

V.16.2 Special Report: Perinatal Risk Assessment

I. Introduction

Obstetric and newborn care is well documented to be close to the top of all specialties with the highest medical liability and risk exposure. Data from the 2012 National Practitioner Data Bank (NPDB) showed that 11% of all medical malpractice claims were obstetric related with the majority of actual payouts being from settlements (93%) rather than trial judgments (5%).¹

Providers are keenly aware of their risk as well as the data that suggests that 74% of all obstetric physicians are projected to face a malpractice claim by age 45.² While most practitioners may know factually that most claims do not result in indemnity payments, the disruption to their lives, professional reputation and overall confidence level can take an emotional toll that is not easily overcome.³ The practice of “defensive medicine” is often cited as the reason for the decrease in the rates of vaginal births after c-section (VBAC) and increase in cesarean section rates.⁴

Hospitals and providers are working hard to reduce risk exposure through such programs as team training, simulations drills, creating a culture of safety and learning to apologize to families where there is an adverse event whether or not there was a documented error.⁵ Reviewing of annual liability reserves and closed claims can also be helpful to understand patterns of exposure that can direct risk management resources to their highest impact.

This **V16.2 Special Report: Perinatal Risk Assessment** is designed to be an additional risk management tool to look at more timely data on adverse events and those outcomes that *may* generate a claim. By giving risk managers and C-suite leaders the opportunity to *proactively* identify areas or trends of concern, they can review cases and design responses that will continually reduce their exposure. It is not expected that the exposure will ever be zero, but the use of all data sources, to move toward that goal, is certainly an opportunity where the returns can be significant; to the family, to the provider and to the hospital.

The adverse events/outcomes profiled in this report have, for the most part, very low rates or counts. We have selected a group of serious complications and outcomes that we feel may expose the hospital to risk, but we are also interested in membership feedback and suggestions for other metrics you would like us to include, in such a report, in the future. We can provide your hospital with the medical record numbers of the cases, in the numerator, that are driving the rate. This will allow you to drill down and understand the provider documentation and coding of a case to determine if, in fact, it should be removed from the numerator.

II. Description of the Table *Please note: this report displays 3 quarters of data (10/1/2015-6/30/2016) in order to accommodate the transition to ICD-10 coding.*

This report displays eight metrics that are considered serious adverse events. If your hospital contracts for the **Adverse Outcome Index Report**, or is participating in the **Alliance for Innovation in Maternal Health (AIM)**, then you have likely seen a few of these metrics in other reports, or calculated slightly differently. This Report is designed to extend your understanding of your rates for these more serious outcomes in comparison to your peer subgroup and to the NPIC/QAS Data Base.

The maternal metrics are:

- In-hospital maternal death^a
- Postpartum hemorrhage with hysterectomy
- Vaginal deliveries with coded shoulder dystocia linked to an inborn \geq 2500 grams with serious birth trauma
- Uterine rupture with a blood transfusion
- Severe Maternal Morbidity as defined by the Alliance for Innovation in Maternal Health (AIM) and previously displayed in our V15.2 Special Report^b

The neonatal metrics are:

- Inborn mortality \geq 500 grams
- Admission to NICU of a neonate \geq 2500 grams and \geq 37 weeks gestation for \geq 1 day^a
- Serious birth trauma by type of trauma

^a Metric included in Adverse Outcome Index

^b AIM metric

Metric definitions are included in the Glossary (page 5). Some definitions reference links to additional documentation located on our website. In some instances, we provide the link to external sites for national metrics (e.g. Severe Maternal Morbidity and the AIM website.)

We welcome your suggestions for improvements to this report, as well as questions you may have regarding the analysis. Please direct all inquiries to Janet Muri, President (jmuri@npic.org) or to Sandra Boyle, Director of Data Services (sboyle@npic.org) at 401-274-0650.

¹ Gamble, M. (2013, May 3). Legal and Regulatory Issues. 29 statistics on Medical malpractice Payouts and Lawsuits. Retrieved from [www. Beckershospitalreview.com/legal-regulatory-issues/29-statistics –on-medical-malpractice](http://www.Beckershospitalreview.com/legal-regulatory-issues/29-statistics-on-medical-malpractice).

