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Breastfeeding status on US birth certificates: Where do we go from here?

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Abstract

Objectives—To assess the extent to which states collected breastfeeding data on the birth certificate, to verify the wording of the breastfeeding questions used, and to develop recommendations for future revisions of the breastfeeding question asked on the US Standard Certificate of Live Birth (SCLB).

Methods—Registrars of Vital Statistics in US states and territories were contacted via telephone with email follow-up between April, 2006 and May, 2008 to determine if their state/territory collected breastfeeding data on its birth certificate. Responses were categorized as: a) breastfeeding data currently collected; b) breastfeeding data not currently collected, but implementation date set; or c) breastfeeding data not currently collected and no implementation plans.

Results—In May, 2008, 56.6% (30/53) of US states/territories were collecting data on breastfeeding status at hospital discharge on their birth certificate. The questions used to collect breastfeeding data, however, had not been standardized. Approximately one quarter (12/53) reported they were not yet collecting breastfeeding data on their birth certificate, but an implementation date had been set. About one fifth (11/53) indicated that their state birth certificate did not plan to collect breastfeeding data by January, 2010.

Conclusions—79% of registrars reported that breastfeeding data were collected on the birth certificate, or that the process would begin within the next 2 years. Future revisions to the SCLB breastfeeding question should assess breastfeeding exclusivity. The revision process should include feedback from health professionals collecting these data, pretesting of the revised question for feasibility, and extensive training prior to data collection.

Keywords

breastfeeding; Standard Certificate of Live Birth; birth certificate; US birth certificate; exclusive breastfeeding

Introduction

There are 11 federally funded US surveys/datasets which collect data on breastfeeding practices. However, issues such as sampling procedures, recall bias, inconsistent wording of

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the breastfeeding questions and limited racial/ethnic category choices constrain the extent to which these data can be generalized¹. In 2003, the US Standard Certificate of Live Birth (SCLB) was revised, and for the first time included a question on breastfeeding. The SCLB is a model or template birth certificate which can be adopted or modified by individual states. In the “Newborn” section of this document, breastfeeding status is assessed using the question: “Is the infant breastfed at discharge?” with the responses listed as “yes” or “no”².

This question is designed to capture breastfeeding status at hospital discharge, and since SCLB breastfeeding data should be collected for all newborns in participating states, these data should be representative at the state level. It has limitations; however, as it does not directly assess breastfeeding initiation and does not measure breastfeeding exclusivity. Given the limitations of the federally-funded surveys in assessing US breastfeeding outcomes, the inclusion of a carefully constructed breastfeeding question on the SCLB has the potential to make a valuable contribution to our knowledge on breastfeeding practices during the early postpartum period. The SCLB contains a wealth of information on relevant confounders which may impact breastfeeding rates including maternal and paternal variables (age, education, birthplace, and race/ethnicity), maternal variables (height, prepregnancy weight, marital status, smoking status, WIC participation, parity, pregnancy risk factors, delivery method, insurance status) and infant variables (birth weight, Apgar scores, and gestational age). Thus, the SCLB data could be analyzed for determinants of breastfeeding outcomes.

Breastfeeding data derived from birth certificates have been used to evaluate factors impacting breastfeeding initiation^{3–7}. However, states are neither required to use the SCLB nor to adopt the exact wording of SCLB questions. The objectives of this study were to assess the extent to which US states and territories collected breastfeeding data on the birth certificates, to verify the wording of the breastfeeding questions used, and to develop recommendations for future revisions of the SCLB breastfeeding question.

Methods

To assess the extent to which breastfeeding data were collected on birth certificates, the Registrar of Vital Statistics in each of the 50 states, plus New York City, Washington, DC and 4 US territories (Puerto Rico, Guam, US Virgin Islands, and American Samoa) were contacted via telephone by a research assistant, in Spring, 2006, with email follow-up, beginning in August, 2006. During these contacts, Registrars were asked if their state was collecting breastfeeding data on their birth certificate. Responses were recorded as either: a) breastfeeding data currently collected; b) breastfeeding data not currently collected, but a planned implementation date set; or c) breastfeeding data not currently collected and no planned implementation date. Registrars responding that breastfeeding data were collected were requested to verify the wording of their breastfeeding question, either by sending an electronic template of the birth certificate worksheet or by providing the verbatim text of their question to the research assistant. New York City was included as a separate entity from the state of New York in our analyses. This was done because, as reported in other analyses of birth certificate data^{8,9}, New York City and New York State use different birth certificates.

