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**REQUEST FOR COMMENT:**

**Recommendations of the Obstetrical Hemorrhage and Obstetric Laceration  
Workgroup**

**Background**

As Maryland’s hospitals work to meet the 30% reduction in complications required under the new hospital waiver and the annual targets outlined within the Maryland Hospital Acquired Condition (MHAC) payment policy<sup>1</sup> it has become apparent that variability in the criteria used to define and diagnose specific clinical conditions across hospitals is impacting our ability to accurately quantify the improvement that has occurred as well as effectively collaborate to further reduce complications. For these reasons, hospital leaders, including CEOs, CMOs and other clinical and administrative leaders requested that the Maryland Hospital Association (MHA) review evidence and literature and convene hospital stakeholders, including medical staff, and work towards consensus definitions.<sup>2</sup>

One workgroup is considering the clinical criteria used to define obstetrical hemorrhage and obstetric laceration. If hospitals and providers use consistent criteria to define obstetrical hemorrhage and obstetric laceration, it will provide the necessary ‘level setting’ from which to truly measure performance and support collaboration on quality improvement opportunities.

This workgroup’s proposed criteria for obstetrical hemorrhage and obstetric laceration are intended to serve as guidelines for providers to consider and are not intended to restrict provider judgment when diagnosing a patient. These clinical definitions will not supplant the need for providers to clearly document a diagnosis of hemorrhage or laceration. Provider documentation will continue to be the basis for inpatient coding of

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<sup>1</sup> The statewide reduction target for 2015 is 7% comparing FY2014 to CY2015 risk adjusted PPC rates; The proposed amount at risk for the MHAC program is 3% of inpatient revenue  
<sup>2</sup> Four workgroups have been convened on urinary tract infections, renal, obstetric and respiratory complications

29 diagnoses as is required by coding guidelines.<sup>3</sup> Coders will continue to use provider  
30 documentation as the source of the coded diagnosis. The workgroup does not intend for  
31 these criteria to replace current hospital guidelines or other standards dictating when  
32 coders should query physicians.

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### 34 **Process**

35 The workgroup is comprised of physicians, non-physician clinicians, and documentation  
36 and coding professionals from a cross-section of Maryland's community and teaching  
37 hospitals and health systems.<sup>4</sup> To arrive at a proposed definition, the workgroup, over  
38 a series of meetings, based their deliberations on the following:

- 39 • *Current practice at Maryland hospitals*
  - 40 ○ Medical and Quality leads at all Maryland acute care hospitals were asked
  - 41 to submit internal policies or guidelines used at their facilities to define
  - 42 obstetric hemorrhage and obstetric laceration
- 43 • *Relevant literature and published bulletins by academic bodies and*  
44 *collaboratives including, but not limited to, the American Congress of*  
45 *Obstetricians and Gynecologists (ACOG), including the reVITALize initiative on*  
46 *definition standardization, and the California Maternal Quality Care Collaborative*  
47 *(CMQCC)*
- 48 • *Expertise of workgroup members*

49 On behalf of the workgroup, MHA is seeking comment on the proposed criteria for  
50 obstetrical hemorrhage and obstetric laceration as detailed below. Medical and quality  
51 leadership are asked to review this document with appropriate medical staff, quality  
52 improvement team members, infection prevention staff, coding and documentation  
53 professionals, and any other applicable stakeholders. The workgroup will reconvene on  
54 March 5<sup>th</sup> to consider this feedback and make changes as necessary before finalizing its  
55 recommendations. It is the workgroup's goal that the final definitions be considered by

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<sup>3</sup> ICD-9 Official Coding Guidelines, approved by four organization that make up the Cooperating Parties for the ICD-9-CM: the American Hospital Association (AHA), the American Health Information Management Association (AHIMA), the Centers for Medicare and Medicaid Services (CMS) and the National Center for Health Statistics (NCHS)

<sup>4</sup> Workgroup meeting material and rosters available at <http://www.mhaonline.org/quality>

56 each hospital’s Medical Executive Committee for adoption and implementation as each  
57 hospital deems appropriate. The workgroups recognize that any definition or guideline  
58 will not apply to every patient, and therefore each hospital and/or provider is expected to  
59 use appropriate professional judgment when applying these guidelines. Provider  
60 documentation is the basis for inpatient coding of diagnoses, so any guideline adopted  
61 will not replace the provider’s ultimate documentation of a specific diagnosis.

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63 **Proposed Hemorrhage Definition Criteria**

64 Workgroup members noted that there is no single, validated and comprehensive  
65 definition for obstetrical hemorrhage that could be readily endorsed. The workgroup  
66 instead decided that an appropriate definition to serve as a guideline for providers in  
67 Maryland would have to be designed based on the clinical experience of workgroup  
68 members as well as insights afforded by a review of available research. Workgroup  
69 members concluded that the definition of obstetrical hemorrhage should consider either  
70 Estimated Blood Loss (EBL) volumes or lab values.