² Jena, A ,Seabury, S, Lakdawalla, D, & Chandra, A (2011, August). Malpractice Risk According to Physician Specialty. *New England Journal of Medicine*, 365(7), 629-636.
doi:10.1056/NEJMsa1012370

³Op. cit, Jena et. Al.

⁴ Yang et al. (2012). Does Tort Law Improve the Health of Newborns or Miscarry? A Longitudinal Analysis of the Effect of Liability pressure on Birth Outcomes. *Journal of Empirical Legal Studies*, , 9, 217-218

⁵ Studdert, D, et al. (2006). Claims, Errors and Compensation Payments in Medical malpractice Litigation. *The New England Journal of Medicine*, 354(19), 2024-2033.

SAMPLE

V16.2 Special Report: Perinatal Risk Assessment			
	Hospital SAMPLE	Subgroup Average	Database Average
MATERNAL RISK			
Total Deliveries	962	2,795	2,802
A. In-hospital Maternal Death	0	0	0
% of total deliveries	0.00%	0.00%	0.00%
B. Postpartum hemorrhage with hysterectomy	0	3	2
% of total deliveries	0.00%	0.12%	0.08%
C. Vaginal Deliveries with coded Shoulder Dystocia linked to an inborn \geq 2500 grams with serious birth trauma ¹	0	2	2
Total linked vaginal deliveries with coded Shoulder Dystocia	13	28	34
% of total linked vaginal deliveries with coded Shoulder Dystocia	0.00%	7.65%	7.64%
D. Uterine rupture with blood transfusion	0	0	0
% of total deliveries	0.00%	0.02%	0.01%
E. Severe Maternal Morbidity (SMM)	21	75	65
SMM final denominator after exclusions	961	2,737	2,717
SMM rate	2.2%	3.1%	2.4%
INBORN RISK			
Total Inborns	982	2,873	2,842
F. Inborn Mortality \geq 500 grams	5	11	7
% of total inborns	0.51%	0.42%	0.25%
G. Admission to NICU of neonate \geq 2500 grams and \geq 37 weeks gestation for > 1 day	11	43	36
% of total inborns	1.1%	1.4%	1.3%
H. Serious Birth Trauma¹ by Type of Trauma			
Intracranial laceration and hemorrhage due to birth injury	0	0	0
Other birth injuries to central nervous system	1	1	1
Birth injury to scalp	0	1	1
Birth injury to skeleton	0	1	1
Birth injury to peripheral nervous system	0	3	2
Other birth injuries	1	8	5
Massive umbilical hemorrhage of newborn	0	0	0
Birth Trauma Codes	2	14	10
Cases with at least one serious birth trauma code	2	14	10
Total Cases as a % of total Inborns	0.20%	0.48%	0.39%

¹ A subset of ICD-10 codes identified as *potentially* resulting in a medical liability claim. See text for more information.

V16.2 Special Report: Perinatal Risk Assessment Glossary Definitions

MATERNAL RISK

A. In-hospital maternal death¹

Numerator

Deliveries with a discharge disposition = died

Denominator

Total deliveries

B. Postpartum hemorrhage with hysterectomy

Numerator

Deliveries with a postpartum hemorrhage² and a hysterectomy

Denominator

Total deliveries³

Hysterectomy codes:

OUT90ZZ Resection of Uterus, Open Approach

OUT94ZZ Resection of Uterus, Percutaneous Endoscopic Approach

OUT97ZZ Resection of Uterus, Via Natural or Artificial Opening

OUT98ZZ Resection of Uterus, Via Natural or Artificial Opening Endoscopic

OUT9FZZ Resection of Uterus, Via Natural or Artificial Opening with Percutaneous Endoscopic Assistance

C. Vaginal Deliveries with coded Shoulder Dystocia linked to an inborn ≥ 2500 grams with Serious Birth Trauma

Numerator

Total vaginal deliveries coded with shoulder dystocia (O66.0) linked to an Inborn ≥ 2500 grams with at least one serious birth trauma code.

