

# Effect of the Mental Health Parity and Addiction Equity Act (MHPAEA) on mental health care utilization.

Abstract:  
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Dasari, P;<sup>1</sup> Swint, J M;<sup>1</sup> Li, R;<sup>1</sup> Cuccaro, P M;<sup>1</sup> Morgan, R O;<sup>1</sup>  
<sup>1</sup>School of Public Health; University of Texas Health Science Center,  
Houston, TX, United States

## Introduction

- In the United States, 20% of the adult population suffer from mental health (MH) issues each year, with 90% reporting there is a crisis and an unmet need for MH services.
- Barriers to accessing mental health services exist, with affordability being reported as a major factor followed by age, gender, and race.
- Earlier policies for MH provided limited coverage which led to substantially higher out-of-pocket costs for people enrolled in average insurance plans.
- The Mental Health Parity and Addiction Equity Act (MHPAEA) was implemented in 2010 to provide MH benefits equal to medical/surgical benefits.
- MH service utilization in the United States has evolved substantially over the past two decades, coinciding with the differential implementation of MHPAEA across various states and different time points.

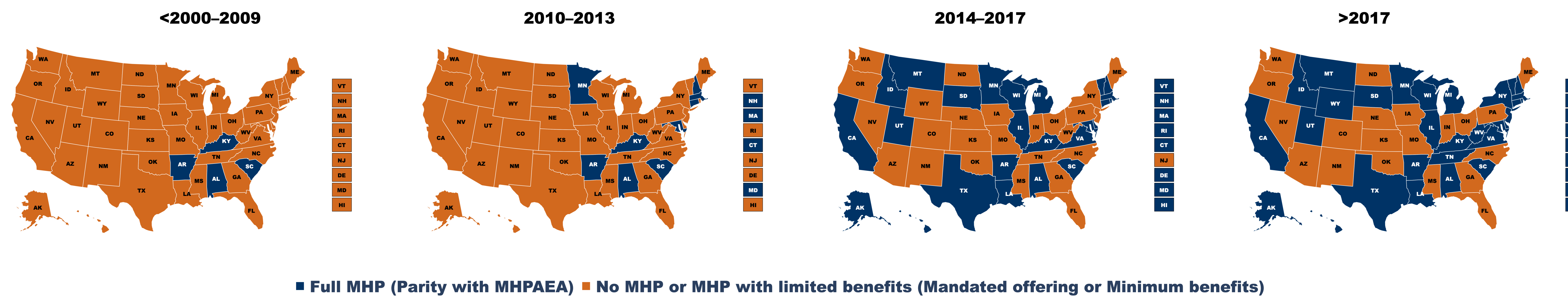
## Objective

- To estimate how these differential policy changes affected out-patient (OP) visits and in-patient (IP) admissions for MH care and to evaluate long-term trends.

## Methods

- Using the Medical Expenditure Panel Survey (MEPS) data from the years 1996 to 2023, person-level panel data were constructed with annual counts of OP visits and IP admissions.
- A segmented interrupted time series (ITS) study design with fixed effects was applied to estimate changes in utilization over time.
- Four time-points were specified:
  - 2000 (when a few states introduced limited MH benefits),
  - 2010 (when MHPAEA was implemented),
  - 2014 (after the final rules for MHPAEA were introduced), and
  - 2017 (when most states included MH benefits with full parity).
- Models estimated both immediate level changes and changes in annual trends (slopes) following each breakpoint.

Figure 1: Implementation of the MHPAEA Policy over the years



Note: Maps were rendered using a Python-based geographic information system (Plotly). The 50 U.S. states are color-coded to reflect the evolution of mental health parity legislation over a 20-year evaluation period. Abbreviations represent standard USPS state identifiers.

## Results

### For OP visits:

- Slope changes following the 2000, 2010, and 2014 breakpoints were small and not statistically significant, indicating minimal changes in utilization trends during these periods.
- In contrast, after 2017, the slope increased significantly, corresponding to approximately 0.03 additional OP visits per person per year.

### For IP admissions:

- Slope changes were similarly negligible for 2000 and 2010, with a modest but borderline significant decline after 2014.
- A small, yet statistically significant increase in IP admissions was observed after 2017.