Follow-up email surveys were sent approximately every 4 months to re-contact registrars who had not responded. Registrars not responding by July 1, 2007 were re-contacted by telephone to verify their information. States categorized as not collecting breastfeeding data (with or without implementation dates) were re-contacted by telephone and email every 3 months between December, 2007 and May, 2008 to determine if their status had changed. Data were tabulated in Microsoft Excel. This study was not subject to Institutional Review Board approval, since no private, identifiable information were obtained.

Results

Responses were received from 100% of the state Vital Statistics Registrars (including Washington, DC and New York City), and from 1 of the 4 Registrars in a US territory (Puerto Rico). Among those responding, 56.6% (30/53) were collecting data on breastfeeding status on their state birth certificate (Figure 1). Approximately one quarter of the Registrars (12/53) reported that they were not yet collecting breastfeeding data on their birth certificate, but that they had a scheduled date to begin implementation of a revised birth certificate which would collect breastfeeding data. About one fifth (11/53) indicated that their state birth certificate did not plan to collect breastfeeding data by January, 2010. In total, 79% of the Registrars (42/53) reported that their state was already collecting breastfeeding data on the birth certificate or had a planned implementation date to do so.

The questions used to assess early breastfeeding practices varied by state (Table 1). Among the 30 localities (29 states + New York City) collecting breastfeeding data, 40% (12/30) used the wording of the breastfeeding question on the SCLB (Is the infant being breastfed at discharge?). Five of these states used the responses specified on the SCLB (Yes/No), while 7 added the option to respond "Unknown". Two additional states used a nearly identical question (Is the infant being breastfed at time of discharge?), each with a different set of potential responses. Eight states used a slightly abbreviated form of the SCLB breastfeeding question and asked "Is infant being breastfed? (yes/no)". Eight states or municipalities developed their own unique question. Half of these birth certificates (New Jersey, New York State, New York City, and Washington, DC) included language that permitted analysis of the exclusivity of breastfeeding.

Some of the states that reported not collecting breastfeeding data on their birth certificate indicated that these data were being collected using other systems such as a Newborn Screening Test form or via the Pregnancy Risk Assessment Monitoring System (PRAMS) survey.

Discussion

In the majority of states, breastfeeding data are collected on the birth certificate, or this process will begin within the next 2 years; however, the questions being used to collect breastfeeding data are not standardized. Only 5 states use the exact wording of the breastfeeding question and responses specified by the SCLB. Six states plus New York City and Washington, DC have developed their own questions. The wide variation in the wording of the breastfeeding question adopted for use in individual state birth certificates implies dissatisfaction with the breastfeeding question originally specified in the US Standard Certificate of Live Birth (SCLB). Since the SCLB is periodically revised, we offer some suggestions for the future modifications of the breastfeeding question.

We strongly recommend that future revisions of the SCLB breastfeeding question assess breastfeeding exclusivity during hospitalization. Increasing exclusive breastfeeding is a national public health priority¹⁰, but unfortunately, a high percentage of breastfed infants start receiving formula during their hospitalization¹¹. Data on in-hospital rates of exclusive breastfeeding would be useful at the state, county and hospital level to assess the adequacy of breastfeeding promotion efforts and monitor progress towards improvement in breastfeeding practices. It should be recognized that these exclusive breastfeeding data are likely to overestimate the true incidence of exclusive breastfeeding. Due to time constraints, the review of feeding practices may be limited to the last 24 hours of the hospital stay, as done in New Jersey³. Thus, infants who were supplemented with non-breastmilk substances early during their hospital stay, and then received only breastmilk for the remainder of their hospitalization would be misclassified as exclusively breastfed. Despite this limitation, these data are

extremely useful, as they provide valuable insights regarding the adequacy of in-hospital lactation support, and allow benchmarking comparisons between hospitals, counties and states.

The exact wording of this question should be developed with guidance from experts in the areas of lactation and public health, and those currently involved in data collection. It would be essential to obtain feedback from Vital Records Registrars in New Jersey, New York State, New York City, and Washington, DC where data on breastfeeding exclusivity are currently collected on the birth certificate. Once developed, the breastfeeding question should be pilot tested for feasibility. Two states (Michigan and Massachusetts) ask about both breastfeeding intentions and initiation in a single question. This seems particularly confusing, as different responses may be obtained, depending on the timing of the question (prenatal vs. postpartum). Given that feeding intentions are not always predictive of infant feeding practices¹², we recommend that breastfeeding intentions should not be documented on the birth certificate.

