Can We Document Term Elective Delivery Prior To 39 Weeks From Billing/ Coding Databases?

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Citation

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Abstract

Objective: To evaluate whether billing/coding data and point of care data are discrepant in regards to the rate of elective delivery between 37.0 and 38.6 weeks and explore the direction and depth of discrepancies regarding indications for delivery.
Methods: All Deliveries between April 1, 2006 through January 31, 2010, 37 weeks, 0 days to 38 weeks ,6 days were evaluated for inclusion in this study. Retrospective chart and coding and billing record review was performed. Elective deliveries were defined by ACOG and JCNQM criteria. Quantitative descriptive statistics were applied to the results.
Results: 3596 women met dating criteria for inclusion into the study. 2635 (73.3%) delivered via vaginal route and 961 (26.7%) delivered via cesarean. Within this cohort, 1340 deliveries were coded as elective vaginal (48.3%) and 422 as elective cesarean (42.5%) . Chart review documented that 42 (1.6%) elective vaginal deliveries and 148 (15.4%) elective cesarean deliveries were actually performed using the indications outlined.
Conclusions: A marked reporting discrepancy between billing and coding data and actual chart data was found at one institution in regard to elective delivery between 37 weeks and 0 days and 38weeks and 6 days gestational age. Institutions should review the accuracy and method of data reported to assure that data reported to outside agencies accurately represents the rates of elective preterm deliveries at their institution.

INTRODUCTION

Term elective delivery prior to 39 weeks has been associated with increased neonatal morbidity and potentially increased caesarian delivery rate. Both regulatory agencies and healthcare organizations have begun or contemplated assessing performance of individuals and institutions using elective preterm deliveries as a performance measure. (1) The American College of Obstetrics and Gynecology (ACOG) recommends that elective deliveries not be performed prior to 39 weeks gestational age. (2) Despite this, delivery prior to 39 weeks, including both indicated and elective deliveries, occur so frequently that it has impacted the average delivery age in state and national statistics.(3,4) Neonatal morbidity such as respiratory distress syndrome, hyperbilirubinemia, transient tachypnea of the newborn have contribute to Neonatal Intensive Care (NICU) admissions. (5) Given the lack of national obstetric registries and the known issues with other sources of data such as birth certificates, the use of administrative databases such as billing and coding data have provided data for these analyses and comparisons. (6,7)
Historically, administrative databases such as billing and coding data have been commonly utilized for reporting of clinical measures with the assumption that the national standard of definitions that underpin coding should lead to more consistent reporting. However, concordance between billing and coding data and actual rates of events has been shown to be inconsistent in multiple studies. (8,9,10) As performance becomes linked to payment, health systems and the physician practices they reflect will need to ensure that billing and coding data accurately reflect the clinical performance of the health care system or develop other registries or vital statistics reporting that have national consensus and can provide accurate and consistent data. Our goal was to evaluate whether billing/coding data and point of care data are discrepant in regards to the rate of elective delivery between 37.0 and 38.6 weeks and explore the direction and depth of discrepancies regarding indications for delivery.

MATERIALS AND METHODS

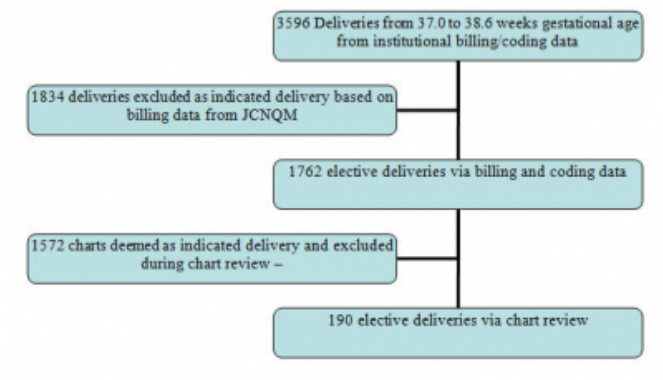
This retrospective medical record/database review was performed at UMASS Memorial Medical Center (UMMHC), the clinical partner of the University of Massachusetts Medical School (UMMS) which has a large community as well as hospital based obstetrical faculty. The

research protocol was reviewed and approved by UMMS institutional review board. Data was obtained from four sources: (1) the labor and delivery electronic medical record (QMI electronic medical record - General Electric) (2) The UMMHC Meditech application which is a systems support resource and a product of Medical Information Technology, Inc; which provided ultrasound documentation reports for obstetrical dating (3) prenatal records from all providers of prenatal care including Obstetrician-Gynecologists and Family Practice physicians from academic faculty, community and private faculty and resident practices; (4) billing and coding data from the UMMHC billing and coding department records.

