



# **Best Practices Guide for Implementation of Newborn Exclusive Breast Milk Feeding in Electronic Health Records**

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A guide to meaningful capture of Breast Milk Feeding Data for quality measure and designation programs in the United States

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## Summary Brief

The practice of exclusive breast milk feeding as an intervention capable of protecting both a mother and her newborn from chronic and life-threatening conditions is now recognized as a global low-cost preventative health measure. Recent policies and regulations in the United States (U.S.) are the catalyst for creating more efficient and complete data collection and analysis methods. This guide provides an overview of the factors, programs, and regulations supporting exclusive breast milk feeding data documentation, measurement, and reporting in Electronic Health Records (EHR) during the birth of a newborn. The collaboration and dedication of clinicians, health information technology (HIT) experts, and government, public, and private partners contributed to the recommendations in this document. The consistent theme present throughout this discussion is a genuine shared vision of improving the overarching health care of two generations – that of a mother and her newborn with the measures, programs, and initiatives described.

*The United States Breastfeeding Committee (USBC) is an independent nonprofit coalition of more than 50 nationally influential professional, educational, and governmental organizations. Representing over one million concerned professionals and the families they serve, USBC and its member organizations share a common mission to improve the Nation's health by working collaboratively to protect, promote, and support breastfeeding. For more information on USBC, visit [www.usbreastfeeding.org](http://www.usbreastfeeding.org).*

## Who Should Read This Document

This document is intended primarily for software designers, analysts, developers, and implementers and secondarily for hospital clinicians implementing standards based EHRs.<sup>1</sup> The purpose of this guide is to provide guidance on implementation of an effective, efficient, and complete data capture process for newborn feeding, which can support quality measurement and hospital designation requirements. Recommendations support the implementation of the [2014 Clinical Quality Measure \(CQM\) CMS 09/NQF 0480 Exclusive Breast Milk Feeding](#) and [The Joint Commission Perinatal Care Core Measure-PC-05/05a Exclusive Breast Milk Feeding](#). These measures report the incidence of exclusive breast milk feeding during the newborn's entire hospitalization and provide guidance for the implementation of EHR data which supports designation via the [Baby-Friendly Hospital Initiative](#). Reference specifications for each of the three components addressed in this *Best Practices Guide* are listed following the recommendations section. Readers will gain optimal value from this guide by reading it in its entirety. In general, technical and vendor specific guidelines are contained in the *Breast Milk Feeding Reporting and/or Designation Programs* and *Key Concepts: Implementation Guidance* sections.

## Methodology

The recommendations included in this guide were obtained by interviewing hospital based EHR implementation teams (those participating in perinatal care) and national breastfeeding experts for nuances of breastfeeding data capture. Individuals who volunteered for interviews came with a variety of skill sets (vendor analyst, IT developer, perinatal nurses, directors of nursing, executive and government leadership). Interviews focused upon the experiences of the volunteers, best practices, difficulties of implementation and recommendations for those embarking on perinatal EHR implementations. After completion of the interviews, an expert panel was compiled (including hospital team members and industry leaders). Three two-hour Expert Panel webinars were held over three months. Expert Panel members steered development of the guide. Individual discussions with Expert Panel members, informaticians with expertise in this area and technical experts continued throughout its development.

## Introduction

### The Health Potential of Exclusive Breast Milk Feeding

The focus on breast milk feeding has received recent global attention due in part to the robust research validating positive health outcomes for *both* mother and baby when the newborn is breastfed. Exclusive Breast Milk Feeding for the first six months of life can result in numerous long-term health benefits of both mother and the newborn, as reflected in the policy of the

American Academy of Pediatrics: [Breastfeeding and the Use of Human Milk](#). The significantly lower rates of diarrhea, otitis media, lower respiratory tract infections, Type 1 and Type 2 diabetes, childhood leukemia, necrotizing enterocolitis and Sudden Infant Death Syndrome demonstrate a protective effect for newborns who are breastfed.<sup>1</sup> Evidence also supports a decreased risk of Type 2 diabetes, breast cancer, ovarian cancer and cardiovascular disease risk for mothers who breastfeed their newborn(s).<sup>2</sup>

Research indicates that the prenatal and intrapartum period is critical for successful exclusive (or partial) breast milk feeding. Supportive educational program environments in hospitals and birthing centers likely hold the greatest potential for embracing breast milk feeding. Appropriate, evidence-based prenatal education sets the stage for providing the mother with sound options for newborn feeding. Given that many states have enacted legislation to ensure hospital stays of up to 48 hours for vaginal deliveries and up to 96 hours after birth by cesarean delivery<sup>3</sup>, data documentation for the exclusive breast milk feeding measure occurs during a small window of opportunity.

Promotion of exclusive breast milk feeding is extensive. Examples of this include [The Surgeon General's Call to Action to Support Breastfeeding \(2011\)](#) and inclusion of breastfeeding in the [Healthy People 2020 objectives](#). Electronic documentation of exclusive breast milk feeding during the early postpartum period, leading up to the newborn hospital stay is considered to be a critical force in obtaining these goals.

### **Background on Exclusive Breast Milk Feeding Data Documentation**

Appropriate data capture and analysis for exclusive breast milk feeding has strong potential for identifying improved health outcomes, particularly as hospitals begin to document electronically through EHRs. Few, if any other quality measures can claim such a powerful health predictor for two individuals via one quality measure. Additionally, most quality measures analyze the treatment of a condition or disease, rather than the prevention of chronic conditions as in the case of exclusive breast milk feeding.

While there are slight derivations of the definition of exclusive breast milk feeding, the definition used in this guide is that included in The Joint Commission's Exclusive Breast Milk Feeding core measure specifications<sup>a</sup>, except as otherwise indicated:

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<sup>a</sup> The definition provided is consistent with the 2014A version of the Specifications Manual for Joint Commission National Quality Core Measures, which represents the most current version of the specifications at the time of publication of this guide. This manual is regularly updated. Updates to the measure specifications, including definitions, can be found at <http://www.manual.jointcommission.org>.

*“Exclusive breast milk feeding is defined as a newborn receiving only breast milk and no other liquids or solids except for drops or syrups consisting of vitamins, minerals, or medicines.”* [Breast milk feeding includes expressed mother’s milk as well as donor human milk, both of which may be fed to the newborn by means other than suckling at the breast.]

Other variations and exceptions to this definition are contained within the requirements for the reporting entity; specifications and revisions to any definition should be referenced based upon the reporting program participation.

It is critical to understand the intent of such measures when considering system design and data capture, documentation, and reporting of breast milk feeding. The intent is to document, accurately and in real time, the informed decision a mother makes regarding newborn feeding, and subsequent activities that support her choice in feeding her newborn. An educational goal in this endeavor is to provide every mother with accurate, timely information and support to make an informed decision on whether she will exclusively feed her newborn breast milk. There is no intention, implied or implicit, to mandate that all women breastfeed. The intention is to collect and report data of an informed choice from a mother who has been provided relevant information on the health benefits of exclusive breast milk feeding and who is provided consistent unbiased support for whatever her decision is.

Many factors contribute to a mother’s decision to breastfeed. Research has shown that 60 percent of women do not breastfeed as long as they desire.<sup>4</sup> The success of breastfeeding is often based upon support, education, and informed decision-making during the small increment of time prior to delivery.<sup>5</sup> When barriers to breastfeeding occur, timely support, empathy, and guidance are critical influences in the mother’s decision to continue to feed her newborn breast milk once she is discharged from the hospital. While there are other necessary supports that play a significant role in the mother’s transition home or to another health care setting, the perinatal period and the mother/newborn delivery care process sets an important foundation for the informed decision and continued commitment of the mother. Regardless of the final maternal newborn feeding decision there is agreement that it is important to educate, inform, and support a mother throughout the perinatal period. As there are obvious benefits to accurate documentation of breast milk feeding—exclusive or otherwise—the guide addresses relevant aspects of newborn feeding that should be documented.

This guide builds upon previous work and discussion by leaders in this area. The United States Breastfeeding Committee toolkit, [\*Implementing The Joint Commission’s Perinatal Care Core Measure on Exclusive Breast Milk Feeding\*](#), is a useful prerequisite to this guide and provides details regarding the nuances of recording breast milk feeding data. This toolkit includes two

parts: *Part 1: Guidelines for Data Capture* and *Part 2: Implementing Practices That Improve Exclusive Breast Milk Feeding*.

## Exclusive Breast Milk Feeding Quality Measurement

Quality measurement in health care is complex. Collecting health data for quality reporting has been largely dependent upon chart abstraction from medical records. Electronic Clinical Quality Measures (eCQMs) addressed in this guide adhere to the [definition provided by the Centers for Medicare and Medicaid Services](#) (CMS) as follows:

eCQMs are tools that help us measure and track quality of health care services provided by eligible professionals (EP), eligible hospitals (EH) and critical access hospitals (CAH) within our health care system. Consistent reporting of eCQMs helps to monitor our health care system for safe, timely, efficient, patient-centered, and evidence-based care.