In addition to standardized wording, the administration of the birth certificate breastfeeding question should be standardized. The breastfeeding question typically appears on the Facility Worksheet, designed to be completed by health professionals. Process evaluation should be conducted to determine exactly how this question is currently answered, and by whom. For example, is the mother interviewed, or is the medical record/infant feeding record reviewed, or are the data entered from an electronic source? If mothers are interviewed, then accurate translation of the standardized question should be developed in multiple languages. The timing of the data collection should be consistent, in order to accurately capture the desired outcomes. If the phrase, “at discharge”, is included in future revisions, it will be necessary to specify the meaning of “at discharge”. For example, does “at discharge” refer to last 24 hours of hospitalization as are currently done in New Jersey³? Alternatively, should only the last 2–4 documented in-hospital feedings be assessed, in order to capture feeding practices closest to discharge? We do not recommend the use of the last hospital feeding to answer this question, as this would misclassify mixed feeders as either breastfeeding or formula feeding. Thorough training of health professionals collecting birth certificate breastfeeding data is essential, in order to maximize the usefulness of these data for breastfeeding surveillance purposes.

Given all of the relevant demographic and biomedical data collected at birth, the birth certificate represents a very useful data source for breastfeeding researchers interested in examining breastfeeding outcomes from a health disparities perspective, and for policy makers wishing to improve hospital practice. Obviously, these data are only useful if they are made publicly available. To date, several peer-reviewed publications have resulted from analysis of birth certificate-derived breastfeeding data^{3–7, 12}.

Ten states and Puerto Rico indicated that they do not have plans to collect breastfeeding data on their birth certificates. Some of these states are collecting breastfeeding data through alternate sources, such as the newborn screening programs. Other states reported collecting these data with PRAMS; however, given the smaller sample size and the longer recall period involved with the PRAMS survey, this does not represent an adequate substitute for collection of breastfeeding data on the birth certificate.

Conclusion

Within the next 2 years, nearly 80% of US states are expected to be collecting breastfeeding data on their birth certificate. This represents a significant contribution to our national breastfeeding surveillance efforts, as data should be collected for every newborn in every participating state, thereby avoiding the potential for sampling bias. Because birth certificates also collect data on several relevant variables known to impact breastfeeding outcomes, the inclusion of a breastfeeding question on birth certificates has a strong potential to improve

breastfeeding surveillance in the US. Consistent with the Healthy People 2010 guidelines, we strongly encourage all states and US territories to collect exclusive breastfeeding data on their birth certificates, and to monitor this outcome closely. Standardization of the breastfeeding question used on state birth certificates should be a priority, so that breastfeeding outcomes can be compared across states. The revision of this question should involve a process which includes feedback from health professionals collecting these data, pretesting of the revised question for feasibility, and training of professionals collecting these data.

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Abbreviations

SCLB

Standard Certificate of Live Birth

PRAMS

Pregnancy Risk Assessment Monitoring System

WIC

Special Supplemental Nutrition Program for Women, Infants and Children

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Figure 1.
United States map indicating status of breastfeeding data collection on birth certificates

Table 1

Summary of the questions used to assess breastfeeding status on state birth certificates

Wording of Question [*]	# states	Specific States
1. Is the infant being breastfed at discharge?		
(Yes/No)	5	Delaware, Iowa, Montana, Vermont, Wyoming
(Yes, No, Unknown)	6	Indiana, Kansas, New Hampshire, New Mexico, Ohio, Oregon
(Yes/No/Infant transferred, status unknown)	1	Texas
2. Is infant being breastfed at time of discharge?		
(Yes/No)	1	South Dakota
(Yes/No/Unknown)	1	North Dakota
3. Is infant being breastfed?		
(Yes/No)	8	Florida, Idaho, Kentucky, Nebraska, Pennsylvania South Carolina, Tennessee, Washington
4. Is infant being breastfed, even partially? (No, Unknown, Yes)	1	Georgia
5. Is the infant receiving breastmilk at discharge? (Yes/No)	1	Colorado
6. Are you breastfeeding or do you intend to breastfeed? (Yes/No)	1	Massachusetts
7. Breast feeding initiated, planned or not planned?		
(Initiated, Planned, Not Planned, Unknown)	1	Michigan
8. Feeding at Discharge (Check one)		
(Breast Feeding, Formula, Combination, Other)	1	New Jersey
9. How is infant being fed at discharge? (Select one)		
Breast Milk only, Formula only, Both breast milk and formula, Other, Do not know	1	New York State
10. How is infant being fed (Check ONE):		
Breast milk only, Formula only, Both, Neither (ie. Infant may be on IV fluids)	1	New York City
11. Method of feeding: (Bottle, Breast, or Both)	1	Washington, DC

^{*}Slight variations in wording are grouped together