

WHAT MAKES MOTHERS CHANGE THEIR
MINDS?
UNEXPECTED RESULTS AROUND
ACCURACY OF BREASTFEEDING DATA
ON THE MASSACHUSETTS BIRTH
CERTIFICATE

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Background

- ▣ In 2003, the National Center for Health Statistics added a breastfeeding question to the new national electronic birth certificate:
 - “Is the infant being breastfed at discharge?”

- ▣ Since then, many states have added a breastfeeding question to their birth certificate:
 - In Massachusetts: “Are you breastfeeding or do you intend to breastfeed?”

Objective

- ▣ To determine whether birth certificate data accurately reflected actual feeding method on the Massachusetts birth certificate.

Methods

- ▣ Selected 306 medical records at Lowell General Hospital (LGH) and 232 medical records at Boston Medical Center (BMC)
- ▣ Data were initially collected from randomized medical records being used for a larger study

Methods

- ▣ Lowell General Hospital:
 - 1,700 births per year

- ▣ Boston Medical Center:
 - 2,500 births per year
 - Baby-Friendly™ Hospital

- ▣ Both hospitals serve urban populations with a high percentage of immigrants

Methods

- ▣ The mother's answer to the birth certificate breastfeeding question was obtained from:
 - the birth certificate worksheet at LGH
 - the hospital's internal, perinatal database at BMC

- ▣ Feeding documentation from the infant's bedside feeding chart was compared with the mother's answer to the breastfeeding question.

