professional/documents/breastfeeding_hospitals.pdf



MATERNAL & CHILD HEALTH
EPIDEMIOLOGY
NEW JERSEY DEPARTMENT OF HEALTH AND SENIOR SERVICES

Breastfeeding and New Jersey Maternity Hospitals:

A Comparative Report

Prepared by:

Charles E. Denk, PhD
Lakota K. Kruse, MD MPH
Florence Mojta Rotondo, IBCLC RLC

October 17, 2011

Breastfeeding rates before vs. after BFHI intervention

		Healthy term infants				NICU infants			
		2010 Q 1	2012 Q 1	% change	P	2010 Q 1	2012 Q1	% change	P
Overall Breastfeeding	%	71.0	76.2	5.2	<0.0001	58.6	67.3	8.7	<0.0001
	N	4,254	4,169			1,040	830		
Exclusive Breastfeeding	%	38.6	49.8	11.2	<0.0001	18.8	21.9	3.1	0.093
	N	4,254	4,169			1,040	830		

Feldman-Winter L., et al. Bringing Baby-Friendly to NJ. 2013.

Conclusions

- Tracking breastfeeding data in necessary for public health initiatives
- Both outcomes & process data are necessary to inform where to target initiatives
- Despite limitations, surveillance systems are responsible for major actions taken in breastfeeding support programs
- Collaboration is key