All records of women delivered at UMMHC between April 1, 2006 through January 31, 2010, inclusive of gestational age 37 weeks and 0 days and 38 weeks and 6 days and by either cesarean or vaginal route were evaluated for inclusion in this study. This data was obtained from institutional billing and coding data. Inclusion and exclusion criteria were determined a priori and were applied in a step-wise fashion according to the study protocol (Figure 1).

Figure 1

Flow Chart – Inclusion/Exclusion Criteria



Billing and coding data was obtained for all deliveries meeting dating criteria utilizing billing codes from Specification Manual for the Joint Commission National Quality Measures (JCNQM) Table 11.07 which address indication for delivery. (11) Any patients having any of the codes in this table or coded for active labor or Premature Rupture of Membranes (PROM) were excluded from the cohort of elective delivery. A sampling of 10% of these charts was done for to confirm accuracy. Charts that had no billing and coding data documenting active labor or PROM or any medically indicated reason for delivery were considered elective deliveries. Chart review of every delivery that was coded as elective, inclusive of gestational ages 37 weeks and 0 days and 38 weeks 6 days, was then performed by two physicians in the department of Obstetrics and Gynecology at UMMS. Dating criteria listed in the labor and delivery chart, the prenatal record and available ultrasounds were utilized to determine if the labor and delivery record had an accurate gestational age listed. All records were then reviewed including admission history and physical exam and all progress notes. They also reviewed all prior admissions notes the preceded the admission at term. A review for accuracy of 10% of the cases extracted was done by the senior physician. This did not result in any significant change in the discrepancy rate reported. In regard to the chart review, an induction of labor was defined as any patient admitted to labor and delivery whose prenatal record documented the reason for admission to labor and delivery as induction of labor or who had had an intervention such as pitocin, misoprostol, cervidil administration or artificial rupture of membranes with a cervical exam of 4cm or less. An elective induction was defined as any induction of labor started without medical indication per the ACOG practice bulletin and JCNQM. An elective delivery via repeat cesarean delivery was defined as any patient who underwent cesarean delivery without documented medical indication. Medical indications were recorded following the ACOG practice bulletin number 107 and the JCNQM. A patient who was 4cm dilated or greater with regular contractions was considered to be in labor. Based on the above criteria, the delivery was recorded as elective or non elective via chart review.

RESULTS

3596 women met dating criteria for inclusion into the study. 2635 (73.3%) delivered via vaginal route and 961 (26.7%) delivered via cesarean. Within this cohort, 1340 deliveries were coded as elective vaginal (48.3%) and 422 as elective cesarean (42.5%) utilizing billing and coding information provided. Direct Chart review of these cases showed 42 (1.6%) elective vaginal deliveries and 148 (15.4%) elective cesarean deliveries were actually performed using the indications outlined.

Indications missed by billing and coding procedures but discovered in the chart review that documented an indication for delivery are included in Table 1.

Table 1

Incidence of Discrepancy between Billing/Coding Data and Actual Reason for Vaginal Delivery and Cesarean Delivery

Diagnosis	Vaginal Delivery	Cesarean Delivery
Amniocentesis, mature FLM	4	28
Active Labor/PROM	1078	129
Active Labor with Malpresentation	0	7
Cephelopelvic Disproportion	0	9
Cholestasis of Pregnancy	1	0
Cord Prolapse	0	3
EMR Dating Incorrect	0	14
Elevated MCA Doppler	0	1
Failure to Progress in Active Labor	0	14
Failed Trial of Vacuum	0	3
Gestational Thrombocytopenia	2	0
Gestational or Chronic Hypertension	1	1
HSV with lesions during labor/PROM	0	3
Non-reassuring Antenatal Testing	2	44
Oligohydramnios at Term	0	2
Preeclampsia	2	0
Seizure Disorder with new foot drop	1	0
Symptomatic Cholelithiasis	1	0
Worsening Fetal Hydronephrosis	1	0

Premature Rupture of Membranes (PROM) and active labor accounted for 98% of the missed diagnostic codes by billing and coding procedures for vaginal deliveries. Other reasons included hypertension at term, preeclampsia, symptomatic cholelithasis requiring surgery, gestational thrombocytopenia, cholestasis of pregnancy and amniocentesis with mature fetal lung maturity testing. PROM, active labor, non-reassuring fetal heart tracing or antenatal testing, amniocentesis confirmed fetal lung maturity and incorrect dating or dating data entry represented 78% of missed diagnostic codes by billing and coding procedures for cesarean deliveries.