Conversion of paper-based chart abstracted data to electronic documentation and reporting is a work in progress. This is due to the difficult extrapolation of paper measures to eCQM, slowly evolving EHR usability and limited use of health care standards by providers and hospitals. As hospital adoption of EHRs evolves, data capture (documentation via text/codes on paper and with narrative/coded values in EHRs), and collection (assimilation of data for analysis via chart abstraction) will be a mix of both paper and electronic processes. Due to the present mix of data capture and collection, implementers should utilize the specifications of the entity to which the data is reported. In spite of efforts to align chart-abstracted data with eCQMs, differences still exist.<sup>b</sup>

Movement towards the use of electronic health records provides many opportunities to optimize the collection of health care delivery data. The most efficient utilization of health IT occurs when well-constructed teams plan, analyze, and test a cohesive EHR system. Such hospital implementation teams routinely assemble to initiate, plan, implement, and monitor the adoption of an EHR. Teams are typically composed of a physician champion, nurse leaders, dietitians, ancillary department subject matter experts, workflow redesign experts, and systems analysts. The successful capability of EHRs to document critical data to be used in subsequent quality measures and outcomes reporting requires the thoughtful planning and design of EHR systems by these teams. Subject matter experts skilled in the workflow and intricate documentation of perinatal care are critical to successful quality measure reporting. The focus is on documentation and use of exclusive breast milk feeding data, however all aspects of

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<sup>b</sup> At the time of publication of this guide, The Joint Commission ORYX initiative only accepts chart-abstracted data for the Exclusive Breast Milk Feeding measures. Readers should reference the appropriate [Specifications Manual for Joint Commission National Quality Core Measures](#) for details and updates on the measure specifications.

system design and use should be built on the need to collect outcome and quality measurement data across all areas of care.

The U.S. health care system is undergoing perhaps the most rapid movement to electronic health care management in global history. Given this present environment, implementers need to be vigilant about maintaining current knowledge in electronic data capture for the reporting of eQMs. CMS plans to release regular updates to the eQM specifications on an annual basis.<sup>c</sup> Implementers are encouraged to consider the transition to EHRs as an iterative approach, with additional improvements being made as experience in quality reporting evolves.

### **Example Workflow for Documentation of Newborn Exclusive Breast Milk Feeding**

The following Use Case provides an example of basic workflow for capture of Exclusive Breast Milk Feeding data beginning when the mother is admitted to the hospital until she and her newborn(s) is/are discharged from the hospital following delivery. While other components of perinatal care are important to the overall success of the breast milk feeding process, this guide addresses the hospital course of care.

The following real time duplication or synchronization of specific data from mother to newborn(s) chart(s) and vice versa is recommended for continuity of care for the mother-newborn dyad.

#### Key Points:

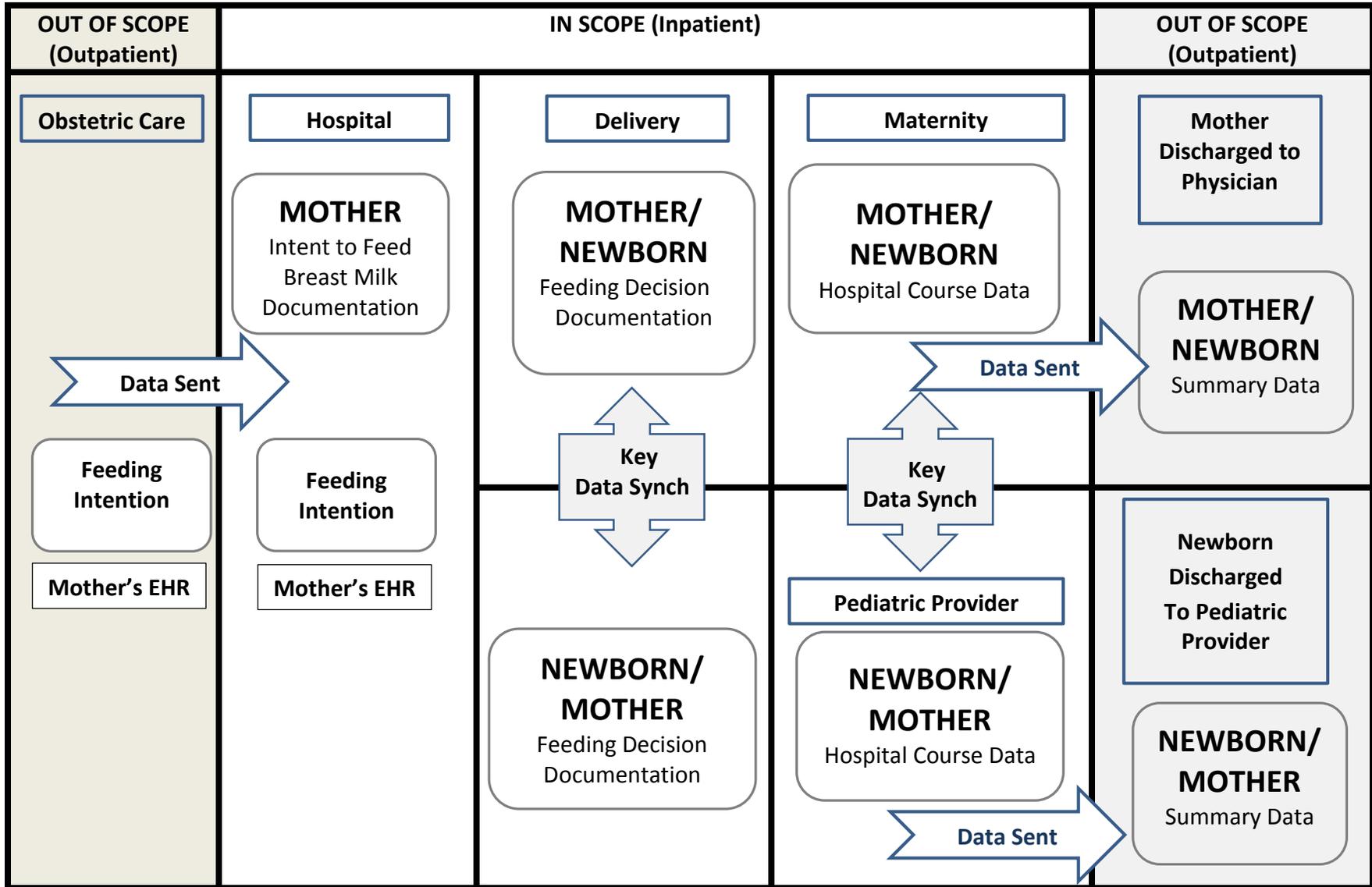
1. The newborn chart is created upon delivery; the assumption being that the newborn “admission” into the hospital/facility and the “birth”/“delivery” are, in most cases synonymous times.
2. In instances where multiple births (more than one newborn) occur, a separate “admission” and electronic record must be created for each newborn, and the same content be shared between newborns(s) and mothers during the hospitalization. For purposes of this document, a “mother-newborn dyad” should represent multiple

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<sup>c</sup> At the time of publication of this guide, the latest available version of the Exclusive Breast Milk Feeding eQM is part of the 2014 eQM Specifications for Eligible Hospitals Release April 2013. Complete eQM specifications, as well as future updates can be found [here](#). Readers should refer to the original source of the specifications for any updates to components referred to in this guide.

- newborns in multiple newborn births and identified data documented and shared for each newborn should be consistent.
3. Data synchronization should occur in “real time” beginning at the onset of the newborn’s record creation. When data relating to care of the newborn is documented, the instructions provided to mother need to exist along with it (e.g. when wet diapers and stools documented on newborn, education of parents should be included.)
  4. Data used for Exclusive Breast Milk Feeding eCQM is extracted from the newborn’s record during the single episode of care; for this to produce accurate data, all aspects of maternal data relevant for the measure should be included in the newborn’s record.
  5. EHRs with poor usability (cumbersome navigation of data entry around work processes) should not preclude evidence-based care. For example, requiring a birth weight to be collected at the time of newborn record creation may interfere with the evidence-based practice of immediate skin-to-skin contact following birth.

TABLE 1: Example Workflow for Documentation of Exclusive Breast Milk Feeding In Newborns



## Regulations Driving Quality Measurement Using Health IT

At present, EHR adoption is largely driven by the regulatory components of the [Health Information Technology for Economic and Clinical Health Act](#) (HITECH), which is a portion of the [2009 American Recovery and Reinvestment Act](#) (ARRA). The HITECH Act serves to provide both a Medicare/Medicaid financial incentive (for successful completion of [“meaningful use”](#) (MU) objectives) and a Medicare/Medicaid *disincentive* (penalty for failure to adopt EHRs by the year 2015). Categories for participation include Medicare/Medicaid EP and EH/CAH who meet MU objectives by designated timelines/stages. The “stages” of MU are meant to become incrementally more robust with each stage of the program. Stage 1 (2011) represented a stage of data capture and sharing, Stage 2 (2014) is intended to use data to advance clinical processes, and Stage 3 (2016 or beyond) looks towards improved clinical outcomes based upon robust interoperable systems.