Methods

Birth Certificate Worksheet

MOTHER		29a. DATE OF FIRST PRENATAL CARE VISIT MM/DD/YYYY <small>☐ No Prenatal Care</small>	29b. DATE OF LAST PRENATAL CARE VISIT MM/DD/YYYY	29c. TOTAL NUMBER OF PRENATAL VISITS FOR THIS PREGNANCY (If none, enter 0)			
31. MOTHER'S HEIGHT (inches)	32. MOTHER'S PREGNANCY WEIGHT (pounds)	33. MOTHER'S WEIGHT AT DELIVERY (pounds)	34. DID MOTHER GET ANY FOOD FOR HERSELF DURING THIS PREGNANCY? ☐ Yes ☐ No				
35. NUMBER OF PREVIOUS LIVE BIRTHS (Do not include stillbirths)	36. NUMBER OF OTHER PREGNANCY OUTCOMES (spontaneous or induced losses or stillbirth pregnancies)	37. CIGARETTE SMOKING BEFORE AND DURING PREGNANCY For each three month period, enter either the number of cigarettes or the number of packs of cigarettes smoked. IF NONE, ENTER 0. Average number of cigarettes or packs of cigarettes smoked per day: Three Months Before Pregnancy: _____ First Three Months of Pregnancy: _____ Second Three Months of Pregnancy: _____ Third Three Months of Pregnancy: _____	38. PREVIOUS SOURCE OF PAYMENT FOR THIS DELIVERY ☐ Private Insurance ☐ Medicaid ☐ Self-pay ☐ Other (Specify): _____				
39a. FLOW LINE Number: _____ ☐ None	39b. Flow Date Number: _____ ☐ None	39c. Flow Date Number: _____ ☐ None	39d. DATE OF LAST LIVE BIRTH MM/YYYY				
39e. DATE OF LAST OTHER PREGNANCY OUTCOME MM/YYYY		39f. DATE LAST NORMAL MENSTRUATION BEGAN MM/DD/YYYY	39g. MOTHER'S MEDICAL RECORD NUMBER				
MEDICAL AND HEALTH INFORMATION		41. RISK FACTORS IN THIS PREGNANCY (Check all that apply) Diabetes ☐ Pregnancy (diagnosed prior to this pregnancy) ☐ Gestational (diagnosed in this pregnancy) Hypertension ☐ Pregnancy (chronic) ☐ Gestational (PH, preeclampsia) Ectopic ☐ Previous problem with: ☐ Other (specify post pregnancy outcome (includes genetic, death, stillbirth, gestational age, or the health of the baby)) Pregnancy resulted from infertility treatment if yes, check all that apply: ☐ Fertility-enhancing drugs, artificial insemination or in-vitro fertilization (IVF), genetic testing (preconception, carrier, or IVF) ☐ Mother had a previous cesarean delivery if yes, how many: _____ None of the above			42. OBSTETRIC PROCEDURES (Check all that apply) ☐ Cervical cerclage ☐ Tocolysis External cephalic version ☐ Successful ☐ Failed ☐ None of the above		
43. SPECIFIC CONDITIONS TREATED DURING THIS PREGNANCY (Check all that apply) ☐ Gonorrhea ☐ Syphilis ☐ Chlamydia ☐ Hepatitis B ☐ Hepatitis C ☐ None of the above		44. CHIEF OF LABOR (Check all that apply) ☐ Prolonged labor (10 hrs) ☐ Prolonged labor (20 hrs) ☐ None of the above					
45. NEWBORN INFORMATION		46. METHOD OF DELIVERY A. Was delivery with forceps attempted but unsuccessful? ☐ Yes ☐ No B. Was delivery with vacuum extraction attempted but unsuccessful? ☐ Yes ☐ No C. Force presentation at birth ☐ Cephalic ☐ Breech ☐ Other D. Fetal route and method of delivery (Check one) ☐ Vaginal/spontaneous ☐ Vaginal/suction ☐ Vaginal/vacuum ☐ Cesarean, was a trial of labor attempted? ☐ Yes ☐ No					
46. NEWBORN MEDICAL RECORD NUMBER		47. MATERNAL SOBRIETY (Check all that apply) ☐ Consumption associated with labor and delivery ☐ Maternal intoxication ☐ Third or fourth degree perineal laceration ☐ Ruptured placenta ☐ Unexplained hypotension ☐ Admission to intensive care unit ☐ Unexplained opening roset procedure following delivery ☐ None of the above					
47. BIRTHWEIGHT (grams preferred, specify unit) _____ grams _____ ounce		48. ABNORMAL CONDITIONS OF THE NEWBORN (Check all that apply) ☐ Assisted ventilation required immediately following delivery ☐ Assisted ventilation required for more than 48 hours ☐ NCU admission ☐ Newborn given surfactant replacement therapy ☐ Antibiotics received by the newborn for infectious neonatal sepsis ☐ Seizure or serious neurologic dysfunction ☐ Significant birth injury (ostebral fracture), peripheral nerve injury, and/or soft tissue/ocular organ hemorrhage which requires intervention ☐ None of the above					
48. OBSTETRIC ESTIMATE OF GESTATION (completed weeks)		49. CONGENITAL ANOMALIES OF THE NEWBORN (Check all that apply) ☐ Anencephaly ☐ Meningoencephalocele/encephalocele ☐ Cyanotic congenital heart disease ☐ Complex congenital heart ☐ Cryptorchidism ☐ Clubfoot ☐ Limb reduction defect (including congenital amputation and missing syndactyls) ☐ Club lip with or without cleft lip/palate ☐ Cleft palate alone ☐ Down Syndrome ☐ Karyotype confirmed ☐ Karyotype pending ☐ Suspected chromosomal disorder ☐ Karyotype confirmed ☐ Karyotype pending ☐ None of the anomalies listed above					
49. APGAR SCORE Score at 1 minute: _____ If 5 minute score is less than 8: Score at 10 minutes: _____		50. IF INFANT SINGLE BIRTH - Born First, Second, Third, etc. (Specify): _____					
50. FLEXIBILITY - Single, Twin, Triplet, etc. (Specify): _____		51. IF INFANT TRANSFERRED WITHIN 24 HOURS OF DELIVERY? ☐ Yes ☐ No IF YES, NAME OF FACILITY INFANT TRANSFERRED TO: _____					
51. IF INFANT TRANSFERRED WITHIN 24 HOURS OF DELIVERY? ☐ Yes ☐ No IF YES, NAME OF FACILITY INFANT TRANSFERRED TO: _____		52. IF INFANT LIVED AT TIME OF REPORT? ☐ Yes ☐ No IF YES, TRANSFERRED, state where: _____					
52. IS THE INFANT BEING BROADCAST AT EXCHANGE? ☐ Yes ☐ No		53. IS THE INFANT BEING BROADCAST AT EXCHANGE? ☐ Yes ☐ No					

Infant's Bedside Feeding Chart

DATE	WEIGHT		MECONIUM
	POUNDS	KILOGRAMS	
6-12	6-11.8	3055 ↓ 17.	
6-13	6-7.4	2930 ↓ 67.	

