Mental Healthcare Facilities and Mortality: Evidence from Local Access and Insurance Expansion

NBER Health and Healthcare Variations across the Population

Spring 2026 · Eggtimer Presentation

Olanrewaju Yusuff

PhD Candidate
Department of Economics
Georgia State University

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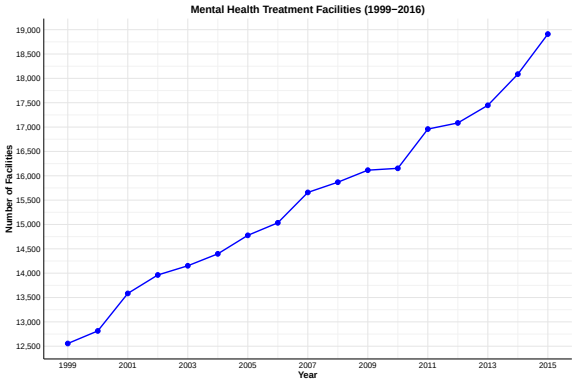
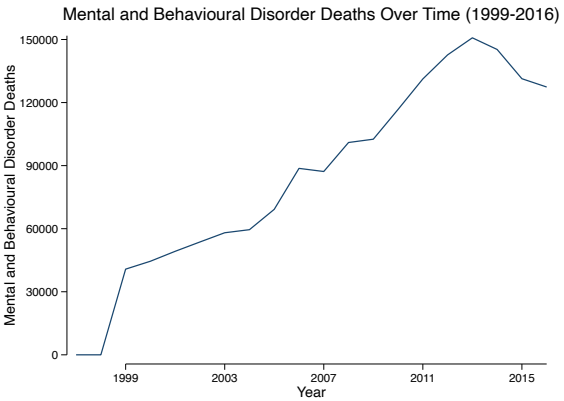
Infrastructure expanded. Deaths surged.



Mental health facilities: +50%



MBD deaths: +300%

Does local access to mental health facilities save lives?

What we know and what's missing

Healthcare access reduces mortality:

- Community health centers (Bailey & Goodman-Bacon 2015)
- Medicaid expansion (Miller, Johnson & Wherry 2021)
- Hospital and SUD facility closures harm vulnerable groups (Buchmueller et al. 2006; Corredor-Waldron & Currie 2022)

Mental health treatment reduces crime, evictions, homelessness:

- Deza, Maclean & Solomon (2023); Bradford & Maclean (2023); Ortega (2023)

What's missing: No causal evidence linking mental health *facilities* to mortality.

This paper:

- First causal evidence on mental health *infrastructure* and mortality
- Documents asymmetry: closures vs. openings
- Tests insurance–infrastructure complementarity (ACA Medicaid expansion)
- **Documents how effects vary across age, education, and access**

Four findings

1. **Each facility prevents 1.56 deaths per 100,000** annually
   Spillovers extend far beyond mental-health deaths
2. **Closures harm ∼10× more than openings help**
   Asymmetry with first-order welfare implications
3. **Effects concentrate among elderly and less-educated populations**
   Local access matters most for those with the fewest alternatives
4. **Medicaid expansion amplifies facility effects by 26%**
   Insurance and infrastructure are complements, not substitutes

Welfare: Each facility yields **$11.7M net annual benefits** (BCR $>$ 4:1).

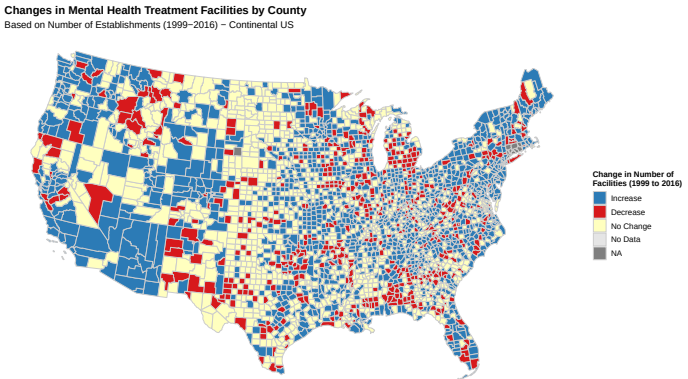
Data and Methods

Data

Sample (1999–2016, 53,498 county-years):