71 With respect to EBL, workgroup consensus was that the volumes often used to  
72 diagnose hemorrhage – 500mLs during a vaginal birth and 1,000mLs for cesarean – are  
73 inappropriately low given the amount of blood typically lost during childbirth, and, as  
74 indicated by ACOG, are really averages of blood loss as opposed to true thresholds  
75 indicating hemorrhage. As explained by ACOG:

76 *“There is no single, satisfactory definition of postpartum hemorrhage. An*  
77 *estimated blood loss in excess of 500 mL following a vaginal birth or a loss of greater*  
78 *than 1,000 mL following cesarean birth often has been used for the diagnosis, but the*  
79 *average volume of blood lost at delivery can approach these amounts. Estimates of*  
80 *blood loss at delivery are notoriously inaccurate, with significant underreporting being*  
81 *the rule.”*

82 *-American College of Obstetrics and Gynecology, Practice Bulletin Number 76, October 2006,*  
83 *reaffirmed 2013*

84 Workgroup members noted that while the California Maternal Quality Care Collaborative  
85 (CMQCC) adopted the 500mL and 1,000mL EBL thresholds in their “OB Hemorrhage

86 Toolkit,” it was for the purpose of defining an initial trigger to guide early treatment and  
87 prevention of true post-partum hemorrhage and therefore not aligned with the purpose  
88 of this workgroup.

89 The workgroup preferred an EBL that, when reflected upon after all of the events of the  
90 obstetric admission, would truly represent an obstetrical hemorrhage rather than an  
91 early warning indication requiring intervention and treatment to prevent further blood  
92 loss and progression to a true obstetrical hemorrhage.

93 Members concluded that a 500ml increase (roughly equivalent to a unit of whole blood)  
94 above common blood loss volumes during delivery is a more befitting definition of  
95 “hemorrhage.” Thus, the workgroup agreed that EBL volumes of a 1,000mL for vaginal  
96 delivery and 1,500mL for birth by cesarean section are more appropriately indicative of  
97 true obstetrical hemorrhage. Cumulative blood loss within the first 24 hours postpartum  
98 would count towards these thresholds. The workgroup decided that creating a higher  
99 threshold for cesarean section births was necessary because:

- 100 1) While performing cesarean sections, providers incise the uterus, a highly  
101 vascular organ
- 102 2) Amniotic fluid, which is not present during vaginal birth as the sac has ruptured  
103 by the time of delivery, mixes with blood and can make EBL appear more  
104 voluminous
- 105 3) Blood loss during vaginal delivery is inhibited by uterine contractions

106 Members also agreed that changes in hemoglobin and hematocrit levels should be an  
107 element of defining criteria. As ACOG notes: *“a decline in hematocrit levels of 10% has  
108 been used to define postpartum hemorrhage.”*<sup>5</sup> Members agreed that enough time  
109 should lapse after delivery to ensure that lab values accurately reflect the patient’s  
110 hematological status.

111 The definition for obstetrical hemorrhage endorsed by the MHA-convened workgroup is  
112 as follows:

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<sup>5</sup> American College of Obstetrics and Gynecology, Practice Bulletin Number 76, October 2006, reaffirmed 2013

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<b>Diagnostic Criteria For Obstetrical Hemorrhage</b>
Cumulative Blood Loss During the 24 Hours Postpartum of $\geq 1,000\text{mL}$ Vaginal Delivery or $\geq 1,500\text{mL}$ Cesarean Section
<b>OR</b>
A Drop of 10 Percentage Points From Baseline in a Patient's Hematocrit Level or a Drop In Hemoglobin of 3 Grams Per Deciliter From Baseline in a Sample Drawn Between 6 and 24 Hours Postpartum

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116 The workgroup believes that research supports the EBL thresholds it has endorsed as  
117 part of its defining criteria. For example, in a population-based observational study of  
118 all consecutive women who underwent a blood transfusion for obstetrical hemorrhage at  
119 Parkland Memorial Hospital, Dallas, Texas found that the median blood loss for those  
120 that received transfusions for signs and symptoms of hypovolemia was 3,529 mL.<sup>6</sup>  
121 Other supporting research is listed in the reference section below.

122 Workgroup members considered incorporating vital signs into the defining criteria for  
123 hemorrhage, but ultimately decided against inclusion. The reasons for not using vital  
124 signs as an indication include:

- 125 1) Some patients have vital signs outside of the 'normal' range (e.g. an otherwise  
126 healthy patient who presents with a resting BP of 90/60)
- 127 2) Vital signs can change for a number of reasons, including stress and pain
- 128 3) It's difficult to determine whether vital signs are problematic without a trend  
129 analysis over time

130 As part of its deliberations, the workgroup also considered including as a criterion  
131 whether a patient had received a blood transfusion. This element was ultimately

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<sup>6</sup> Hernandez, J et al. "Calculated Blood Loss in Severe Obstetric Hemorrhage and Its Relation to Body Mass Index." *American Journal of Perinatology*; 29 (2012) 557-560

132 excluded from the defining criteria as the administration of blood products is a  
133 treatment. The group felt the definition for obstetrical hemorrhage should instead be  
134 limited to signs of significant blood loss and not incorporate providers' intervention or  
135 treatment, which may vary from clinician to clinician.

