

Impact of Mental Health Screening Access on Incremental Cost Estimates among Patients with Postpartum Depression

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Background

- Analyses using real-world data have demonstrated that households affected by postpartum depression (PPD) incur over 20% higher annual medical and pharmaceutical costs than those without¹
- However, screening for PPD has been shown to be influenced by race and socioeconomic background, potentially biases these estimates given that many patients without a diagnosis for PPD may have never been screened for the condition^{2,3}

Objectives

- The objective of this analysis was to explore the potential impact of PPD screening on incremental post-delivery cost estimates using real world data

Methods

Data & Sample

- This analysis used Tessa, a U.S. dataset that includes administrative and claims data for over 170 million patients across commercial payors, Medicare Advantage and Medicaid
- The sample included women aged 12-55 with evidence of live childbirth from 1/1/2016 – 6/30/2023
- At least 12 months continuous enrollment before (baseline) and 12 months after delivery (index) was required
- Patients with baseline psychosis, bipolar disorder, or schizophrenia were excluded

Case

- Diagnosis or treatment for PPD during the period starting one day after delivery and ending 12 months following delivery. PPD was identified using published algorithm based on a mix of diagnoses for depression/mood/adjustment disorder and psychotherapy procedures and/or prescriptions¹

Controls

- Pregnancy episodes used as controls did not meet the PPD case criteria at any point during the 12 months following delivery
- Propensity score matching 1:2 based on age, race, U.S. Census region, baseline Charlson Comorbidity Index (CCI), payor type, total baseline non-mental health spending, and evidence of preterm delivery was conducted

Outcome

- All-cause health care costs during a period 12 months post-delivery (excluding delivery event) was evaluated and stratified by cohort

Figure 1. Case Attrition



Methods, cont.