A consequence of the HITECH Act is that EHR vendors now achieve [ONC HIT Certification](#) based upon regulation driven criteria. This allows providers and hospitals to select EHRs with known capabilities; certified EHRs are required for successful completion of MU participation and are capable of supporting reporting requirements. EHR functionality required for MU is driven by the three designated stages from the HITECH Act. “Stage 2” takes effect in fiscal year 2014 for hospitals, leaving EHR vendors faced with unusually tight timelines for integrating mandated functionality into their products. The process includes designing software based upon the regulations (in this case the [2014 Edition EHR Certification Criteria](#)), building the software functionality, testing, rolling it out to customers (providers/hospitals), training end-users, troubleshooting and user acceptance for facility requirements. Clearly, the rapid evolution of health IT is also challenged by the difficulties in rapid changes to the cultural and workflow practices within medical facilities.

EHR adoption has accelerated significantly since 2009. As a result of the HITECH Act, [hospital adoption of EHRs has tripled](#) from 2009 to 2013, with almost 90 percent of U.S. hospitals participating in the HITECH EHR Incentive Program. Clearly, a powerful component of this program is not only the possibility of increased efficiency of electronic health record use, but also the rare chance to adopt best practices, evidence-based medicine, and improved quality of care using an information system. The goal is to design a system that dovetails data capture with a logical workflow of patient care delivery in such a way that the patient is the center of attention, rather than the computer. The information and references in this guide are included with this objective in mind.

## Timeline for Exclusive Breast Milk Feeding Reporting Programs

Recent milestones supporting the promotion of Exclusive Breast Milk Feeding include the following:

**April 1, 2010:** The Joint Commission replaced the Pregnancy and Related Conditions core measure set with the new Perinatal Care (PC) core measure set beginning with discharges occurring on this date. Contained in the PC set is PC-05: Exclusive breast milk feeding measure.

**January 1, 2013:** Beginning on this date, The Joint Commission began collecting an additional measure: PC-05a, Exclusive Breast Milk Feeding Considering Mothers Choice, which is a subset of the original measure. It includes “only those newborns that were exclusively fed breast milk during the entire hospitalization excluding those whose mothers chose not to exclusively breast feed.”

**October 1, 2013:** Use of [2014 eCQM for reporting of Stage 2 MU](#) begins during Fiscal Year 2014. (Since a 90 day reporting period is necessary to receive incentive funding, hospitals must begin their reporting period by July 1, 2014 to complete the 90 days within fiscal year 2014). This includes the CMS 09/NQF 0480 Exclusive Breast Milk Feeding eCQM.

**January 1, 2014:** The Joint Commission mandate that all hospitals with over 1,100 births per year report on the Perinatal Care Core Measure set as part of their accreditation requirements took effect.

## Scope of This Guide

### Content Considered In Scope

- Aspects of evidence-based guidance on newborn/newborn feeding practices.
- Recommendations for those who report or intend to report the Exclusive Breast Milk Feeding measure to either The Joint Commission for hospital accreditation purposes, to CMS for successful participation in the MU EHR Incentive Program, or for those who seek to report on breast milk feeding in compliance with the Baby-Friendly Hospital Initiative designation.
- Recommendations which allow for appropriate documentation, capture, and use of structured data necessary to support the identified reporting and designation programs.

### Content Considered Out of Scope

- Implementation guidelines consistent with adherence to other measures included in The Joint Commission’s Perinatal Care Core Measure set: PC-01 through PC-04.
- Documentation of Exclusive Breast Milk Feeding in the outpatient or physician office/encounter area.
- Consistent method of documenting all commercially available newborn formulas by name in electronic form using controlled terminologies, as this data is unavailable.

## Assumptions

- Technical understanding of the quality standards is necessary to complete the electronic reporting requirements included in this guide. The standards designated for use are intended to be used for multiple quality measure sets and contain overall implementation guidance as part of the standard.
- At time of publication, reporting on The Joint Commission PC-05/PC-05a and the Meaningful Use reporting of the same measure are two separate processes. Reporting guidelines for each must be followed per the directions of the receiving entity (either The Joint Commission or CMS.) In terms of the MU Incentive Program, all EH, CAH and EP must use the “2014 eCQM” regardless of reporting stage (stage 1 or 2).
- Since Exclusive Breast Milk Feeding is collected and reported using terminologies for certified EHRs such as the [Systematized Nomenclature of Medicine-Clinical Terms](#) (SNOMED-CT), [Logical Observation Identifiers Names and Codes](#) (LOINC), [Current Procedural Terminology](#) (CPT), [International Classification of Diseases](#) (ICD), [RxNorm](#), some familiarity of health care system terminology is needed.
- Facilities must utilize terminologies that are supported by the vendors. While ICD-9 –CM codes are included in some value sets, [the ICD-10-CM/PCS mandate](#) for adoption by October 1, 2014 will drive transition of ICD-9-CM to ICD-10-CM/PCS in tandem with some EHR adoptions. This adds further complexity but also granularity to coding in the EHR.

## Key Concepts – Implementation Guidance

### Nuances of Exclusive Breast Milk Feeding Documentation and Capture

An expectation of health IT adoption is that the data will follow the patient. Such a system requires movement of health data *within* a facility (such as from laboratory and pharmacy systems) and *between* systems and providers (such as from a hospital to the pediatric provider’s office). In most environments, this “interoperability” within and between systems is a work in progress. The example use case is mindful of this goal and outlines critical functionality required to accurately document and collect Exclusive Breast Milk Feeding data.

While interviewing participant and contributors for this guide (including some on the Expert Panel), the issue of internal data integration between facility systems proved to be a complex, challenging area. In the majority of cases, more than one vendor system was used to document mother and newborn care and frequently, the flow of data from other departments (such as laboratory and pharmacy) was problematic. Likewise, the use of shared data between mother and newborn charts was inconsistent across facilities. Real-time access to patient data is needed once the newborn is delivered. Otherwise, extra effort is required by clinicians and staff

to assure that critical data is compiled and available for optimal patient care of both mother and her newborn.

## **Electronic Quality Measurement Standards: A Shifting Landscape**

At the time of publication, technological standards for eCQM reporting are in early development and testing phases, which creates the need for frequent modifications to processes and programming as the standards evolve. Guidance for implementation of eCQM is contained in these rich, but very recently developed standards for use in reporting quality data via EHRs. While the end goal is an efficient documentation of breast milk feeding data using semantically similar clinical codes via EHRs on the newborn's medical record, the present state of health care is one where testing and diligent attention to guidance improvements are critical to success.

Two standards specified for electronic quality measure reporting available through [Health Level Seven \(HL7\)](#) are referenced and described below. Readers and Implementers should familiarize themselves with the HL7 [new license agreement](#) for viewing and implementation use.<sup>d</sup>

### [Health Quality Measures Format \(HQMF\)](#):

The HQMF is a standard for representing a health quality measure as an electronic document. The quality measure is considered a quantitative tool that provides an indication of an individual or organization's performance in relation to a specified process or outcome via the measurement of an action, process, or outcome of clinical care. HQMF provides standardization of a measure's structure, metadata, definitions, and logic for consistent, unambiguous interpretation of quality measures using Extensible Markup Language (XML). Quality measures encoded in the HQMF format are referred to as "eMeasures."

### [Quality Reporting Document Architecture \(QRDA\)](#):

The QRDA is a standard document format for the exchange of eCQM data. QRDA reports contain data extracted from EHRs and other information technology systems. They communicate clinical information between senders and recipients of quality measurement data. The data contained in a QRDA report represent eCQM data in a standard format that can be automatically consumed and operated on by recipient databases.

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<sup>d</sup> Any discrepancy between requirements described here and in the referenced specifications is inadvertent and in all cases, implementers should follow the requirements as stated in the eCQM technical guidelines. The implementer should reference the most recent update or release of the referenced standard including errata.

The [Office of the National Coordinator for Health Information Technology](#) (ONC) adopted QRDA as the standard to support both QRDA Category I (patient-level) and QRDA Category III (aggregate-level) data submission approaches for MU Stage 2 through the [ONC HIT Standards and Certification Final Rule](#) in September 2012. CMS and ONC subsequently released an interim final rule in December 2012 that replaced the QRDA Category III standard (adopted in the September 2012 final rule) with an updated version of the standard [CMS/ONC HIT Revisions to 2014 EHR Certification Criteria and EHR Incentive Program](#).

QRDA Release 2 simplifies the framework and correlates the QRDA Clinical Document Architecture (CDA) with the HQMF/eMeasure standard. The CDA standard is a document standard that specifies the structure and nuances of clinical documents. This standard includes a specific QRDA Category 1 DSTU designed to communicate data based on Stage 2 MU quality measures expressed in HQMF/eMeasure format. This allows for reporting organizations to generate QRDA instances based upon the corresponding eMeasure. QRDA provides a standard structure with which to report quality data to organizations that will analyze and interpret the data. It is compatible with semi-automated reporting which continues to rely on information derived from manual chart review and abstraction.