136 The workgroup recognizes that there may be patients for which these guidelines may  
137 not apply, so provider documentation of expected versus unexpected or complicated  
138 blood loss or hemorrhage will still be the basis for inpatient coding of diagnoses.

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#### 140 **Proposed Obstetric Laceration Criteria**

141 Workgroup members agreed that criteria crafted by the reVITALize initiative should  
142 serve as the guidelines for defining 3rd and 4th degree obstetric lacerations by  
143 providers in Maryland. The clinicians at many hospitals are already using these criteria,  
144 as evidenced by the materials submitted by hospitals to the workgroup in advance of  
145 our first meeting. The reVITALize initiative is a data definition standardization effort led  
146 by ACOG and the members of the Women's Health Registry Alliance. Its definitions are  
147 endorsed by the American College of Nurse-Midwives, ACOG, the Association of  
148 Women's Health, Obstetric and Neonatal Nurses, and the Society for Maternal-Fetal  
149 Medicine.

150 The reVITALize definitions for lacerations are:<sup>7</sup>

151 1st Degree - Injury to perineal skin only

152 2nd Degree - Injury to perineum involving perineal muscles but not involving anal  
153 sphincter

154 3rd Degree - Injury to perineum involving anal sphincter complex

155       3a: Less than 50% of External Anal Sphincter thickness torn

156       3b: More than 50% External Anal Sphincter thickness torn

157       3c: Both External Anal Sphincter & Internal Anal Sphincter torn

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<sup>7</sup> reVITALize Obstetric Data Definitions Version 1.0, updated 2014

158 4th Degree - Injury to perineum involving anal sphincter complex (external anal  
159 sphincter & internal anal sphincter) and anal epithelium

160 The MHA workgroup made an adjustment to the reVITALize definitions, and suggests  
161 eliminating sub-types for third degree lacerations (i.e., 3a, 3b, and 3c) as providers  
162 rarely offer this level of specificity in their diagnoses. Therefore, the definition for  
163 obstetric laceration endorsed by the MHA-convened workgroup is as follows:

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<b>Diagnostic Criteria For Obstetric Laceration</b>
<u>3rd Degree Laceration</u> - Injury to Perineum Involving Anal Sphincter Complex
<u>4th Degree Laceration</u> - Injury to Perineum Involving Anal Sphincter Complex (External Anal Sphincter & Internal Anal Sphincter) and Anal Epithelium

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### **References**

167

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169 international expert panel." *Transfusion*; 54:7 (2014) 1756-68

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171 Arulkumaran, S. et al. *A Comprehensive Textbook of Postpartum Hemorrhage: An Essential Clinical  
172 Reference for Effective Management*. Sapiens Publishing; 2nd Revised edition; (2012) Chapter 11, 81

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177 Hernandez, J et al. "Calculated Blood Loss in Severe Obstetric Hemorrhage and Its Relation to Body  
178 Mass Index." *American Journal of Perinatology*; 29 (2012) 557-560

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180 Magann, E. et. al. "Postpartum Hemorrhage After Cesarean Delivery: An Analysis of Risk Factors."  
181 *Southern Medical Journal*; 98 (2005) 681-685

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183 reVITALize Obstetric Data Definitions Version 1.0, Updated 2014

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185 Skjeldestad, F. Oian, P. "Blood loss after cesarean delivery: a registry-based study in Norway, 1999-  
186 2008." *American Journal of Obstetrics & Gynecology*; (2012) 76-79

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188 The California Maternal Quality Care Collaborative's Improving Health Care Response to Obstetric  
189 Hemorrhage Toolkit, July 2010

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191 Werner, R. *Acta Obstetrica et Gynecologica Scandinavica* Nordic Federation of Societies of Obstetrics  
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#### 194 **Instructions for Submitting Comments**

195 Please utilize the 'track changes' function to make line-item comments or suggestions.

196 Additionally, the 'General Comments' section below can be used to write longer notes

197 and provide overall feedback. Please refer to a line number when writing comments.

198 The workgroup is seeking both clinical feedback as well as comments that address

199 feasibility or other practical considerations regarding implementation. Please submit

200 your feedback to Justin Ziombra at [jziombra@mhaonline.org](mailto:jziombra@mhaonline.org) by **Wednesday, March**

201 **4th.**

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#### 203 **General Comments**

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