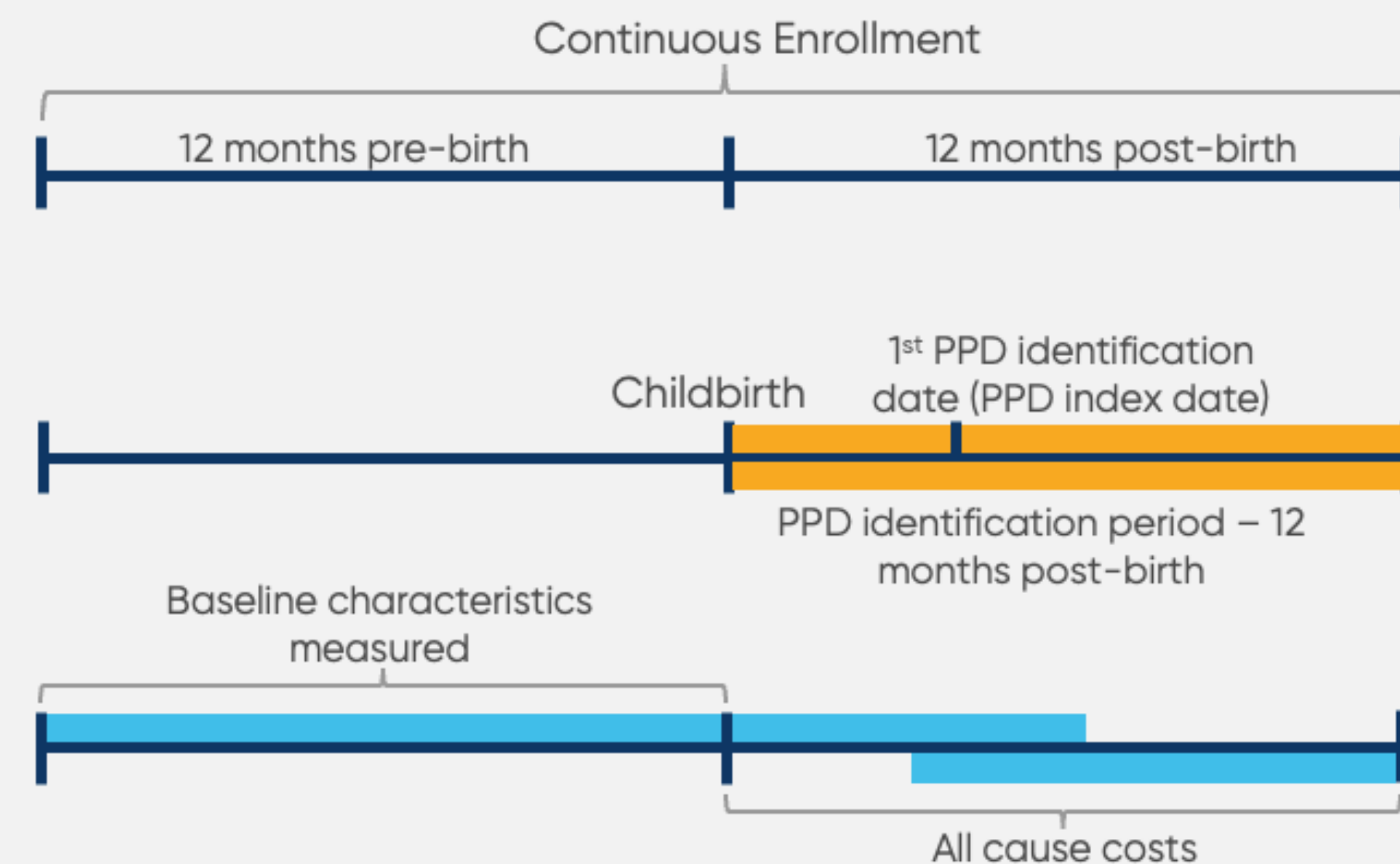
PPD Screening Analysis

Among the control cohort:

- a logistic regression was used to evaluate the relationship between PPD screening and baseline demographics, and
- a generalized linear model (GLM) was used to evaluate the relationship between PPD screening and log-transformed post-delivery costs

All analyses were performed using Instant Health Data (IHD) software

Figure 2. Study Design



Results

Table 1. Baseline Demographics and Clinical Characteristics

	Matched Cases	Matched Controls
N	7,815	15,247
Age (Mean, SD)	28.16 (6.09)	28.18 (6.07)
Race (N, %)		
Caucasian	3,599 (46.05%)	6,990 (45.85%)
Black	965 (12.35%)	1,899 (12.45%)
Hispanic	846 (10.82%)	1,631 (10.70%)
Asian	87 (1.11%)	158 (1.04%)
Other	219 (2.80%)	409 (2.70%)
Unknown	2,100 (26.87%)	4,160 (27.28%)
Region (N,%)		
South	2,711 (34.69%)	5,394 (35.38%)
Midwest	2,500 (31.98%)	4,874 (31.97%)
West	1,527 (19.54%)	2,951 (20.16%)
Northeast	1,026 (13.13%)	1,930 (12.66%)
Payor (N,%)		
Medicaid	5,069 (64.85%)	9,701 (63.63%)
Commercial	2,526 (32.32%)	5,124 (33.61%)
Medicare	34 (0.44%)	48 (0.32%)
Unknown	187 (2.39%)	374 (2.45%)
Baseline expenditures* (Mean, SD)	3,744.71 (8,003.35)	2,669.42 (13,685.80)
Screening (N,%)	912 (11.67%)	1,117 (7.33%)
Baseline CCI (Mean, SD)	0.28 (0.64)	0.24 (0.66)
Preterm Delivery (N,%)	673 (8.61%)	1,311 (8.60%)

*Includes non mental health-related expenditures only

- 7,815 pregnancy episodes with evidence of PPD were identified and matched to 15,247 controls
- Patients were 28 years old at delivery, and majority had Medicaid insurance (**Table 1**)
- During the 1-year period following delivery, PPD pregnancies incurred higher total healthcare costs than non-PPD controls (\$4,106 vs. \$1,853, $p < 0.001$)
- Among non-PPD controls, mental health screening was observed in 7.33% of patients post delivery
- Receiving mental health screening was more common for controls that were Hispanic (OR: 1.40; $p < 0.01$, relative to Caucasian) and those with Medicaid insurance (OR: 1.66; $p < 0.01$, relative to Commercial) (**Figure 3**).

Results Cont'd.

