



# 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

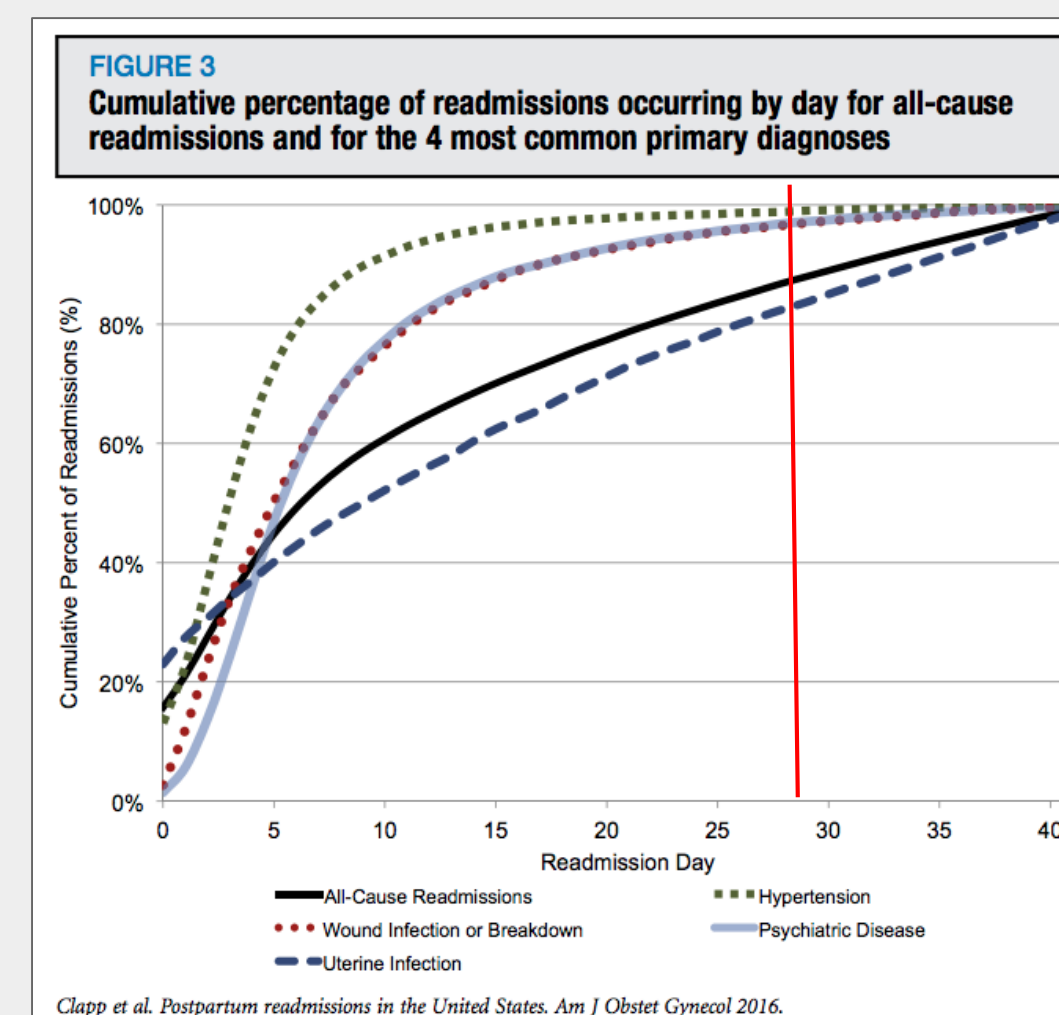
- Exclusionary criteria:** studies not conducted in the U.S. and publications prior to 2007
- Risk parameter focus:** High-impact risk factors identified in a robust multi-state claims-based analysis were prioritized for further research
- Categorization:** Risk factors were grouped by their level of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

**Total studies reviewed: 19**

### Research Question

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

Characteristic/Parameter	Odds Ratio
<i>Major Predictive Risk Factors (in desc. order)</i>	
Psychiatric disease	2.542
Substance dependence/abuse	2.016
Seizure disorder	1.989
Hypertension disorder (chronic)	1.886
Smoking	1.859
Pregnancy-induced HTN	1.652
Preterm labor	1.632
Obesity	1.455
Cesarean Section	1.431
Black race	1.348



- Key risk factors** were identified from a multi state analysis of 42 day PPR. 90% of readmissions occur within the first 30 days.
- Risk factors were classified by *modifiability*, the degree to which an ACO can change or manage the condition.

Potentially Modifiable	Somewhat Modifiable	Demographic
1) HDP 2) Psychiatric Illness 3) Smoking 4) Type II Diabetes	1) Seizure disorder 2) Cesarean delivery	1) Race/Ethnicity 2) Socioeconomic status

### 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

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