Denominator

Total vaginal deliveries⁴ coded with shoulder dystocia (O66.0) linked to an inborn ≥ 2500 grams

Serious Birth Trauma:

P10 Intracranial laceration and hemorrhage due to birth injury

P10.0 Subdural hemorrhage due to birth injury

P10.1 Cerebral hemorrhage due to birth injury

P10.2 Intra-ventricular hemorrhage due to birth injury

P10.3 Subarachnoid hemorrhage due to birth injury

P10.4 Tentorial tear due to birth injury

P10.8 Other intracranial lacerations and hemorrhages due to birth injury

P10.9 Unspecified intracranial laceration and hemorrhage due to birth injury

¹ Complete measure specification details located at: http://www.npic.org/Services/AOI_ICD-10_Codes.pdf

² Postpartum hemorrhage codes can be found on the AIM SMM_ Code list located on the AIM website:

www.safehealthcareforeverywoman.org (registration required)

³ Definition Deliveries: Cases assigned to any of the following APR-DRGs: 540-542 and 560

⁴ Definition Vaginal Deliveries: Cases assigned to any of the following APR-DRGs: 541-542 and 560

P11 Other birth injuries to central nervous system

- P11.0 Cerebral edema due to birth injury
- P11.1 Other specified brain damage due to birth injury
- P11.2 Unspecified brain damage due to birth injury
- P11.3 Birth injury to facial nerve
- P11.4 Birth injury to other cranial nerves
- P11.5 Birth injury to spine and spinal cord
- P11.9 Birth injury to central nervous system, unspecified

P12 Birth injury to scalp

- P12.2 Epicranial subaponeurotic hemorrhage due to birth injury

P13 Birth injury to skeleton

- P13.0 Fracture of skull due to birth injury
- P 13.1 Other birth injuries to skull
- P13.2 Birth injury to femur
- P13.3 Birth injury to other long bones

P14 Birth injury to peripheral nervous system

- P14.0 Erb's paralysis due to birth injury
- P14.1 Klumpke's paralysis due to birth injury
- P14.2 Phrenic nerve paralysis due to birth injury
- P14.3 Other brachial plexus birth injuries
- P14.8 Birth injuries to other parts of peripheral nervous system
- P14.9 Birth injury to peripheral nervous system, unspecified

P15 Other birth injuries

- P15.0 Birth injury to liver
- P15.1 Birth injury to spleen
- P15.3 Birth injury to eye
- P15.4 Birth injury to face
- P15.5 Birth injury to external genitalia

P51.0 Massive umbilical hemorrhage of newborn

D. Uterine rupture with blood transfusion

Numerator

Deliveries with diagnosis code O71.1 (rupture of uterus during labor) in the primary, first or second diagnosis code positions only with a blood transfusion⁵

Denominator

Total Deliveries

E. Severe Maternal Morbidity (SMM)⁶

Numerator

Among the denominator, all cases with any SMM code.

Denominator

All mothers during their birth admission, excluding ectopics and miscarriages.

⁵ Blood transfusion codes can be found on the AIM SMM_ Code list located on the AIM website: www.safehealthcareforeverywoman.org (registration required)

⁶ Complete measure specification details can be found in the AIM Data Collection Plan located on the AIM website: <http://www.safehealthcareforeverywoman.org> (registration required)

INBORN RISK

F. Inborn Mortality ≥ 500 grams

Numerator

Inborns with birthweight ≥ 500 grams with a discharge disposition = died

Denominator

Total inborns⁷

G. Admission to NICU of neonate birthweight ≥ 2500 grams and ≥ 37 weeks Gestational Age (GA) for >1 day⁸

Numerator

Inborns BW ≥ 2500 grams, GA ≥ 37 weeks, and NICU admission within one day of birth for greater than a day. Excludes cases with congenital anomalies, fetal hydrops, dwarfism, or neonatal abstinence syndrome

OR

Inborns with BW ≥ 2500 grams and GA ≥ 37 weeks and transferred to another hospital within 1 day of birth. Excludes cases with congenital anomalies, fetal hydrops, dwarfism, or neonatal abstinence syndrome

Denominator

Total inborns

H. Serious Birth Trauma: (See section C for list of birth trauma codes)

Numerator

Inborns with at least one serious birth trauma code

Denominator

Total inborns

⁷ Definition Inborns: All neonates born in your hospital

⁸ Complete measure specification details located at: http://www.npic.org/Services/AOI_ICD-10_Codes.pdf