Table 1: Slope changes in OP visits and IP admissions at the 4 break points

Break point	Out-patient Visits				In-patient Admissions			
	Slope ( $\beta$ )	SE	p-value	95% CI	Slope ( $\beta$ )	SE	p-value	95% CI
2000	0.001	0.003	0.612	[-0.005, 0.007]	0.000	0.000	0.282	[-0.000, 0.000]
2010	-0.002	0.005	0.718	[-0.012, 0.008]	-0.000	0.000	0.246	[-0.000, 0.000]
2014	-0.003	0.007	0.633	[-0.017, 0.011]	-0.001	0.001	0.090*	[-0.003, 0.001]
2017	0.029	0.007	<0.001***	[0.015, 0.043]	0.001	0.000	0.006***	[0.000, 0.002]

Note: \*,  $p < 0.10$ ; \*\*,  $p < 0.05$ ; \*\*\*,  $p < 0.01$ .  
Abbreviations: CI: Confidence interval; SE: Standard error

Figure 2: Observed and Fitted Trends in OP Visits

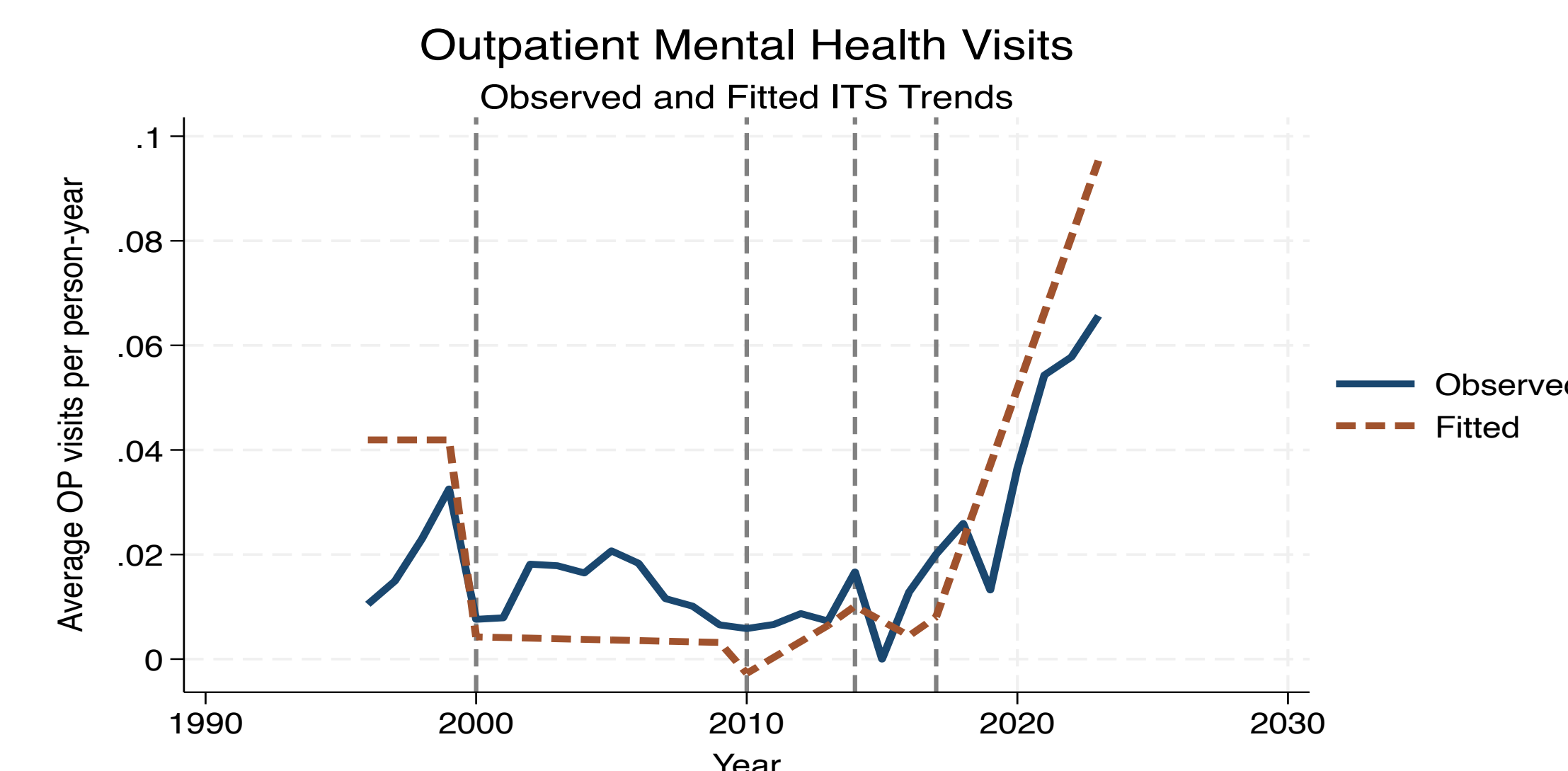
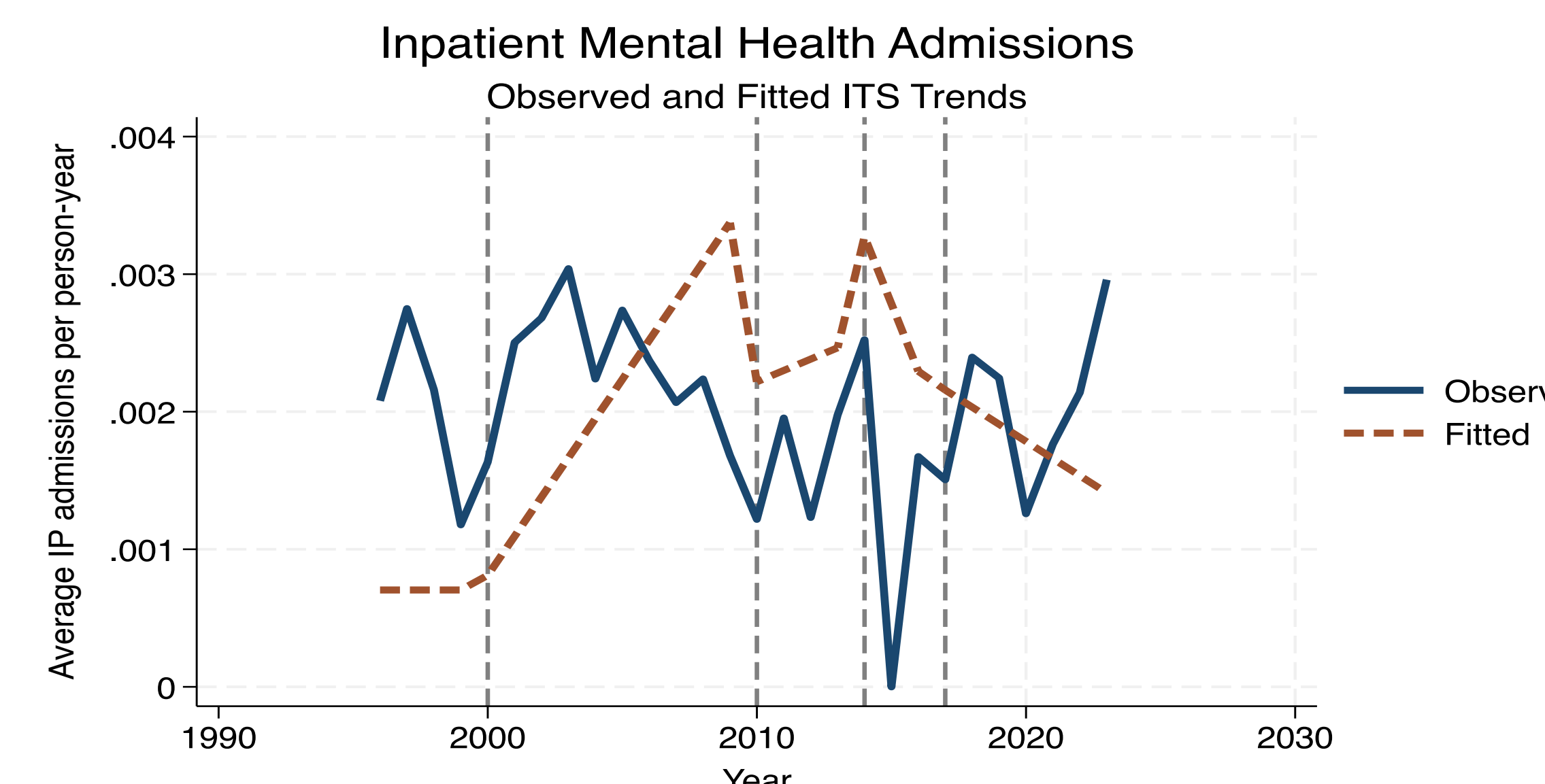


Figure 3: Observed and Fitted Trends in IP admissions



Notes: Solid blue lines represent observed annual rates, and dashed orange lines represent fitted interrupted time series (ITS) regression trends estimated using segmented regression models. Vertical dashed lines denote intervention time points. Analyses and figures were generated using Stata/MP 19.5.

## Discussion

- Mental health (MH) utilization remained stable across the initial three breakpoints, followed by a significant structural increase after 2017.
- These increases, particularly pronounced in OP visits, are likely driven by the adoption of full MH parity benefits across most states.
- Findings suggest that despite heterogeneous implementation at the state level, overall utilization has improved.
- Future research should examine utilization trends within states that implemented full parity compared to those that did not, to better understand the impact on populations with MH disorders.

## Conclusion

- These findings demonstrate that full MH parity mandates, effectively drive service uptake, providing a clear evidence base for decision-makers to justify expanding and enforcing these policies.
- By highlighting the success of post-2017 shifts, these data encourage leaders to standardize state-level implementation and invest in necessary infrastructure to ensure equitable access.

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