

Association of mPINC Survey Scores and Exclusive Breastfeeding Initiation among California Hospitals, 2007

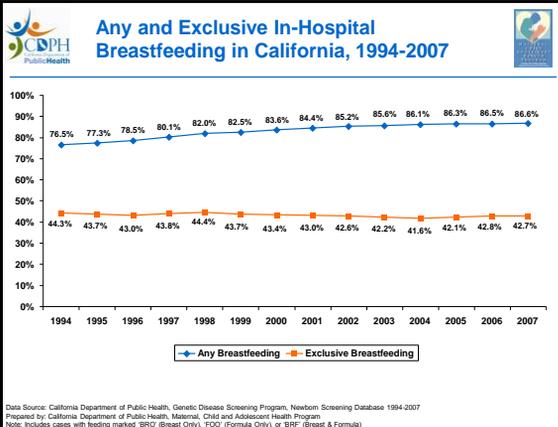
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- Background
- Study Question
- Methods
 - Study Design
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 - Analysis
 - Limitations
- Results
- Public Health Implication



The Evidence

- Evidence shows that hospital practices affect breastfeeding duration and exclusivity throughout the first year of life¹⁻³...

¹ Murray EK, Ricketts S, Dellaport J. Hospital practices that increase breastfeeding duration: results from a population-based study. *Birth*. 2007;34(3):202-211
² Rosenberg KD, Stull JD, Adler MR, Kasehagen LJ, Crivelli-Kovach A. Impact of hospital policies on breastfeeding outcomes. *Breastfeed Med*. 2008;3(2):110-116
³ DiGirolamo AM, Grummer-Strawn LM, Fein SB. Effect of maternity-care practices on breastfeeding. *Pediatrics*. 2009;122(suppl 2):S43-S48

Hospital Policies Impact Breastfeeding (Rosenberg et al., 2008)

- Ten Steps of Baby Friendly Hospital Initiative was associated with any breastfeeding at 2 days and 2 weeks postpartum
- Hospitals with comprehensive policies more likely to have better breastfeeding support services and breastfeeding outcomes
- More studies are needed that examine:
 - Other populations
 - Exclusive breastfeeding
 - Potential institutional-level confounders

CDC Administers mPINC Survey

In 2007, CDC administered the first national Maternity Practices in Infant Nutrition and Care (mPINC) Survey

- Established baseline measure of maternity care policies and practices in hospitals around U.S.
- ~ 80% of all birthing facilities in CA participated
- Confidential facility-specific benchmark reports provided to each facility that completed a survey

Aim of this Study

- Explore association between maternity care practices related to breastfeeding (as measured by mPINC) and **exclusive** in-hospital breastfeeding in CA
- Controlling for additional confounders, e.g.
 - Cesarean section rates
 - Ethnic demographic breakdown
 - Socio-demographic distribution (WIC participation rate)

METHODS: Study Design & Data Sources

- Cross-sectional design
- CA maternity hospitals surveyed about their breastfeeding support policies and practices (mPINC Survey, 2007)
- Hospital responses linked with 2007 hospital-level data:
 - Breastfeeding (Newborn Screening Program)
 - Hospital characteristics and patient demographics (Birth Statistical Master File)
- Data linkage successful for 175 out of 186 respondent facilities (excluding 9 birth centers and 6 military hospitals)

METHODS: mPINC Survey Methodology

- National census of facilities routinely providing maternity services administered every 2 years
- Assesses 'usual practice' among healthy, term newborns
- Completed by a single key informant
- Series of 52 survey questions, categorized into 7 dimensions of care
- Total composite score and 7 subscales (e.g. dimensions of care), with ranges 0-100.