Release 2 for both [QRDA Category I](#) and [QRDA Category III](#) Implementation Guides are Draft Standards for Trial Use (DSTU), which are issued at a point in the standards development life cycle when many, but not all of the guidance and requirements have been identified. A DSTU is intended to be tested and reenter the HL7 standards development process to become a formal ([American National Standards Institute](#)) ANSI-accredited normative standard.<sup>e</sup>

## Recommendations, Priority Strategies, and Lessons Learned

Key recommendations which emerged from interviews include the following:

**Full Team Planning Participation:** Planning and present workflow analysis prior to system design is critical to create an intuitive product. Early adopters emphasized the need to catch all possible scenarios then refine a standard process that is carried throughout training, testing, implementation, and evaluation. Team members should include all members of the perinatal care team in addition to systems and informatics analysts. This includes, where possible: [International Board Certified Lactation Consultants \(IBCLC\)](#), Certified Lactation Counselors, perinatal nurse educators, clinical program managers, staff nurses, advanced practice nurses, and clinicians from the delivery room and relevant maternal and pediatric departments of the hospital.

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<sup>e</sup> Quality Reporting Document Architecture available from: [http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/Guide\\_QRDA\\_2014eCQM.pdf](http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/Guide_QRDA_2014eCQM.pdf)

**Beginning with the End in Mind:** Implementers reported that having a mental picture of the end goal, along with data that may be helpful in the future, is fundamental. In order to do this, many suggested allowing the team to see the EHR solution first, so they could visualize what the basic system could do prior to designing what they wanted. Pilot sites reported that extensive planning and collaboration prior to building screens and functionality is critical. Retooling or refining functionality may often be limited by budget constraints, so it is recommended to define requirements and expectations early on. Begin with the end in mind, such that data can be extracted without duplicate entry. Report generation and data analysis is not present in most facilities of yet, prompting the need for a manual process to collect and collate data.

**Bi-Directional Key Data Synchronization between Mother and Newborn EHR Records:** The most important feature critical to the care of both the newborn and the mother is the creation of data that is duplicated or synched in two different charts (i.e. separate records with data which flows from the mother's chart to the newborns and vice versa, which is updated in real time).

- In many systems, this is not yet possible, which creates burden on providers to determine which data goes into which patient's chart—the mother's or the newborn's.
- Planning synchronized data requires evaluation of data liquidity between multiple areas of care: labor and delivery, newborn nursery, and maternity care, at a minimum.
- Implementation teams interviewed varied in their view of content that should be shared between mother and newborn record; some desired all content but most requested key content (necessary for quality reporting needs) be shared bi-directionally.
- At times, there are competing fields (i.e. different data fields or terms with two separate charts that are not shared).
- Additional complexity arises if mother or newborn go to critical care areas (NICU, ICU).
- Since the Exclusive Breast Milk Feeding data is pulled from the newborn's chart, data fields required for PC-05 from the mother's chart must be included in the newborn's chart.
- Examples of data to be synched between the two records include (but are not limited to): basic demographic, race, ethnicity, standard core data required for quality reporting, risk screening results, diagnoses, antenatal testing, medications, allergies, maternal prenatal history, and delivery complications.

- Date and time stamps in both records should accurately reflect time of entry; this information may be used to identify which data is selected for reporting.

**Copy Forward Functionality:** Key structured data or text fields can be copied forward for use in analysis for consults, data comparison across time, and for efficiency in compiling summaries. A functionality that should become standard process within maternal/newborn EHRs is the copy forward concept for populating the newborn’s record upon delivery.

**Structured vs. Unstructured Data:** Data used for quality and/or electronic outcomes capture and reporting typically should be structured data (i.e. data which is selected via a radio button, drop-down screen or menu selection or can be pulled from a known database field). Unstructured data, such as that which resides in progress reports and/or free text fields are generally not available for automated report generation and measurement. While structured data is necessary for reporting and clinical decision support analytics, there remain certain areas of the record where the richness of free text documentation helps tell the story of the patient’s circumstances and environment prior to the hospitalization. Care should be used when designing systems to assure that the structured data elements are sufficiently descriptive enough to document the situation. Poorly defined elements can prompt staff workarounds, inaccurate documentation or selection of the “best of choices available” option, which can significantly impact data accuracy.

EHR teams who were interviewed consistently reported the difficulty of running reports within their system on a regular basis to evaluate data capture over time. While a component of this problem may be the lack of appropriate structured data, other barriers to report generation may exist. These include: system architecture that does not support report generation during hours of system use, extra charges for report creation incurred outside of the contractual agreement, and data residing in more than one system, requiring manual extraction.

Duplicate Entry and “Screen Scraping” (hand entering or entering the same data to another source) is a practice multiple facilities adopted due to limited functionality and/or the inability to run reports. Many sites are still struggling with the need for automated data aggregation and report generation. Plans should include how to circumvent this practice due to the additional workload and inefficiency for staff and the potential for human error when transcribing data.

**Uniform Use of Semantically Correct Terms:** Movement towards interoperable EHRs requires that data be defined and described consistently across care to ensure appropriate interpretation and treatment. This provides the opportunity to select terms which accurately describe the intended meaning and retire ambiguous or confusing terms. Expert Panel recommendations in this area are as follows:

- Describe the *substance* (milk or formula) a newborn is fed (e. g. mother’s milk, donor milk, newborn formula, casein based formula, specialized formula, etc.)
- Describe the *method* using appropriate terms (e.g. bottle, cup, artificial nipple, etc.) and retire designation of “bottle” as “supplemental or formula feeding.” Any substance can be fed to a newborn via a bottle, so this term does not articulate what the newborn is consuming.
- Document “attempted nursing” or other relevant terms which describe both attempts and successful nursing. Avoid documenting “number of minutes” on right or left side, as this data provides limited use for interpretation.

**Data Location within the EHR:** A data abstraction (human intervention/inspection) from medical records typically include utilization of data from the: discharge summary, feeding flow sheets, individual treatment plans, intake and output sheets, nursing notes, and physician progress notes. As the same data may be located at different areas of the electronic record, collecting data from an EHR will likely take on different forms based upon the design of the system. Consider concise areas of the EHR that can report structured data, as this data is often necessary for report analysis. Areas such as nursing and physician progress notes typically have free text which creates difficulty in automated electronic reporting, although some systems combine structured data within a narrative note.

**Use of “Default” Values:** Use care when selecting a system “default” for specific data to be entered. Systems that allow prefilled default values in certain fields can lead to errors in documentation as busy staff may forget to change the default term to the correct selection for the patient. An example of how to utilize default settings to prompt clinician inquiry before selection in Breast Milk Feeding Data capture is designing the default setting for maternal choice upon admission as be “breastfeeding”. The mother should be approached with the assumption that this is how the newborn will be fed unless the mother indicates otherwise.

**Standing Orders and Order Sets:** When standing orders and order sets are thoughtfully constructed they allow for consistent efficient orders that can be modified as needed on an individual level. Implementers shared that Order Sets that conflict with evidence-based practice should be eliminated from systems; this includes: offering routine pacifiers or artificial nipples, formula delivery or orders which interrupt the immediate closeness of the mother and her newborn. Likewise, creation of Order Sets that prompt clarification of attempted breastfeeding at regular intervals can be used to prompt a referral of the mother for additional lactation support within the facility.

**Clinical Decision Support (CDS) User Prompts, Flags, and Overrides:** [Clinical Decision Support](#) provides clinicians, staff, patients, or other individuals with knowledge and person-specific information, intelligently filtered or presented at appropriate times, to enhance health and

health care. There are multiple forms of CDS, many of which are useful in the capture of critical quality data necessary for reporting and/or outcomes measurement. They include:

- Alerts or prompts (a message displayed on the screen which gets the users attention and allows for decisions at the point of care)
- Reminders or flags (a term often used for marking a concept for follow-up or action at a later time)

These tools are a valuable functionality in any clinical environment, if not overused. The need to guard against “alert fatigue” is important to prevent users or system administrators from disabling the functionality, which circumvents the advantages of computerized health data for decision making. An example of a useful prompt is one that builds upon the need to document “maternal choice” by four hours of newborn admission. Requiring a prompt that reminds the user to enter the data before leaving the present screen would help assure (with proper user training) that the data is recorded. Often the emergency care of patients requires a clinician to leave the screen without completion however; workarounds and practical responses in these situations are necessary.

**Patient Safety Consideration:** As with the design of any system used for patient care, patient safety and care should be considered at all stages of the implementation process. While no interviewees reported specific patient safety concerns which resulted from EHR use in the inpatient perinatal admission, the Expert Panel identified patient safety using health IT as a priority. The ONC [Health Information Technology Patient Safety Action and Surveillance Plan](#) outlines specific concerns which implementers should consider when adopting health IT for patient care. Continued awareness and monitoring of patient safety of both mother and her newborn should be part of a change management process in any implementation project.

**Workflow and Usability:** Teams who documented workflow prior to deciding how a system should be used to collect necessary data were much more successful with training and implementation success. Users who had to perform extra clicks, scrolling or searching for the documentation often found it difficult to capture accurate data. Location of the data fields within the system and in relevance to workflow of the clinician can make it easy or difficult for documentation. Many times documentation becomes difficult at the point of care because providers do not know where the data field is within the system or have to go to a different section of the system to document. Particularly when there are close intervals for data capture—such as during delivery or upon the birth of the newborn—system design and ease of documentation greatly impact completeness and usefulness of clinical decision support for clinicians. This has a great potential to improve care and mitigate complications for both the mother and newborn.