- **Mental health facilities:** County Business Patterns (NAICS 621112, 621330)
- **Mental health employment:** County Business Patterns, imputed following (Eckert et al., 2020)
- **Mortality:** Restricted-use Multiple Cause of Death (NCHS); ICD-10 F00–F99 for MBD
- **Insurance policy:** ACA Medicaid expansion timing (Kaiser Family Foundation)
- **Mechanisms:** Social Security Administration disability rolls (2009–2016); Medicare Part D prescriber data (2013–2016)
- **County controls:** American Community Survey, Area Health Resource File, Bureau of Labor Statistics

Identification I: TWFE specification



Net change in facilities, 1999–2016

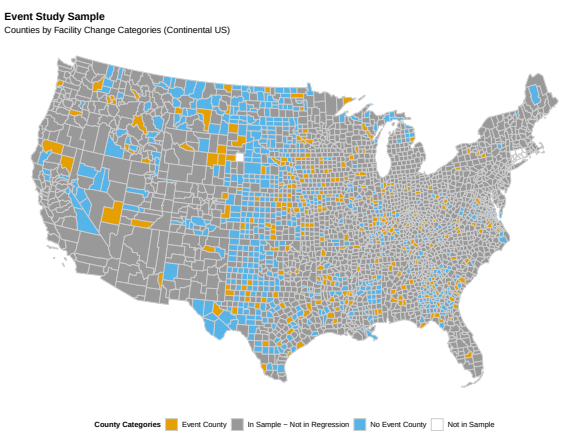
TWFE specification:

$$Y_{ct} = \beta \, \text{Facilities}_{c,t-1} + \alpha_c + \delta_{st} + \mathbf{X}'_{ct}\boldsymbol{\theta} + \varepsilon_{ct}$$

Identification:

- **Within-county** variation in facility counts
- α_c: time-invariant county heterogeneity
- δ_{st}: state-by-year policy shocks
- Cluster-robust SEs at county level

Identification II: Event study specification



Event counties (one change) vs. control counties (none)

Dynamic specification:

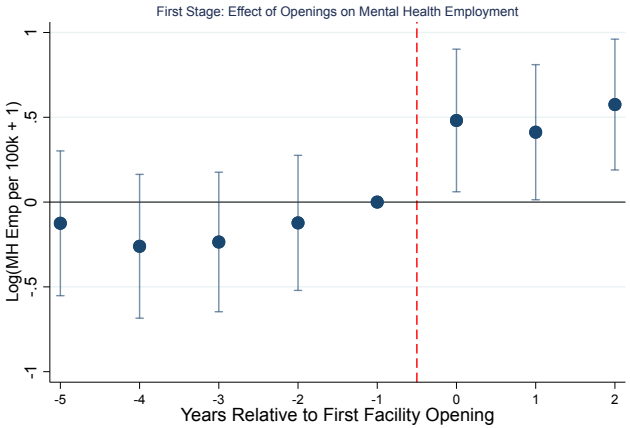
$$Y_{ct} = \alpha_c + \eta_t + \delta_{st} + \sum_{\substack{k=-5 \\ k\neq -1}}^{5} \beta_k \, \mathbf{1}(\text{RelTime}_{ct} = k) + \mathbf{X}'_{ct}\boldsymbol{\theta} + \varepsilon_{ct}$$

Sample restriction:

- Treatment: counties with **exactly one facility change**
- Control: counties with **no changes**

Heterogeneity-robust: Sun & Abraham (2021); **placebos** on transport & surgical complications.