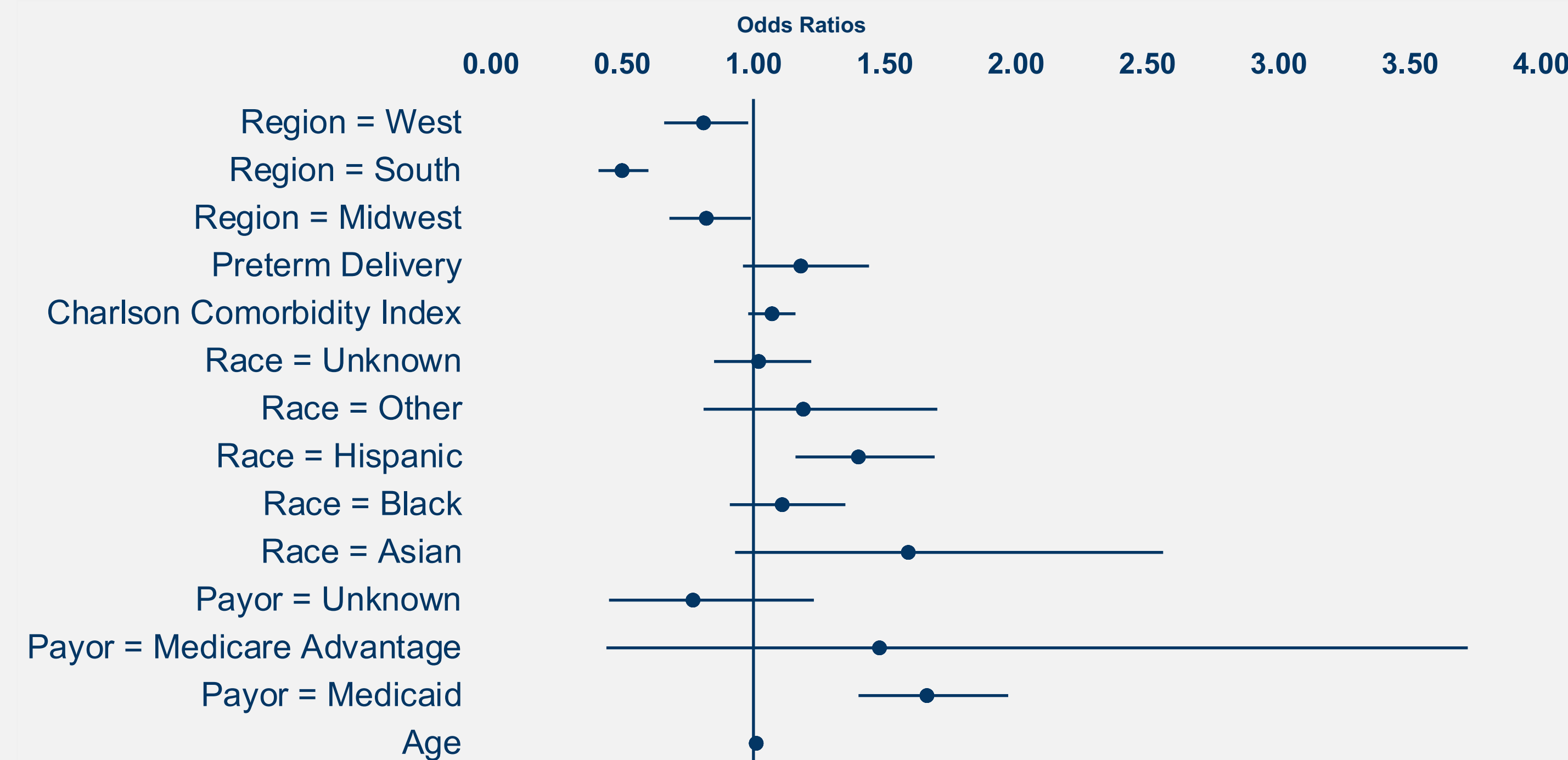
Table 2. Factors Associated with Post-Delivery Costs among Non-PPD Controls

Covariate	Estimates	P-value
Age*	0.99	<0.001
Medicaid*	1.22	<0.001
Medicare	1.31	0.336
Payor Unknown	1.21	0.065
Baseline expenditures*	2.18	<0.001
Mental Health Screening*	1.36	<0.001
Baseline CCI*	1.09	<0.001
Preterm Delivery*	0.86	0.007

*Statistically significant at $p < 0.05$; coefficient estimates exponentiated for interpretation in dollars

- Baseline non-mental health spending had the strongest correlation with post-delivery healthcare expenditures, followed by evidence of mental health screening during the year following delivery (associated with 36% higher total follow-up costs) (**Table 2**)
- Controls with Medicaid insurance (versus Commercial) also had significantly higher costs during follow-up

Figure 3. Factors Associated with Mental Health Screening among Non-PPD controls



Conclusion

- Patients with PPD incurred higher costs during the first year following childbirth than matched controls, however, ensuring that all controls have been screened for PPD may influence the magnitude of this estimate given that mental health screening is influenced by race, payor type, and is associated with increased healthcare expenditures

References

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