**Value Set for Mother’s Intention to Breastfeed:** There appeared to be a variety of methods in how the mother’s intention to breastfeed is collected. In addition, many facilities report that this may change once the newborn and mother are placed skin-to-skin, so a mother’s intention on hospital admission may change when the newborn is delivered. As EHRs are used for this data capture, use of more standard consistent data sets will likely provide more granular analysis and greater propensity to improve education, workflow, and patient informed decision. At present, the eCQM models the mother’s choice/intention to breastfeed using the value set “parental refusal,” recorded as the choice made within 4 hours of newborn admission. When a choice other than exclusive breastfeeding from birth is made, it is optimal to document “reasons for choice explored and options offered,” such that any “medical indications,” perceived or substantiated are identified.

**Interoperability:** As is consistent across most EHR systems at present, movement of data between and/or within systems is a significant challenge. Multiple reasons for this were documented: two or more disparate systems which documented the mother in one system and the healthy newborn in another, lab systems which did not interface with the primary EHR, limited functionality which required documentation as free text and lack of real time data transfer from the mother to newborn. While interoperability within systems continues to be the goal of efficient health IT, the most important component for the mother-newborn dyad is that data be “synched” between systems as soon as the newborn chart is created. Complex health care workflow often precludes cross-walks of both charts prior to consideration of care. Optimal interoperability for the mother-newborn dyad is bi-directional synchronization of at least very basic data.

**Testing:** With any system, the team should participate in testing of their workflow at different phases of design and build. Thorough testing to assure that the correct data flows from one area to the next, that data is captured as intended, and that the full capability of the process can be completed in the system, is a critical step prior to training and implementation. Feedback to the design team is necessary where corrections are needed.

### **Unique Strategies for Success**

The following examples provide local innovation to successful implementation of newborn breastfeeding documentation in EHRs.

Attaching maternity unit staff performance improvement (PI) with the electronic capture of Exclusive Breast Milk Feeding in newborns was utilized in one group of facilities in Maryland where each hospital unit must establish a PI indicator. If the unit meets their goal more than 50% of the time, then each member receives a percentage increase at the end of the year. Initial concerns were that if a unit did not meet the goal, the lactation team would get blamed and cause tension with the staff members. Interestingly, the goals have been met each time,

demonstrating staff dedication to success. Staff decided to utilize Exclusive Breast Milk Feeding as a PI indicator, provide breastfeeding education and feedback to the staff.

*(Upper Chesapeake Medical Center, Bel Air, Maryland)*

Hospital systems across all Providence Health and Services successfully orchestrated a system-wide five state (Alaska, California, Montana, Oregon, and Washington) redesign of workflow such that all hospitals would use the same EHR, using the same design, data capture (of relevant and required data), and workflow. Given that workflow standardization is difficult within a system, this collaborative project demonstrates that decisions on Best Practices can be agreed to and adopted consistently in the best interest of patient care. Their staged hospital implementations across states support making each implementation smoother than the previous one.

*(Providence Health and Services, Northwest Region)*

Documentation of a family history of Ankyloglossia, or tongue-tie (TT), collected in the Labor and Delivery assessment was adopted by one hospital. If the history is affirmative, notification is forwarded to the lactation consultant and recorded in the baby's chart. This has proven to be a very important alert mechanism and highly correlated to positive findings of TT in the newborn. This results, not necessarily in a frenotomy, but closer surveillance for newborn weight loss and maternal nipple damage.

*(Middlesex Hospital, Middletown, Connecticut)*

## **Tools Specific to Breast Milk Feeding Documentation**

**Breastfeeding Assessment Form:** Some facilities may choose to create a Breastfeeding Assessment Tool/Form similar to those which exist in paper form. Present recommendations are that eQOM data should be compiled from multiple areas of the medical record rather than "hard coded" into a form which requires entry into a template with the specific purpose to capture data for the measure. Assessment forms, however, such as those which allow interview intake on admission and discharge, are invaluable in compiling summaries of breastfeeding practices. In some facilities, the presence of a "Summary" or "Discharge" form, which is auto-populated with existing data from the hospital stay, allows the clinician to identify any missing data and/or enter any extraneous information recorded on paper at the time of discharge. The capture of this data at the time of discharge allows greater accuracy than trying to compile data based upon a series of data content after discharge.

**Breastfeeding Assessment and Evaluation Tools:** Use of validated scoring tools for newborn latch can be incorporated into the EHR system. Using structured data and/or coding systems allows for greater ease in aggregate data analysis. Numerical latch scoring tools based upon

nursing assessment can be used to automatically generate a referral to the Lactation staff and/or dietitian. Latch assessment should be performed at least once per nursing shift.

Some of the most frequently used breastfeeding assessment tools<sup>6</sup> include:

**LATCH:** [LATCH](#) is a breastfeeding charting system that provides a systematic method for gathering information about individual breastfeeding sessions. The system assigns a numerical score, 0, 1, or 2, to five key components of breastfeeding. Each letter of the acronym LATCH denotes an area of assessment. "L" is for how well the newborn latches onto the breast. "A" is for the amount of audible swallowing noted. "T" is for the mother's nipple type. "C" is for the mother's level of comfort. "H" is for the amount of help the mother needs to hold her newborn to the breast. The system is visually represented in the same form as the Apgar scoring grid, and the numbers are handled in the same way. With the LATCH system, the nurse can assess maternal and newborn variables, define areas of needed intervention, and determine priorities in providing patient care and teaching.

**Infant Breastfeeding Assessment Tool (IBFAT):** Assessment of the newborn in the first few days after birth is important to ensure that the newborn and mother are beginning to establish lactation successfully. This tool provides a method of assessing the newborn and includes a description of the checklist on which neonatal breastfeeding behavior can be scored. Intervention suggestions are often included for those newborns having difficulties.

IBFAT has four indicators which include the following:

1. Readiness to Feed
2. Rooting
3. Fixing
4. Sucking

A numerical score of 0-3 is given for each indicator and the total range can be from 0-12. Effective breastfeeding is considered with scores of 9-12. <sup>7</sup>

A tool that utilizes descriptors for excellent, good, fair, and breastfeeding attempt is preferred for use in EHRs over previous documentation of minutes feeding on each breast. The descriptions below should be encoded as selections:

- (EBF) Excellent Breastfeed: Wide open gape, excellent comfortable latch and position, rhythmical sucking, audible swallows, newborn falls asleep at breast.
- (GBF) Good Breastfeed: Wide open gape, newborn latches off and on. Position readjusted followed by good latch and sucks and following intermittently until newborn falls asleep or off the breast.

- (FBF) Fair Breastfeed: Skin-to-skin, attempts latch, latches for short period with sucks, some swallows audible, compression offers more swallows.
- (ABF) Attempted Breastfeed: Skin-to-skin, newborn sleepy, when newborn cues attempts to latch and assisted to breast but no sustained latch or suck producing swallows occurs; continue to skin-to-skin watch for cues and self-expression.

**Lactation Consultant Documentation:** In some systems, lactation consultant notes are located in a different geographical location in the record, or are narrative records only, which precludes frequent use by other clinicians or inclusion in data sets. Where possible, these notes should be integrated with other progress notes, evaluations and consult reports.

**Documentation for Mothers/Newborns Who Are Separated:** Additional evaluation is needed to ascertain what data elements are useful in documentation when separation of the mother-newborn dyad occurs in the hospitalization process. The BFHI provides direction in this area:

“The facility should provide rooming-in 24 hours per day as the standard for mother-baby care for healthy, full-term newborns, regardless of feeding choice. When a mother requests that her baby be cared for in the nursery, the health care staff should explore the reasons for the request and should encourage and educate the mother about the advantages of having her newborn stay with her in the same room 24 hours a day. If the mother still requests that the baby be cared for in the nursery, the process and informed decision should be documented.”

In addition, the medical and nursing staff should conduct newborn procedures at the mother’s bedside whenever possible, and should avoid frequent separations and/or absences of the newborn from the mother for more than an hour. Education, location, and duration of separation should be documented by a discrete field which supports capture of structured data (drop down or selection menu). If the baby is kept in the nursery for medical reasons, the mother should be provided access to feed her baby at any time. If the newborn is unable to feed at the breast or the mother becomes too ill to feed her newborn, documentation of separation should be included in the record. Pumping or hand expression frequency and duration data documentation, in addition to the use of donor milk, should be part of standard documentation in the nurse’s flow sheet.”<sup>8</sup> ,

## **Breast Milk Feeding Reporting and/or Designation Programs**

Documentation of breast milk feeding is occurring in both paper and electronic health records. Due to multiple differences between the guidelines for the three programs included in scope for this guide, each program will be discussed separately. Implementers should consider which program(s) are planned by the facility and follow the specific guidance for the relevant

program. See Table 2. Requirement Distinctions for Reporting and Designation Entities, for an overview of reporting requirements.