First stage: facilities represent real treatment capacity



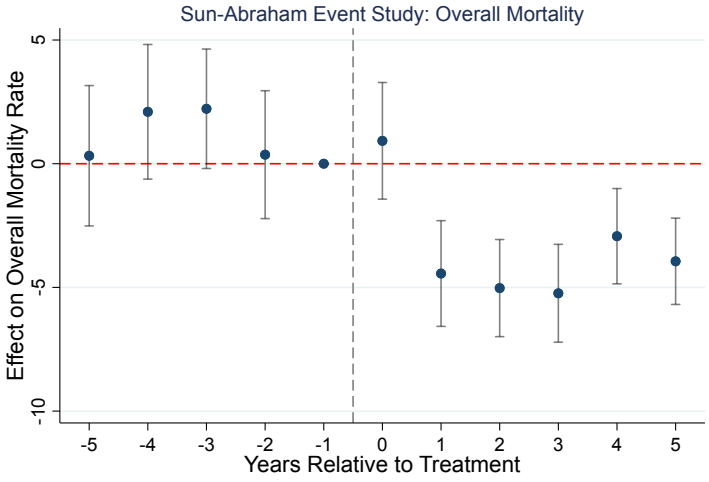
Effect of facility opening on log MH employment per 100k

Each new facility increases MH sectoral employment by +3% (8–10 workers)

- No pre-trends
- Sharp jump at $t = 0$, persistent
- Validates: facility counts = **real capacity**, not just admin

Results

Result 1: Facilities reduce overall mortality



- Average post-treatment effect: ∼**3% reduction** from baseline

Placebo: null on transport, surgical, and other unrelated causes Placebos

Result 2: Closures harm ∼10× more than openings help

	MBD Mortality
Facility opening	−0.014
	(0.033)
Facility closure	+0.124***
	(0.048)
Asymmetry ratio	**9.2×**
H_0: open = −close	$p < 0.001$

Notes: Full specification, all controls. Cluster-robust SEs.

Event studies

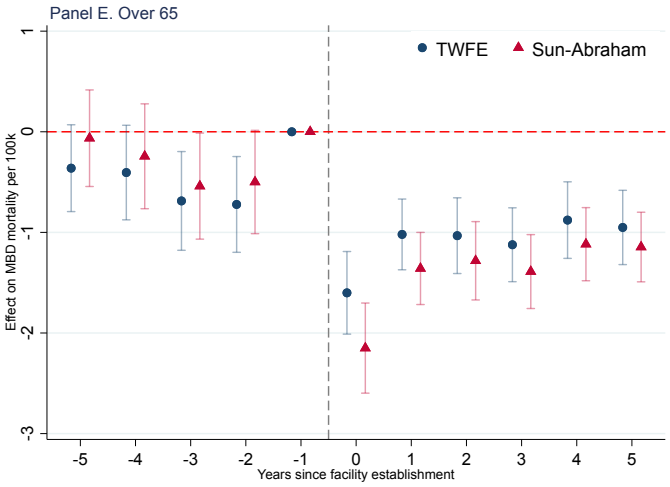
Why asymmetric?

- Closures **disrupt established** patient–provider relationships
- New facilities compete with existing options
- Adjustment frictions dominate

Policy implication:

Preventing closures > opening new facilities in already-served areas.

Result 3a: Largest effects among the elderly



Effects by age:

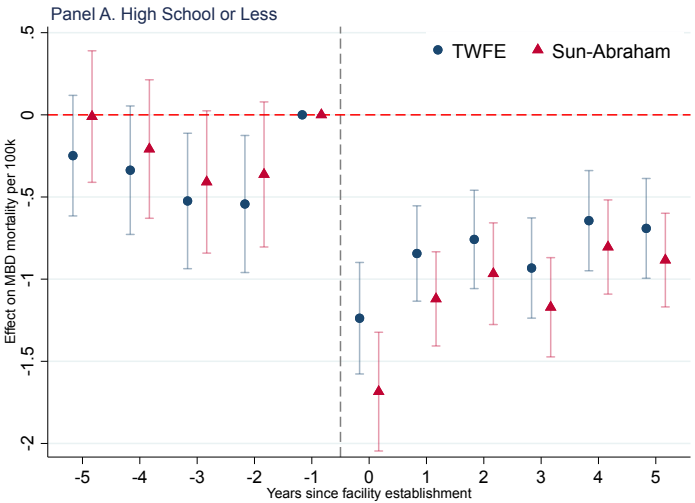
- **Ages 65+: largest, persistent reduction**
- Ages 50–64: gradual benefits
- Under 19: minimal

Why?

- Elderly face **transportation & mobility barriers** to distant care
- Cannot easily substitute ⇒

All age groups

Result 3b: Concentrated among less-educated populations



TWFE estimates by education

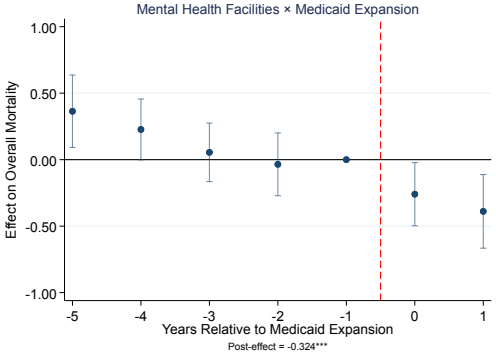
	MBD Mortality
All levels	−0.079***
	(0.030)
	[−0.26%]
High school or less	−0.095***
	(0.022)
	[−0.43%]
Some college	+0.003
	(0.006)
	[+0.08%]

Brackets: % change from pre-treatment mean

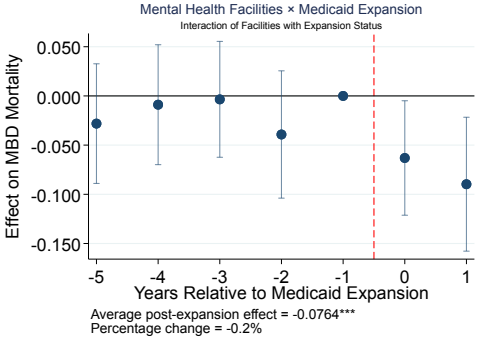
Result 4: Facility effects depend on insurance coverage

Specification (facility × expansion × post interaction):

$$Y_{ct} = \beta_1 \left(\text{Fac.}_{c,t-1} \times \text{Exp.}_s\right) + \beta_2 \left(\text{Fac.}_{c,t-1} \times \text{Post}_t\right) + \beta_3 \left(\text{Fac.}_{c,t-1} \times \text{Exp.}_s \times \text{Post}_t\right) + \alpha_c + \delta_{st} + \mathbf{X}_{ct}'\boldsymbol{\theta} + \varepsilon_{ct}$$