METHODS: mPINC Survey Dimensions of Care

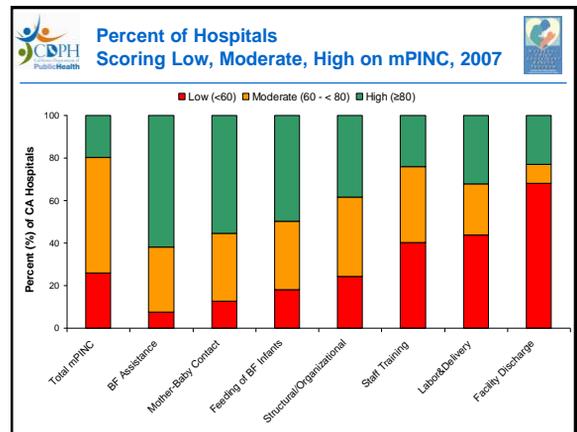
Dimension of Care (mPINC subscale)	Key informant reports on: (examples)
Labor and Delivery Care	Early skin-to-skin contact Breastfeeding initiation
Feeding of Breastfed infants	Supplementation
Breastfeeding Assistance	Whether staff assess breastfeeding Whether staff advise on breastfeeding
Mother-Infant Contact	Mother infant separation Rooming-in
Facility Discharge Care	Post-discharge breastfeeding support Distribution of "gift packs"
Staff Training	Staff education Staff competency assessment
Structural and Organizational	Breastfeeding policies

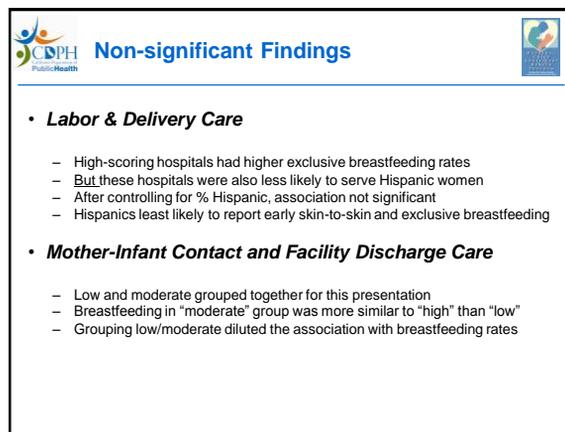
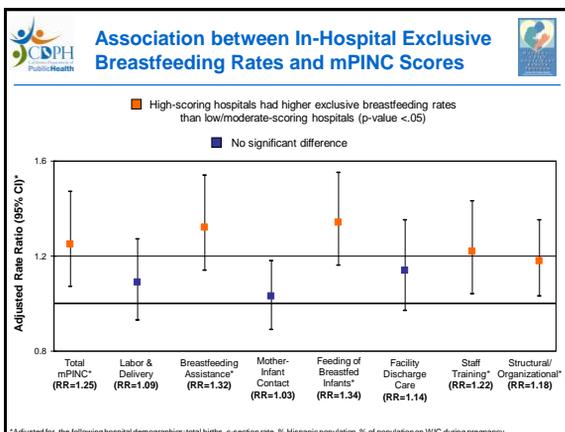
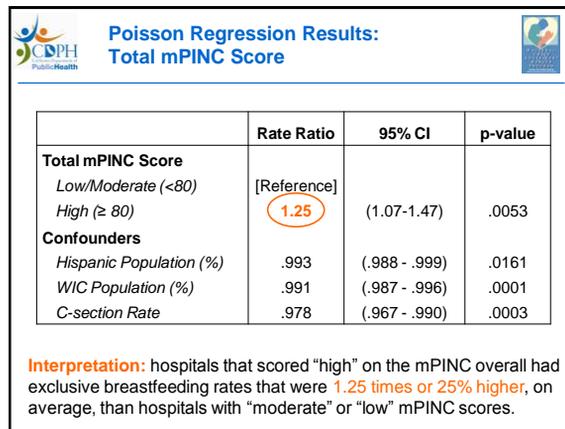
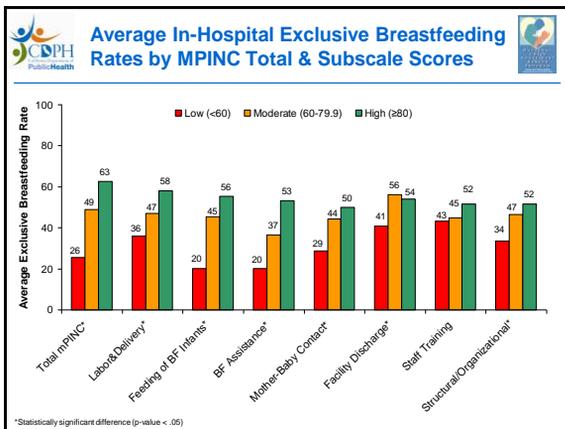
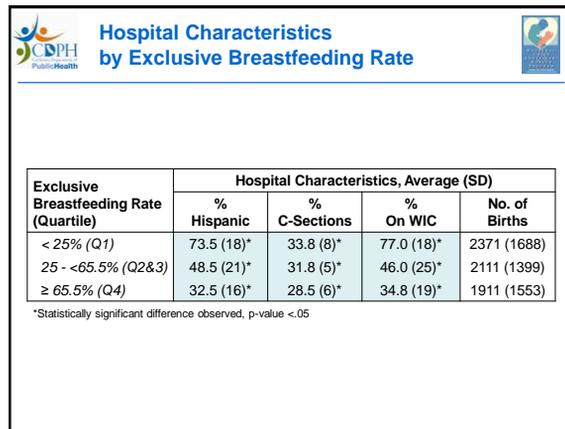
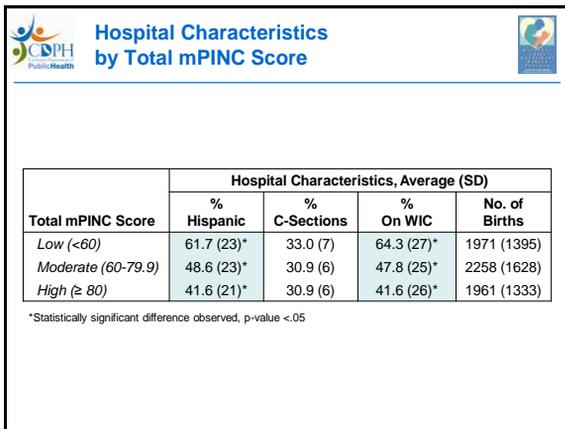
METHODS: Statistical Analysis Methods