TIME	TYPE	INTAKE			OUTPUT				Nurse's Initials
		AMOUNT	TOLERANCE	Ability to PO feed	URINE	LABS	STOOL	LABS	
2230	BF	well on d/d	good	good	✓	✓			AA
0700	BF	both sides	good	good	✓	✓	Mec		AA
0800	BF	20min(both)	good	good	✓	✓	Mec		AA
0930	BF	10min(both)	good	good	✓	✓			BB
1230	BF	Both	good	good	✓	✓			BB
1430	BF	Both	good	good	✓	✓			PA
1900	Sim	10 cc	good	good	✓	✓			CC
2030	BF	Both	good	good	✓	✓			AA
0200	BF	Both	good	good	✓	✓			AA
0530	BF	Both	good	good	✓	✓			AA
0855	BF	20min(both)	good	good	✓	✓			CC
1400	Sim	40 cc	good	cup feed	✓	✓			BB
1800	BF	Both (10min)	good	good	✓	✓			AA
1900	BF	40min(both)	good	good	✓	✓			AA

NURSE'S SIGNATURE AND INITIALS			
INIT.	NAME	INIT.	NAME
AA	Nurse A		
BB	Nurse B		
CC	Nurse C		

Methods

- ▣ Certain demographics, such as language, might affect the mother's ability to answer the question accurately.
- ▣ Chi square analyses performed to determine differences between women who answered *accurately* and women who answered *inaccurately*.

Results

- ▣ At LGH, birth certificate answers agreed with infant feeding record in 95% of cases (290/306)
- ▣ At BMC, birth certificate answers agreed in 80% of cases (185/232)

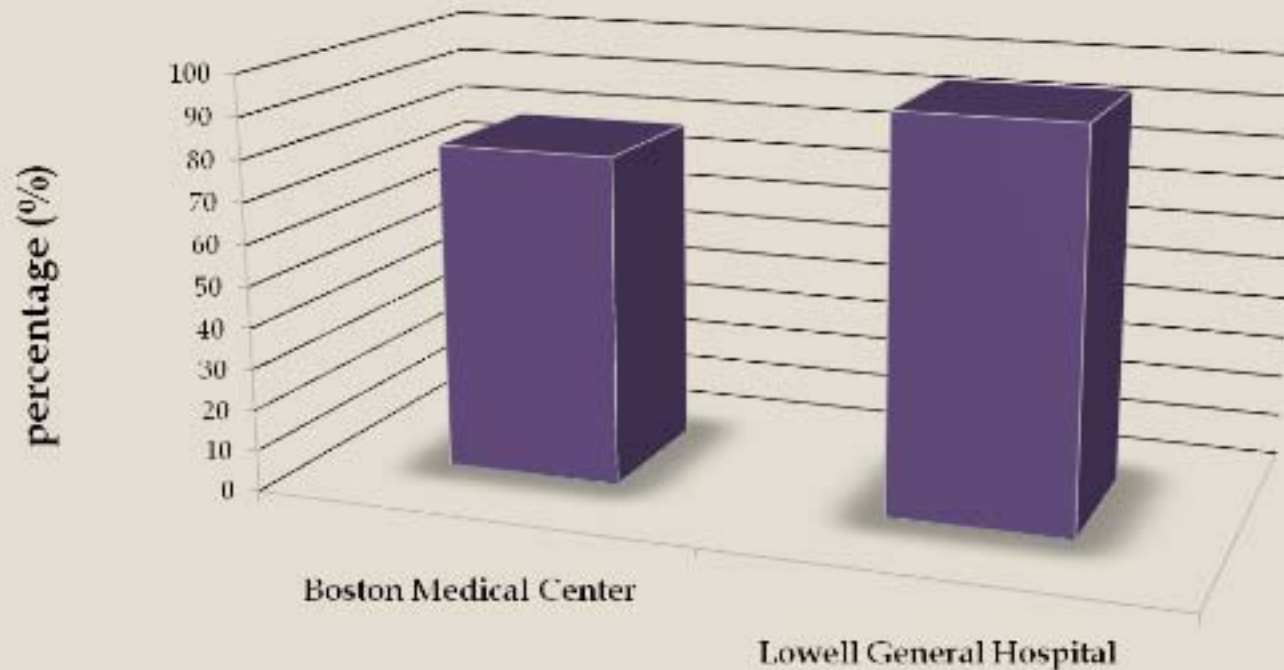
Results

- ▣ LGH
 - 7 women stated intent to breastfeed but did not
 - 9 women said they would not breastfeed, but did

- ▣ BMC
 - 7 women stated intent to breastfeed but did not
 - 40 women (17%) said they would not breastfeed, but did