Overall mortality



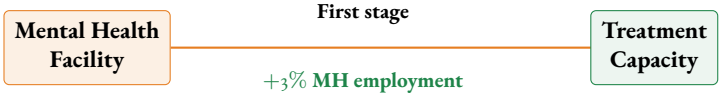
MBD mortality

Mechanisms

Mechanisms beyond direct treatment

Mental Health Facility

Mechanisms beyond direct treatment



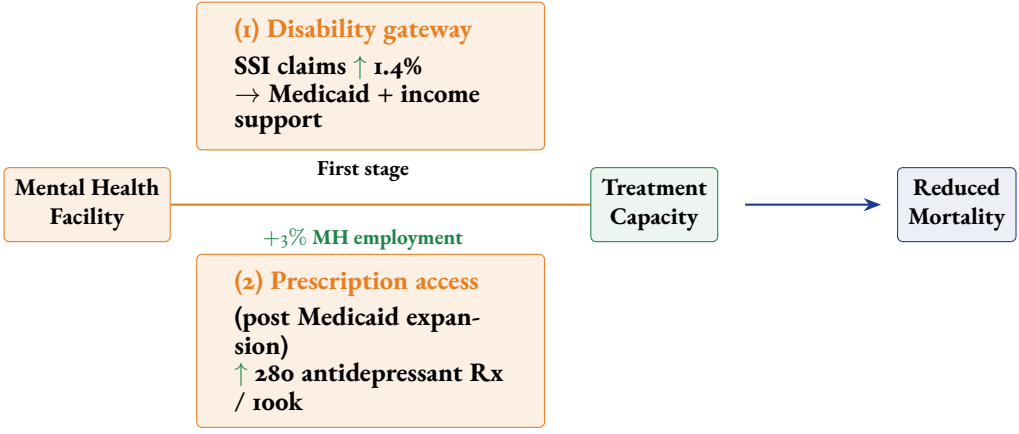
Mechanisms beyond direct treatment

Mechanisms beyond direct treatment

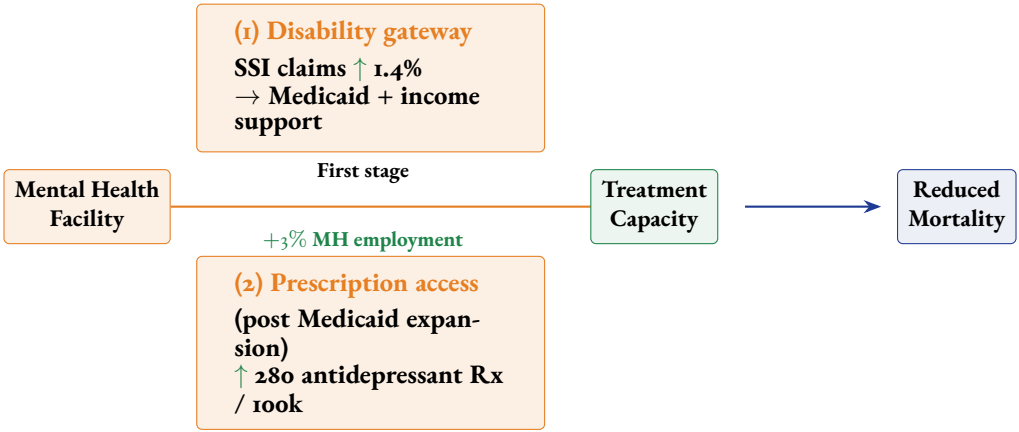
(1) Disability gateway

SSI claims ↑ 1.4%
→ Medicaid + income support

Mechanisms beyond direct treatment



Mechanisms beyond direct treatment



Insurance amplifies prescription access; **disability rolls** channel income and Medicaid to the most vulnerable.

Event studies

Welfare Analysis & Takeaways

Welfare and takeaways

Cost–benefit (per facility, per year):

- Benefits: 1.5 lives saved × \$10M VSL = **\$15.M**
- Costs: operating + annualized capital ≈ **\$3.4M**
- **Net benefits: \$11.7M; benefit–cost ratio 4.4:1**

Welfare and takeaways

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Takeaways:

1. **Mental health infrastructure is essential healthcare infrastructure.**
   Spillovers extend far beyond mental-health deaths
2. **Variation across the population matters.**
   Effects concentrate among elderly and less-educated populations who face the highest access barriers.
3. **Protect existing capacity.**
   Closures cost roughly 10× more than new facilities save.
4. **Coordinate supply and demand.**
   Insurance and facilities are complements; neither alone maximizes welfare.

Thank You!

