Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.
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**eTable 1: Table of Highest Weighted Terms for the Prediction of Severe Maternal Morbidity**

| Stemmed Term  | Coefficient |
|---------------|-------------|
| cv            | 0.122       |
| point         | 0.125       |
| mag           | 0.128       |
| sgpt          | 0.129       |
| site          | 0.134       |
| complex       | 0.142       |
| safet         | 0.151       |
| fellow        | 0.158       |
| llp           | 0.165       |
| id            | 0.171       |
| presum        | 0.171       |
| hematolog     | 0.205       |
| transfus      | 0.207       |
| co2           | 0.213       |
| chewabl       | 0.214       |
| stat          | 0.233       |
| code          | 0.255       |
| cathet        | 0.281       |
| coag          | 0.461       |
| hysterectom   | 0.571       |
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eTable 2: Table of Highest Weighted Terms for the Prediction of Nontransfusion Severe Maternal Morbidity

| Stemmed Term | Coefficient |
|--------------|-------------|
| latex        | 0.053       |
| bps          | 0.073       |
| id           | 0.099       |
| concern      | 0.102       |
| mitral       | 0.102       |
| lupus        | 0.104       |
| transfer     | 0.145       |
| sickl        | 0.151       |
| cosign       | 0.153       |
| accreta      | 0.183       |
| addit        | 0.185       |
| fellow       | 0.199       |
| coag         | 0.221       |
| cv           | 0.240       |
| site         | 0.276       |
| ifts         | 0.330       |
| co2          | 0.406       |
| sgpt         | 0.414       |
| hysterectom  | 0.491       |
| code         | 0.611       |
### eTable 3: Analysis of the False-Positive Predictions for Severe Maternal Morbidity

| Case Number | High-risk Label | SMM | OB-CMI Score | Case Vignette                                                                 |
|-------------|-----------------|-----|--------------|-------------------------------------------------------------------------------|
| 1           | 1               | 0   | 6            | Delivered preterm in the setting of a bleeding previa with concern for possible accreta; s/p cesarean delivery (no accreta) |
| 2           | 1               | 0   | 6            | Delivered preterm for pre-eclampsia with severe features; history of renal artery aneurysm s/p repair; s/p cesarean delivery |
| 3           | 1               | 0   | 9            | Delivered at term with diabetes, hypertension; history of pre-eclampsia and stroke |
| 4           | 1               | 0   | 4            | Delivered at term; history of postpartum hemorrhage and focal accreta requiring blood transfusion |
| 5           | 1               | 0   | 1            | Delivered preterm for abruption; fetus with cardiac anomaly                   |
| 6           | 1               | 0   | 6            | Delivered at term via scheduled cesarean delivery; history of myomectomy      |
| 7           | 1               | 0   | 0            | Delivered at term; history of retained placenta/focal accreta required dilation and curettage |
| 8           | 1               | 0   | 1            | Delivered at term; history of placenta accreta and postpartum hemorrhage requiring blood transfusion |
| 9           | 1               | 0   | 6            | Delivered preterm in the setting of bleeding with placenta previa             |
| 10          | 1               | 0   | 4            | Delivered preterm in the setting of premature rupture of membranes; history of accreta / previa in prior pregnancy |
**eTable 4: Analysis of the False-Negative Predictions for Severe Maternal Morbidity**

| Case Number | High-risk Label | SMM | OB-CMI Score | Case Vignette |
|-------------|-----------------|-----|--------------|---------------|
| 1           | 0               | 1   | 2            | Multiple gestation delivered preterm; delivery complicated by postpartum hemorrhage requiring transfusion |
| 2           | 0               | 1   | 5            | Vaginal birth after cesarean delivery at term gestation; delivery complicated by postpartum hemorrhage requiring transfusion |
| 3           | 0               | 1   | 3            | Scheduled cesarean delivery at term, experienced syncope |
| 4           | 0               | 1   | 5            | Multiple gestation who presented with hypertension and shortness of breath; delivery admission complicated by pulmonary edema |
| 5           | 0               | 1   | 9            | Multiple gestation who presented with pre-eclampsia with severe features; delivery complicated by postpartum hemorrhage requiring transfusion and pulmonary edema |
| 6           | 0               | 1   | 4            | Multiple gestation delivered at term; delivery complicated by postpartum hemorrhage requiring transfusion |
| 7           | 0               | 1   | 1            | Multiple gestation with a history of an intracranial aneurysm who underwent cesarean delivery |
| 8           | 0               | 1   | 6            | Vaginal delivery at term after induction for hypertension; postpartum course complicated by acute kidney injury |
| 9           | 0               | 1   | 16           | Preterm delivery for shortness of breath in a patient with a history of cardiomyopathy and worsening chronic hypertension |
| 10          | 0               | 1   | 6            | Preterm delivery after presenting with pre-eclampsia with severe features; postpartum course complicated by pulmonary edema and acute kidney injury |
# eTable 5: Confusion Matrix for the NLP-based Method for Classifying Risk for Severe Maternal Morbidity

|                  | No Severe Maternal Morbidity | Severe Maternal Morbidity |
|------------------|------------------------------|---------------------------|
| Not High Risk    | 3,782                        | 82                        |
| High Risk        | 137                          | 33                        |
**eTable 6: Confusion Matrix for the OB-CMI-based Method for Classifying Risk for Severe Maternal Morbidity**

|                | No Severe Maternal Morbidity | Severe Maternal Morbidity |
|----------------|------------------------------|---------------------------|
| Not High Risk  | 3,788                        | 87                        |
| High Risk      | 131                          | 28                        |
eTable 7: Confusion Matrix for the Combined NLP and OB-CMI–based Method for Classifying Risk for Severe Maternal Morbidity

| Risk Level       | No Severe Maternal Morbidity | Severe Maternal Morbidity |
|------------------|------------------------------|----------------------------|
| Not High Risk    | 3,675                        | 72                         |
| High Risk        | 244                          | 43                         |
**eTable 8: Confusion Matrix for the NLP-based Method for Classifying Risk for Nontransfusion Severe Maternal Morbidity**

|             | No Severe Maternal Morbidity | Severe Maternal Morbidity |
|-------------|------------------------------|----------------------------|
| Not High Risk | 3,835                        | 33                         |
| High Risk    | 152                          | 14                         |
eTable 9: Confusion Matrix for the OB-CMI-based Method for Classifying Risk for Nontransfusion Severe Maternal Morbidity

|                | No Severe Maternal Morbidity | Severe Maternal Morbidity |
|----------------|------------------------------|----------------------------|
| Not High Risk  | 3,845                        | 30                         |
| High Risk      | 142                          | 17                         |
eTable 10: Confusion Matrix for the Combined NLP and OB-CMI–based Method for Classifying Risk for Nontransfusion Severe Maternal Morbidity

|               | No Severe Maternal Morbidity | Severe Maternal Morbidity |
|---------------|------------------------------|----------------------------|
| Not High Risk | 3,716                        | 26                         |
| High Risk     | 271                          | 21                         |