62 of the 148 (41.9%) elective cesarean deliveries confirmed by chart review were performed at 38 weeks and 6 days gestational age.

DISCUSSION

Quality measures, as defined by provider groups, consumer groups, regulatory agencies and the government are becoming increasingly prevalent and being used both to incent and penalize providers. As pay for performance becomes more pervasive in medicine, the ability to capture accurate and timely data about the actual patient characteristics as well as the care provided is critical to achieving quality standards throughout medicine. Furthermore, the credibility of the data is a key element to success in quality and safety initiatives for medical providers.

Complications associated with elective delivery prior to 39 weeks gestational age include neonatal respiratory distress syndrome, hyperbilirubinemia, poor feeding, transient tachypnea of the newborn as well as an increased rate of Neonatal Intensive Care Unit Admissions and emergency room visits. (5,12) The March of Dimes Organization has made the effort to prevent elective deliveries prior to 39 weeks gestational age one of their national goals. (13) The states of Ohio, North Carolina and California have recently embarked upon large studies to look at the rates of elective term delivery prior to 39 weeks gestational age (GA) and possible interventions to reverse this trend. Many states have begun to explore reporting of elective delivery at term prior to 39 weeks and 0 days. It is likely that regulatory and review agencies, such as the Joint Commission (TJC), may begin to include this as a reporting criteria. Many states, including Massachusetts, are moving toward elective delivery as reporting criteria for patients on Medicaid and other forms of state sponsored insurance. Pay for performance measures on this data point could possibly follow.

Our institution, which delivers women from both community and academic based practice and engages in ongoing coding and billing education for coding and billing staff as well as physicians is likely to be representative of many facilities. At our institution, the discrepancy in coding versus chart documentation for vaginal deliveries alone was 97%. The 64.7% decrease in elective cesarean deliveries detected at chart review, though not as dramatic, still represented a significant error in billing and coding data. Also of interest, a large percentage of “elective” cesarean deliveries were performed at 38 weeks and 6 days gestational age. This potentially uncovers a quality concern and improvement opportunity.

At many institutions at this time, manual chart review still remains a valuable tool for quality officers and hospital administrators alike. Until electronic health records with standardized consensus defined data points have been widely adopted and the discrete and relevant data retrievable from them, manual chart abstraction remains the only method of obtaining point of care data. Our data describes the weaknesses of billing and coding at the institutional level in accurately reflecting the reason for early elective delivery as seen in Tables 1 and 2. One could assume that our institutions current state is a representation of many, though not all hospital systems in this country. The discrepancy noted between the two data collection techniques could present a serious reporting problem for many healthcare systems. Inaccurate reporting could potentially impact the communities perception about the care received at these hospitals as well as the reimbursement received from payers. Health care systems will need to evaluate the accuracy of the reporting information as this information provides a significant opportunity to begin an educational

intervention aimed at billing/coding personnel and providers. During out chart review, we discovered that provider documentation may be contributing, in part, to the difficulty encountered by billing staff. A well aimed and ongoing educational program may help resolve this problem and the standardized training and education will elucidate these areas for attention. This educational program is multidisciplinary and has included physicians, nurses, abstractors and billing/coding personnel.

Future initiatives at our institution are looking at the development and effectiveness of a hard stop on all scheduled induction of labors or cesarean deliveries prior to 39weeks and 0 days. We have found that these interventions have been well received by providers. Limitations of this study include a small number of cases in which the estimated gestational age could not be confirmed from a prenatal record or ultrasound report. Notes in the chart supported these gestational ages were found but secondary confirmation was unable to be performed. The coding data may also contain undetected errors. These could create an accuracy error in our number of reported elective deliveries from either source.

CONCLUSION

A marked reporting discrepancy between billing and coding data and actual chart data exists at one broadly representative institution in regard to elective delivery between 37 weeks and 0 days and 38weeks and 6 days gestational age. Discovering diagnostic codes that are being missed and assessing the concordance of administrative databases used for evaluation of clinical practice such as elective delivery before 39 weeks is key to assuring meaningful data to drive practice change and improve safety. Interventions and systems to improve and assess reporting of these data points will likely need to be developed by health care systems in this area in the near future.

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