Olanrewaju Yusuff
PhD Candidate in Economics
Georgia State University

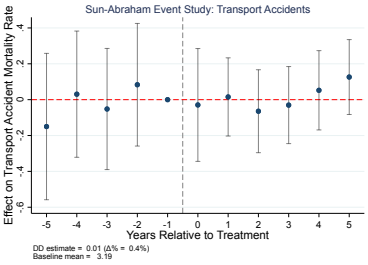
oyusuff4@student.gsu.edu

olanrewajuyusuffecon.github.io/website

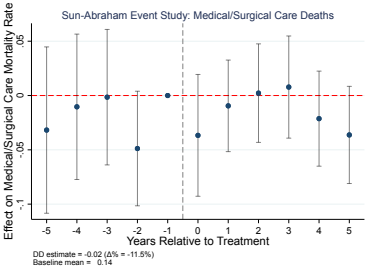
Appendix

Appendix

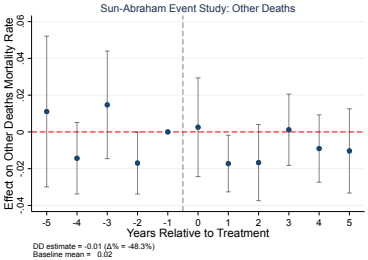
Placebo: null on causes unrelated to mental health



Transport accidents



Medical/surgical care

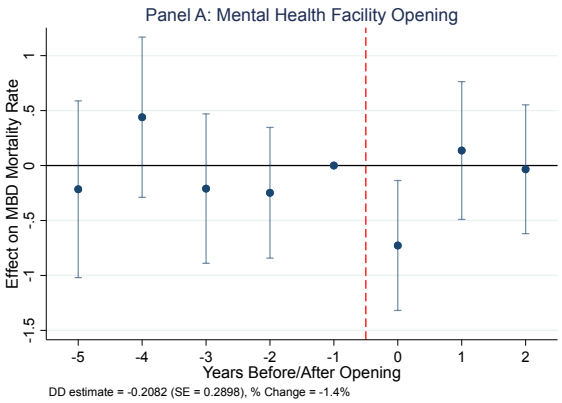


Other deaths

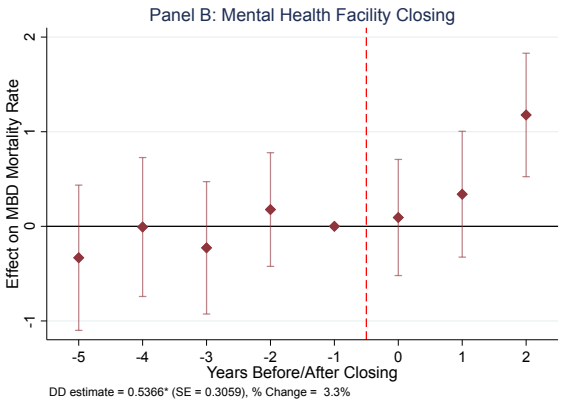
Validates mental-health-specific mechanism. Rules out spurious correlation with general mortality trends.

Back

Asymmetry: opening vs. closing event studies



Openings: small effects



Closings: large mortality increases

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Facility × Expansion × Post: Coefficient estimates

	MBD Mortality	Overall Mortality
Facilities × Expansion × Post	−0.071**	−0.907***
	(0.028)	(0.250)
County FE	Yes	Yes
State×Year FE	Yes	Yes
All controls	Yes	Yes
Observations	43,886	43,886
Adjusted R^2	0.506	0.874

Sample: 2009–2016. SEs clustered at county level. *** $p < 0.01$, ** $p < 0.05$.

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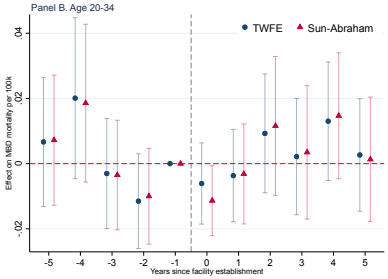
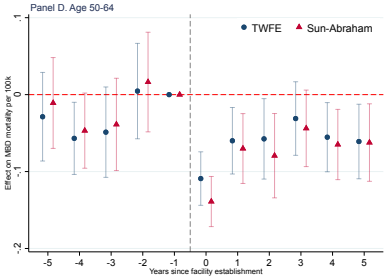
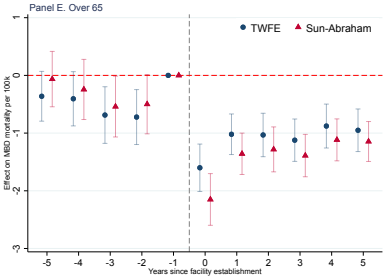
Heterogeneity event studies: age groups