- Poisson regression:** appropriate for count outcome (i.e., prevalence rate)
- Outcome in this study:** rate of exclusive breastfeeding (continuous)
- Independent variables:**
Total mPINC score and subscale scores categorized as: Low (<60), moderate (60-79.9), or high (≥80)

In regression models, grouped low/moderate (<80.0)

Potential confounders: total births, % Hispanic, % c-section, % WIC







Study Limitations



- mPINC data were reported by one person at each facility; may not be representative of maternity practices in use
- Hospitals vary in how and when (usually 24-48 hours since birth) breastfeeding data are collected on the NBS form, which may affect reporting/recall
- Ecological fallacy: use of aggregated hospital level statistics (% c-section, % Hispanic and %WIC patient population, breastfeeding rates) as opposed to individual level data.



Conclusions



- Evidence-based breastfeeding policies and practices are associated with an increase in exclusive breastfeeding initiation rates in CA hospitals
- Institutional-level confounders are related to both mPINC scores and breastfeeding outcomes



Public Health Implication



- Hospitals should implement maternity care policies and practices that support breastfeeding
- Utilize mPINC Survey results as a component of breastfeeding quality improvement initiatives
- Jointly, in-hospital exclusive breastfeeding rates and mPINC scores can track progress in improving quality of maternity care and breastfeeding support services

Thank You!

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Additional information about the mPINC Survey
available at: www.cdc.gov/mpinc