The reporting or designation programs included in this guide are the following:

1. **The Joint Commission:** Measure PC-05 Exclusive Breast Milk Feeding and PC-05a Exclusive Breast Milk Feeding Considering Mother's Choice
2. **Meaningful Use Stage 2 EHR Incentive Program:** 2014 Clinical Quality Measure: CMS9v2/NQF0480 Exclusive Breast Milk Feeding eCQM
3. **Baby-Friendly Hospital Initiative:** Breast Milk Feeding Data requirements supporting hospital designation as a Baby-Friendly Hospital

**Table 2: Requirement Distinctions for Reporting and Designation Entities**

Topic	The Joint Commission Reporting Exclusive Breast Milk Feeding	Stage 2 EHR Incentive Program Reporting Exclusive Breast Milk Feeding	Baby-Friendly Hospital Initiative
Reporting Requirement	Accreditation requirement for hospitals with >1100 births/year Available as optional selection by other hospitals	Eligible hospitals and critical access hospitals must report on 16 of 29 electronic measures which represent 3 of the 6 National Quality Strategy domains	Outlined in the BFHI Guidelines and Evaluation Criteria
Data Collection	Paper or EHR data collected via chart abstraction	Data has to be electronically captured in a certified EHR	Paper or EHR data
Terminologies	Per the <a href="#">Specifications Manual for Joint Commission National Quality Core Measures</a>	Requires use of mandated terminologies with focus on clinical terms, per the value sets referred to in the <a href="#">2014 eCQM specifications</a> <sup>f</sup>	Definitions are included in Guidelines and Evaluation Criteria. Some terms are included in SNOMED-CT
Mechanism for Reporting	Reported through contracted ORYX performance measurement systems vendors	Electronically via certified EHRs or third party reporting vendors	Some data is submitted electronically through the BFUSA portal; some submissions are paper
Reporting Period	Entire calendar year	Scheduled to begin fiscal year 2014; reference CMS website for modifications to schedule	Based upon hospital completion of requirements

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<sup>f</sup> The content of the 2014 eCQM specifications value sets is maintained in the National Library of Medicine's [Value Set Authority Center](#). Please refer to the VSAC for the most current value set content.

## The Joint Commission Exclusive Breast Milk Feeding Measure

The Joint Commission serves as the steward of the Perinatal Care Core Measure Set, of which Exclusive Breast Milk Feeding is one of five PC measures. The PC-05 (Exclusive Breast Milk Feeding during a newborn's entire hospitalization) and PC-05a (Exclusive Breast Milk Feeding during a newborn's entire hospitalization considering mother's choice) are mandated measures (as of January 1, 2014) for accredited hospitals with over 1,100 births per year and will be reported via chart abstraction (paper) through their ORYX Vendors to The Joint Commission. It should be noted that this measure was adopted by the Stage 2 Medicare and Medicaid EHR Incentive Program; details relevant to this are included in the next section.

Reporting Guidance for submission to The Joint Commission

- [Exclusive Breast Milk Feeding chart-abstracted specifications](#)
- [The Joint Commission's ORYX® Vendor Systems](#)

The Joint Commission reviews the policy measure specifications every 6 months, generally releasing updates in February and August (effective July and January respectively). Individual hospital quality data for the Perinatal Care measures is publically available via the [Quality Check site](#).

On January 1, 2013, The Joint Commission added an additional measure, PC-05a, Exclusive Breast Milk Feeding Considering Mother's Choice. This calculation is to measure "only those newborns that were exclusively fed breast milk during the entire hospitalization excluding those whose mothers chose not to exclusively breastfeed" and serves as a component of the PC-05 measure.

**Critical points of data that should be synched bi-directionally in real time from the mothers to the newborn's record include at a minimum, all data fields required for this measure.** Final decisions on complete data content to be synched should be at the discretion of local, practicing facility clinicians involved in the treatment of both mother and newborn.

Specific conditions of data capture with this measure include the following:

- The newborn's medical record should be used as the authoritative data source and should be populated with data from the mother's record so this can be achieved.
- Mother's choice at mother's hospital admission (which includes her choice for feeding during the hospitalization only) must be clearly documented. While some implementers are using a checkbox for this designation, providing a drop-down or selection menu of available choices (such as undecided, breastfeed, formula feed, both breast and formula feed) allows for greater flexibility in data interpretation outside the measure.

- If the mother is unsure of her newborn feeding choice, documentation of this data allows for maternal education on the value and benefits of exclusive breast milk feeding.
- **In the absence of documentation, no assumption of mother’s choice should be made.** While this is a consequence of paper documentation, EHR functionality can be designed to “prompt” a user to complete this data prior to moving off the present screen or completion of charting at the end of a shift.
- Documentation of mother’s choice or type of feeding upon the newborn’s admission is priority data to be collected. Note: While guidance for recording this within 4 hours following birth is indicated for the electronic measure, the paper-based measure does not specify a time window for recording the mother’s initial feeding plan.

### **Meaningful Use EHR Financial Incentive Program Stage 2 Measure**

Beginning in 2014, reporting of eCQM as part of MU reporting will be harmonized for participation in the HITECH EHR Incentive Program. Efforts to utilize EHRs for collecting and reporting quality health care data are intended to reduce the burden on providers and hospitals that typically depend on chart-abstracted methods. These are referred to as the “2014 Clinical Quality Measures” and are required by all EP and EH (with designated guidance for each), regardless of whether they are in Stage 1 or Stage 2 of the program.

As of 2014, EH are required to report on 16 of the 29 electronic eCQMs, which must represent 3 of the 6 National Quality Strategy domains. All Medicare or Medicaid providers beyond their first year of reporting MU must report their data to CMS or their state, respectively.

This is the same National Quality Forum endorsed measure as required by The Joint Commission, but must be gathered via data entered into an EHR and submitted electronically to comply with Stage 2 MU reporting structure to CMS for the purpose of receiving EHR financial incentives. Those Eligible Hospitals in their first year of demonstrating MU may submit via attestation. While efforts have been made to align the chart-abstracted manual version of measure with the eMeasure, subtle differences exist. **Implementers should reference the appropriate specification relevant to the method used by the facility.**

### **Reporting Guidance for CMS Submission**

A complete list of the 2014 eCQMs, along with their associated usage guides, release notes, fact sheets and relevant guidance is available on the [eCQM Reference Site maintained by CMS](#). Implementers should reference the [2014 eCQMs Specifications](#) for guidance on this measure and the [Clinical Quality eMeasure Logic and Implementation Guidance](#) (Implementation Guide) which is published with the measure specifications.

An ONC sponsored tool is available. The ONC has created a [Meaningful Use Stage 2 Testing and Certification Tool](#) (Cypress). It serves as a rigorous and repeatable testing tool of EHRs and EHR modules in calculating 2014 MU eQMs. The Cypress tool is open source and freely available for use or adoption by the health IT community including EHR vendors and testing labs. Cypress serves as the official testing tool for the 2014 EHR Certification Program supported by the ONC. Implementers should be sure to access all [Resources](#) on the Cypress site including Cypress QRDA Category I Validation Checklist and references.

An Electronic Reporting Pilot for EH/CAH hosted by [Quality Net](#) serves as a voluntary electronic reporting option to satisfy eCQM reporting for MU that allows vendors and hospitals an opportunity to prepare for eMeasure submission beginning in 2014.

### **Quality Measure Value Sets for Electronic Reporting**

The eQMs used by the MU EHR Incentive Program are made up of data definitions, measure logic, data elements, and value sets. Four federal agencies are providing this content in various forms so that understanding is clear to both technical and non-technical individuals and consumers. Implementers can utilize the following references for use in reporting to CMS.

[Data Element Catalog](#), maintained by the National Library of Medicine (NLM), provides data elements (representation of a clinical concept that represents a patient state or attribute, that is encoded in standardized terminologies included in the Value Sets).

[Value Set Authority Center \(VSAC\)](#)<sup>§</sup>, maintained by the NLM, provides downloadable access to all official versions of vocabulary value sets contained in the 2014 Clinical Quality Measures.

### **Additional Stage 2 MU eCQM Reporting Guidance:**

- A useful guide for assisting implementers with interpreting an eMeasure by dissecting its human-readable format is available from CMS, [Guide for Reading EP and EH eMeasures, v4, May 2013](#) and the [2014 Clinical Quality Measures Tip Sheet \(August 2012\)](#)
- [HL7 Implementation Guide for CDA R2: Quality Reporting Document Architecture – Category I \(QRDA\) DSTU Release 2 \(US Realm\)](#)
- [CMS Hospital Reporting \(HR\) Quality Reporting Document Architecture \(QRDA\) Category I Release 2 Supplementary Implementation Guide](#)

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<sup>§</sup> Note: Access to the Value Set Authority Center requires a free Unified Medical Language System® Metathesaurus License (available at <https://uts.nlm.nih.gov/license.html>).

- [Quality Reporting Document Architecture \(QRDA\) Informative Document](#)
- [Health Quality Measures Format \(HQMF\) Implementation Guide](#)
- [CMS eCQM Library](#) provides guidance on specifics of the eCQM and updates.

## **Baby-Friendly Hospital Initiative Designation**

The Baby-Friendly Hospital Initiative is a global program of the World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF) which serve to encourage and recognize hospitals and birthing centers (via the Baby-Friendly designation) that offer an optimal level of care for newborn feeding. More than 800 U.S. maternity facilities are now officially engaged in the BFHI process. This is approximately 25% of birthing facilities and is likely to be an underestimation of those actively working to align with the [Ten Steps to Successful Breastfeeding](#) which outlines requirements necessary for obtaining the Baby-Friendly designation. Additional information is included in the [4-D Pathway to Baby-Friendly designation](#).

