Postpartum Maternal Readmission Rates:
Informing a sensible quality metric for postpartum maternal health

University of Massachusetts Medical School, Population Health Clerkship
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Background
- As MassHealth moves towards value-based reimbursement, quality metric slates will be used to survey performance of accountable care organizations (ACOs)
- ACOs will be evaluated on a number of quality measures, including 30-day hospital readmission rates; however, current measures exclude many postpartum-related readmissions
- Maternal postpartum readmission rates (PPRs) have not yet been considered as a quality metric, but should they? If so, what risk factors for PPR should be considered?

Methods
- Literature review conducted with PubMed and MA DPH published data
- Exclusionary criteria: studies not conducted in the U.S. and publications prior to 2007
- Risk parameter focus: High-impact risk factors identified in a robust multi-state claims-based analysis were prioritized for further research
- Categorization: Risk factors were grouped by their level of modifiability

Total studies reviewed: 19

Research Question
What are the factors that contribute to the 30 day maternal postpartum acute care hospital readmission rate?

<table>
<thead>
<tr>
<th>Characteristic/Parameter</th>
<th>Odds Ratio</th>
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</thead>
<tbody>
<tr>
<td>Psychiatric disease</td>
<td>2.542</td>
</tr>
<tr>
<td>Substance dependence/abuse</td>
<td>2.016</td>
</tr>
<tr>
<td>Seizure disorder</td>
<td>1.989</td>
</tr>
<tr>
<td>Hypertension disorder (chronic)</td>
<td>1.866</td>
</tr>
<tr>
<td>Smoking</td>
<td>1.859</td>
</tr>
<tr>
<td>Pregnancy-induced HTN</td>
<td>1.652</td>
</tr>
<tr>
<td>Preterm labor</td>
<td>1.632</td>
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<tr>
<td>Obesity</td>
<td>1.455</td>
</tr>
<tr>
<td>Cesarean Section</td>
<td>1.431</td>
</tr>
<tr>
<td>Black race</td>
<td>1.348</td>
</tr>
</tbody>
</table>

Results

Hypertensive Disorders of Pregnancy (HDP)
- Modifiable, leading cause of PPR

Psych. Illness & Substance Use Disorder
- Modifiable, the strongest predictor and 3rd highest indication of PPR

Tobacco Use
- Modifiable, 5th strongest predictor

Type II Diabetes
- High prevalence, but small PPR risk increase

Cesarean Delivery
- Identified as an independent risk factor
- However, increasing PPR is not explained by an increasing CS rate

Race/Ethnicity
- Black, Hispanic women at higher risk compared to white women

Recommendations

- **Conclusion:** 30 day postpartum readmission rates may be an indicator of healthcare quality. Some risk factors for PPR may be modifiable with better delivery of care
- **Caveats:** In some cases, PPR may not reflect poor performance in obstetric care
  - Additional work is needed to understand the role of postpartum depression in PPR