Age 20–34 Age 50–64 Age 65+

Elderly (65+) show largest, most persistent reductions; working-age effects emerge gradually.

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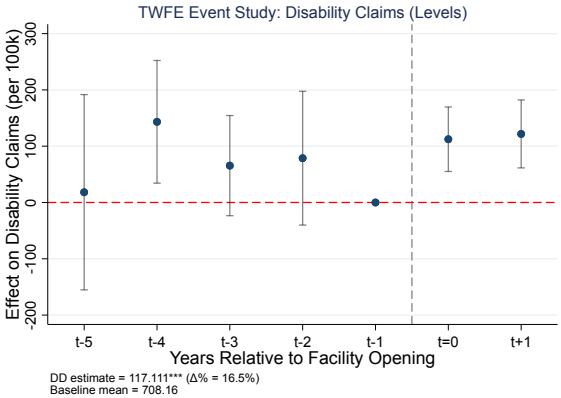
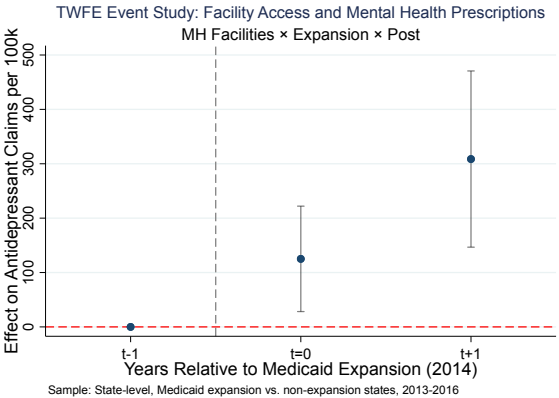
Mechanism event studies



SSI disability claims (↑ 1.4%)



Antidepressant Rx (↑ 280 / 100k post-expansion)

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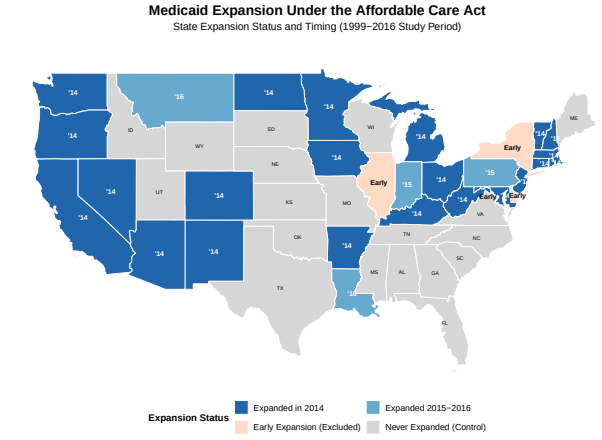
Medicaid expansion timing under the ACA



Notes: Main treatment states expanded Medicaid in January 2014. Early expansion states (CA, CT, DC, MA, MN, NJ, VT, WA) expanded before 2014 and are excluded from main analysis. Later expansion states expanded in 2015–2016. Control states never expanded during the study period.
Alaska excluded from main analysis (expanded September 2015). Source: Kaiser Family Foundation, NBER, and author's analysis.

Medicaid expansion under the ACA:

- 31 states + DC by 2016
- Mental health as essential health benefit
- Coverage at parity with medical/surgical

Identification:

- Treatment: states expanding in 2014
- Control: non-expansion states
- Pre-2014 expanders excluded

Source: KFF, Miller and Wherry (2017)