As many hospitals are now in the process of adopting EHRs, there are gaps in the necessary codes available for electronic documentation of the data used in BFHI designation. In many cases, no clinical terms exist, requiring these to be submitted for inclusion to the appropriate terminology (such as SNOMED-CT and LOINC). These are provided for potential use as structured data and/or as coded data if available. Not all data necessary for completion of the BFHI designation is practical for inclusion in the EHR. Guidance on EHR data which can be used in the future for the BFHI designation is based upon the practical documentation as a process of evidence-based patient care of the mother-newborn dyad. Terms should be evaluated for semantic meaning (assuring that terms have an established consistent meaning) prior to being adopted as terms within an EHR.

The ability to aggregate the following elements at month’s end would support the BFHI documentation supporting optimal breastfeeding support of the mother-newborn dyad. Included in the BFHI are recommended practices which should become a part of the EHR. For example, maternity facilities should provide rooming-in twenty-four hours a day as the standard for mother-newborn care for healthy, full-term newborns, regardless of feeding choice. If mothers are not able to use this rooming-in aspect for any reason, they should be educated on the advantages of having her newborn stay with her, and the communication should be documented. As with all recommendations in this guide, implementers should reference the most recent guidance on the Baby-Friendly Guidelines and Criteria for Evaluation from the references provided.

Note: The proposed terms in Table 3 are a partial list of existing codes in terminology systems and those terms/definitions included in [Baby-Friendly Guidelines and Evaluation Criteria](#). In the

absence of a value set for these terms, including specific key data elements as structured data (with appropriate clinical codes) will allow easier extraction of data from EHRs.

A list of data elements for Exclusive Breastfeeding is available from the Value Set Authority Center maintained by NLM. In addition, implementers should check related terminology system updates for new, revised, or redacted terms which may appear in subsequent versions. Submission of proper terms to the appropriate terminology organization may be necessary in many instances.

**Table 3: Proposed Structured and Coded Data for Use in Patient Care Related BFHI Designation<sup>h</sup>**

Potential Value Set	Term	Definition	Coding System/ Code/ Version
Skin-to-Skin (STS)	Skin-to-Skin	Skin-to-skin contact or skin-to-skin care refers to contact between the newborn infant and its mother (although in the case of incapacitation of the mother, another adult such as the baby’s father or grandparent may hold the newborn skin-to-skin). After birth, the healthy term baby should be completely dried and the baby should be placed naked against the mother’s naked ventral surface. The baby may wear a diaper, and/or a hat, but no other clothing should be between the mother’s and baby’s bodies. The baby and mother are then covered with a warmed blanket, keeping the baby’s head uncovered. STS contact should continue, uninterrupted, until the	None noted.

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<sup>h</sup> Data elements included in this table address potential elements for the BFHI and for documenting exclusive breastfeeding during the hospital stay. These include terms which need to be submitted to clinical terminologies and those existing terminologies at the time of publication. An evaluation of these existing and potential terms is necessary to determine what Value Sets are necessary for each program and if these terms are useful as needed or should be defined and submitted for semantic meaning.

Potential Value Set	Term	Definition	Coding System/ Code/ Version
		completion of the first feeding (or for at least 1 hour if the mother is not breastfeeding). STS contact should be encouraged beyond the first hours and into the first days after birth. <sup>8</sup>	
Skin-to-skin (Spontaneous Vaginal Delivery)	To be determined.	Newborns skin-to-skin contact with mother immediately or within 5 minutes after birth and that skin-to-skin contact continued uninterrupted until the completion of first feeding (or for at least one hour if not breastfeeding), unless there were medically justifiable reasons for delayed contact.	None noted.
Skin-to-skin (Cesarean Section)	To be determined.	Babies are placed in skin-to-skin contact with mother as soon as the mother is responsive and alert. That skin-to-skin contact continues until the completion of the first feeding (or for at least one hour if not breastfeeding), unless there were medically justifiable reasons for delayed contact.	None noted.
Rooming-in	To be determined.	Newborns have stayed with mother in the same room day and night except for periods of up to an hour per day for facility procedures, unless there are justifiable reasons for a longer separation and this is documented.	None noted.
Artificial Nipples	To be determined.	Breastfeeding babies are not using pacifiers, or artificial nipples, with the exception of use during painful procedures, or if they are, their mothers have been informed of the risks and this interchange is	None noted.

Potential Value Set	Term	Definition	Coding System/ Code/ Version
		documented in the medical record.	
Prenatal education	To be determined.	<p>Topics include:</p> <ul style="list-style-type: none"> <li>• Non-pharmacological pain relief methods for labor</li> <li>• Early skin-to-skin</li> <li>• Early initiation of breastfeeding</li> <li>• Rooming-in on a 24 hour basis</li> <li>• Feeding on demand/baby-led feeding</li> <li>• Frequent feeding to assure optimal milk production</li> <li>• Effective positioning and attachment</li> <li>• Exclusive breastfeeding for the first six months</li> <li>• Breastfeeding importance after 6 months when other foods are added to the diet</li> </ul>	None noted.
Postpartum education	To be determined.	Breastfeeding mothers will report that they have been given information about how to get help from the facility and how to contact support groups, peer counselors, or other community health services if they have questions about feeding newborns after return home, and can describe at least one type of help available.	None noted.
Mother's Feeding Intention <sup>i</sup>	Feeding Intention-breast (finding).	Per SNOMED-CT.	169643005 (SNOMED-CT) 2013-01
	Breastfed at birth (finding).	Per SNOMED-CT.	412729005 (SNOMED-CT)

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<sup>i</sup> Evaluation of potential and suggested terms for this data collection is indicated.

Potential Value Set	Term	Definition	Coding System/ Code/ Version
			2013-1
	Exclusively Breastfeed from birth.	To be determined.	None noted.
	Breastfeeding and formula feeding.	To be determined.	None noted.
	Formula feed from birth.	To be determined.	None noted.
	Unsure/Undecided.	To be determined.	None noted.
	Breastfed (finding).	Per SNOMED-CT.	169741004 (SNOMED-CT) 2013-01
	Does drink from a feeder cup (finding).	Per SNOMED-CT.	288861001 (SNOMED-CT) 2013-01
	Spoon.	Spoon (physical object) Note: needs to be finding or regime/therapy. Other terms are "to feed self"	303514007 (SNOMED-CT) 2013-01
	Syringe feeding.	To be determined.	None noted.
	Supplemental Nursing System.	To be determined	None noted.
	Bottle feeding of patient (Therapeutic or Preventive Procedure).	Per SNOMED-CT.	40043006 (SNOMED-CT) 2013-01
Breastfeeding Observation	Breastfeeding Infant (observable entity).	Per SNOMED-CT.	413711008 (SNOMED-CT) 2013-01
	Infant Feeding Education (procedure).	Per SNOMED-CT.	171053005 (SNOMED-CT) 2013-01
	Normal Infant feeding (finding).	Per SNOMED-CT.	289148009 (SNOMED-CT) 2013-01
	Breastfeeding establishment (observable entity).	Per SNOMED-CT.	405027001 (SNOMED-CT) 2013-01
	Frequency of infant feeding (organism function).	Per SNOMED-CT.	364653007 (SNOMED-CT) 2013-01
	Demand fed (finding).	Per SNOMED-CT.	230127002 (SNOMED-CT)

Potential Value Set	Term	Definition	Coding System/ Code/ Version
			2013-01
	Does latch on to breast for feeding (finding).	Per SNOMED-CT.	288990008 (SNOMED-CT) 2013-01
	Breastfeed changed to bottle feed (finding).	Per SNOMED-CT.	169744007 (SNOMED-CT) 2013-01
	Codes available for “Breast and supplement fed”(finding) at 10 days, 6 weeks, 3 months, 6 months, 9 months and 1 year (clarification on supplement necessary).	Per SNOMED-CT.	See SNOMED-CT. 2013-01
	Number of feedings per shift/day.	To be determined.	None noted.
	Attempted feedings at breast.	To be determined.	None noted.
	STS with no feeding.	To be determined.	None noted.
	Newborn hunger cues.	To be determined.	None noted.
	Difficulty breastfeeding.	To be determined.	None noted.
Newborn Milk and Formula Choices (Additional values needed as “substance)	Special newborn formula (substance).	To be determined.	None noted
	Donor milk.	To be determined.	None noted.
Breastfeeding Education (Additional Values available)	Breastfeeding education (procedure).	Per SNOMED-CT.	243094003 (SNOMED-CT) 2013-01
	Weaning education (educational activity).	Per SNOMED-CT.	313209004 (SNOMED-CT) 2013-01
	Prenatal education (educational activity).	Per SNOMED-CT.	363266006 (SNOMED-CT) 2013-01
	Postpartum education (educational activity).	Per SNOMED-CT.	540700000 (SNOMED-CT) 2013-01

Potential Value Set	Term	Definition	Coding System/ Code/ Version
	Infant feeding education (health care activity).	Per SNOMED-CT.	171053005 (SNOMED-CT) 2013-01
Referrals upon Discharge	Referral to hospital-based breastfeeding support group.	To be determined.	None noted.
	Referral to other breastfeeding support groups.	To be determined.	None noted.
	Referral to lactation consultant/specialist.	To be determined.	None noted.
	Referral to WIC.	To be determined.	None noted.
	Referral to outpatient lactation clinic.	To be determined.	None noted.
	List of resources for breastfeeding help.	To be determined.	None noted.