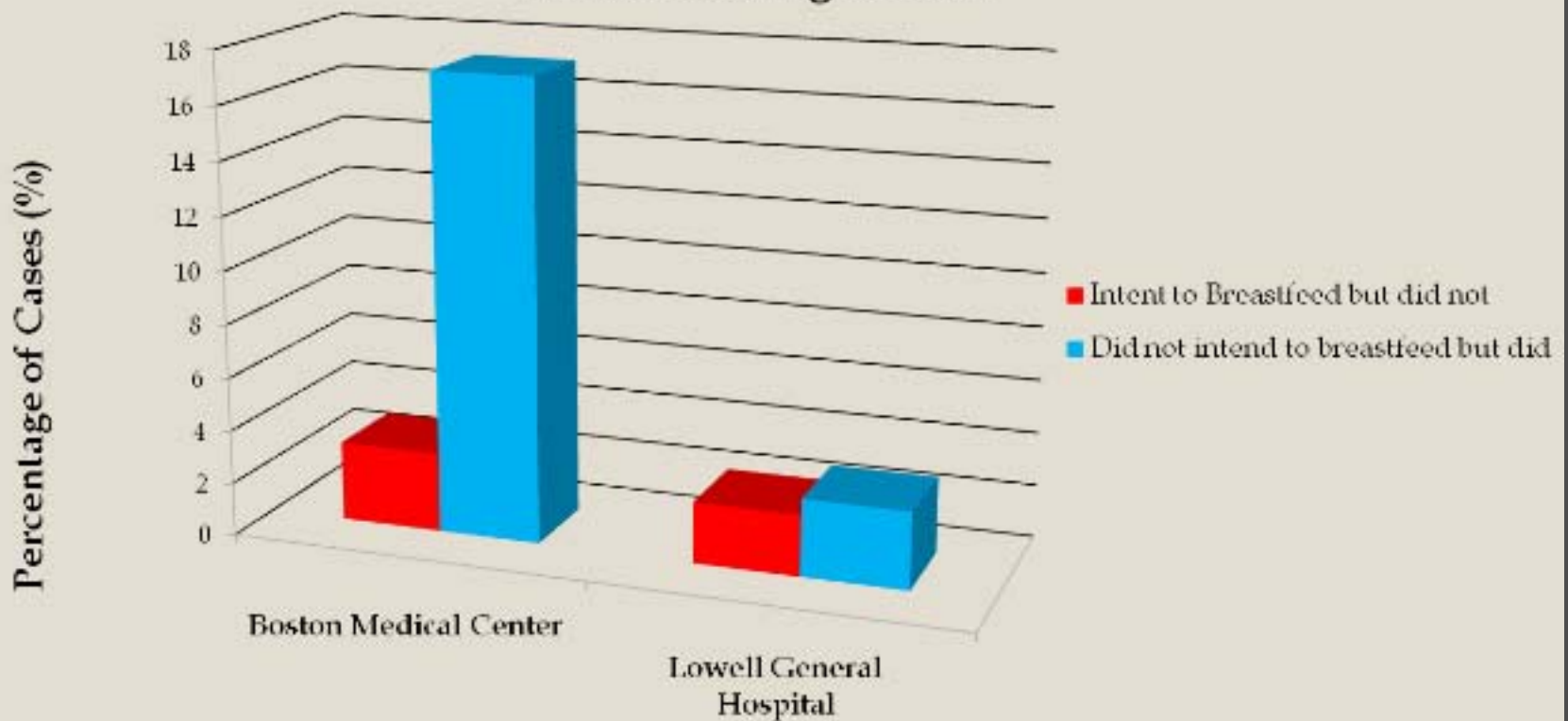
Results

Table 1: Percentage of Cases in Which Birth Certificate Data Matches Infant Feeding Record



Results

Table 2: Cases in Which Birth Certificate Data Varies from Infant Feeding Record



Results

- ▣ In chi square analyses women who answered accurately did not differ significantly by age, insurance status, or maternal birth place from women who answered inaccurately

Conclusions

- ▣ Breastfeeding data found on the Massachusetts birth certificate is accurate, but varies between the 2 hospitals
- ▣ Although breastfeeding is a desirable health behavior, surprisingly, intent was not overstated

Conclusions

- ▣ The theory that women make infant feeding decisions in pregnancy may be flawed. 20% of women at Boston Medical Center apparently changed their feeding decision after the baby was born.
- ▣ Supportive breastfeeding policies associated with the Baby-Friendly Hospital Initiative may have contributed to this maternal change of mind at Boston Medical Center.

Conclusions

- ▣ These results stress the importance of breastfeeding support in the postpartum environment where providers should guard against making assumptions about women who might enter the facility stating intent to formula feed.