### Future Areas of Development Recommended

Based upon interviews for this guide, potential areas for future development which support the Exclusive Breast Milk Feeding data capture process include the following:

- Creation of a method for the mother to electronically record her own breast milk feeding such that it can be transferred to the EHR
- Documentation of multiple sources of breast milk: expressed and donor milk
- Evaluation of expressed mother’s milk fed via a bottle
- Evaluation of mother education for benefits of donor milk use, particularly in the case of NICU newborns
- Documentation of use of donor milk via an assisted lactation device for overall success of breastfeeding
- Creation of a guide which designates which fields from mother and her newborn(s) should be consistently shared once both mother and newborn are discharged (i.e. shared data for any care which happens after the discharge of the newborn, including summary of key concepts along the continuum of care).
- Participation by Expert Panel in the [re-launch of the Child Health Initiative with Health Level Seven HL7](#) to assure appropriate inclusion of breast milk feeding data and practices.

## Additional Resources

**USBC: Toolkit:** [Implementing TJC Perinatal Care Core Measure on Exclusive Breast Milk Feeding](#)

- Addresses the exclusive breast milk feeding core measure

**American Nursing Informatics Association:** [Data Requirements for the Needs of a Maternity Facility's Electronic Medical Record](#)

- Published in Vol 28 (2) in September 2013

**The Joint Commission:** [2014 Communication Guidelines for ORYX® Vendors](#)

- Published October 2013

**Healthcare Information and Management Systems Society:** [Transitioning Clinical Quality Measures \(CQM\) from Abstracted to Electronic Measures \(eMeasures\) Guidance Document](#)

- Published March 2012.

**Centers for Medicare and Medicaid Services:** [QRDA Informative Document](#)

- This document represents some of the concepts behind the QRDA standard and its relationship to MU Stage 2 and provides implementation guidance for implementers and providers

## Breast Milk and Breastfeeding Resources

**American Academy of Pediatrics:** [Breastfeeding and the Use of Human Milk](#)

**Centers for Disease Control and Prevention:** [Strategies to Prevent Obesity and Other Chronic Diseases: CDC Guide to Strategies to Support Breastfeeding Mothers and Babies](#)

**Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity and Obesity:** [Breastfeeding Report Cards](#)

- Committed to increasing breastfeeding rates in the U.S., CDC maintains yearly records by state according to the most current breastfeeding data outlined in *Healthy People 2020*.

**Centers for Disease Control and Prevention:** [Maternity Practices In Infant Nutrition and Care \(mPINC\) Survey](#)

- Report on hospital birthing practices that may impact breastfeeding

**The National Initiative for Children’s Healthcare Quality (NICHQ): [Best Fed Beginnings Initiative](#)**

- Nationwide quality improvement initiative to help hospitals improve maternity care and increase the number of Baby-Friendly designated hospitals in the United States.

### **Summary**

Documentation of Exclusive Breast Milk Feeding as an electronic measure using existing eCQM is perhaps the perfect climate for meaningful use of health information technology in the United States. For this to occur, all members of the health care and EHR Implementation Team must realize the positive potential that documentation of exclusive breast milk feeding has for the future of identifying trends in individual and population health. Practitioners interfacing with each maternal episode of care must realize the purpose and impact that recording data accurately in the EHR can accomplish. EHR vendor teams must consider the delicate balance between collecting data accurately at the point of care and designing a system that will increase, rather than decrease health care delivery efficiency.

This is an achievable goal. Although adoption of EHRs is moving at a challenging pace, the results are encouraging for those who have succeeded in using technology to improve care. The best assurance of this success is to design EHR products that intend to measure quality of care and medical decision making along the most critical segments of patient care, while still allowing clinicians to provide exemplary care. Dedicated, continual improvement in processes and design are necessary for creating an effective health care delivery data documentation system. The data capture process of maternity and newborn delivery care, including informed decision of Exclusive Breast Milk Feeding has the capability for identifying exemplary use of evidence-based research integrated with health information technology.

## Acknowledgements

<b>Expert Panel</b>		
<p><b>Trish MacEnroe</b> Executive Director Baby-Friendly USA</p>	<p><b>Larry Grummer-Strawn</b> Chief, Nutrition Branch Centers for Disease Control and Prevention</p>	<p><b>Kelley Scanlon</b> Epidemiologist  Centers for Disease Control and Prevention</p>
<p><b>Joyce McKeever</b> Clinical Program Manager Jersey Shore University Medical Center</p>	<p><b>Jim Ninivaggi</b> Systems Analyst, Jersey Shore University Medical Center</p>	<p><b>Lori Feldman-Winter</b> Division Head, Adolescent Medicine Cooper University Hospital NICHQ</p>
<p><b>Jennifer Ustianov</b> L&amp;D Staff Nurse NICHQ Director of Perinatal Content NICHQ</p>	<p><b>Melissa Stawarz</b> NICU &amp; Newborn Dietitian Providence Health &amp; Services Providence Health Systems (Pacific NW) Oregon</p>	<p><b>Robin Cothrell-Tubbs</b> Senior RN Analyst, EPIC Inpatient Providence Health &amp; Services Providence Health (Pacific NW) Oregon</p>
<p><b>Jennifer Matranga</b> Clinical Director BFUSA Baby-Friendly USA</p>	<p><b>Celeste Milton</b> Associate Project Director Center for Performance Measurement The Joint Commission</p>	<p><b>Rute Martins</b> Associate Project Director Division of Healthcare Evaluation The Joint Commission</p>
<p><b>Beverly Ann Curtis</b> National Association of Pediatric Nurse Practitioners (NAPNAP) USBC Board Liaison for EHR Project United States Breastfeeding Committee</p>	<p><b>Sylvia Edwards</b> Advanced Nursing Coordinator, Lactation Services University of Alabama at Birmingham</p>	<p><b>Amelia Psmythe</b> Deputy Director United States Breastfeeding Committee</p>

## Contributors

<p>The experiences and rich discussion of the following innovative national leaders in best practices for Exclusive Breast Milk Feeding provided the foundation for recommendations. Contributions of both time and candid examples of successes and challenges provide the foundation for this guide.</p>		
<p><b>The Joint Commission</b></p>		
<p><b>Ann Watt</b> Associate Director, Center for Performance Measurement</p>	<p><b>Linda Hanold</b> Director, Department of Quality Measurement</p>	
<p><b>Providence Hospital Systems</b></p>		
<p><b>Nancy Rosser</b> Perinatal Educator Providence Health &amp; Services Providence Health Systems (Pacific NW) Portland, Oregon</p>	<p><b>Sofia Costas</b> Charge Nurse, Perinatal Special Care EPIC Super-User Providence Health &amp; Services Providence Health Systems (Pacific NW)</p>	<p><b>Kathy Davis</b> Informatics Analyst Providence Health &amp; Services Providence Health (Pacific NW) Oregon</p>
	<p><b>Linda Helsley</b> Director of Regional Newborn Services Oregon Providence Health Systems</p>	
<p><b>Individuals</b></p>		
<p><b>Pamela Meharry</b> Lactation Consultant Middlesex Hospital Middletown, CT</p>	<p><b>Delfern Golding</b> Program Operations Center for Disease Control</p>	<p><b>Lori Sylva</b> Information Technology University of Alabama at Birmingham</p>

This document was funded in part by the U.S. Centers for Disease Control and Prevention under subcontract with the National Initiative for Children’s Healthcare Quality.

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<sup>1</sup> Ip S, Chung, Raman G, et al. *Breastfeeding and Maternal and Infant Health Outcomes in Developed Countries*. Evidence Report/Technology Assessment No. 153 (Prepared by Tufts-New England Medical Center Evidence-Based Practice Center, under Contract No. 290-02-0022). AHRQ Publication No. 07-E007. Rockville, MD: Agency for Healthcare Research and Quality. April 2007.

<sup>2</sup> Ip et al.

<sup>3</sup> Hospital Stay for Healthy Term Newborns. Policy Statement of the American Academy of Pediatrics available at: <http://pediatrics.aappublications.org/content/125/2/405.full>

<sup>4</sup> Odom et al. Reasons for Earlier Than Desired Cessation of Breastfeeding. *Pediatrics* 2013;131:e726–e732

<sup>5</sup> Declercq E, Labbok MK, Sakala C, O'Hara M. Hospital practices and women's likelihood of fulfilling their intention to exclusively breastfeed. *Am J Public Health* 2009;99:929-35.

<sup>6</sup> Hill P, Johnson T. Assessment of Breastfeeding and Infant Growth. *J Midwifery Womens Health*. 2007;52(6):571-578 available at: [http://www.medscape.com/viewarticle/565624\\_4](http://www.medscape.com/viewarticle/565624_4)

<sup>7</sup> Matthews, MK. Developing an instrument to assess infant breastfeeding behavior in the early neonatal period. *Midwifery*. 1988;4:154-165.

<sup>8</sup> The Guidelines and Evaluation Criteria available from: <https://www.babyfriendlyusa.org/get-started/the-guidelines-evaluation-criteria>