

INTRODUCTION

A key provision of the Affordable Care Act (ACA), signed into law March of 2010, required states to expand Medicaid, the US health insurance program for the poor, to cover more low-income Americans. Traditionally, coverage under the federal Medicaid program has been limited for low-income adults, its main priority being the coverage of poor children. As a result, the program entirely excluded non-elderly childless adults from eligibility, with only minimum eligibility levels for parents. The Medicaid expansion under the ACA changed this provision, providing coverage to nearly all individuals with incomes up to 138 percent of the federal poverty line (FPL), including childless adults, with 100 percent federal matching rates for states.

Originally meant to be a compulsory state reform, the 2012 US Supreme Court decision ruled the mandatory Medicaid expansion as unconstitutionally coercive of states, rendering it optional. As of this writing, 31 states, including DC, have adopted some form of the Medicaid expansion. States interested in getting a head start in covering additional low-income adults had the option of expanding early, between April 2010 and December 2013, at their regular federal matching rate with California, Colorado, Connecticut, the District of Columbia, Minnesota, New Jersey, and Washington choosing to do so.

In order to meet their health care needs, the uninsured in the US often rely on doctors and hospitals to provide free or reduced cost care, known as uncompensated care (UC). UC includes both charity care, provided to patients who are unable to pay, and bad debts, which result from those who are able, but unwilling, to pay. The ACA introduced changes in the existing federal funding streams for hospital costs associated with UC. Provisions in the reform call for reductions in federal funding beginning in FY 2018, which will amount to \$43 million in cuts by FY 2025. The rationale behind these cuts rests on the assumption that, with the increased coverage of previously uninsured individuals, UC would be considerably reduced. This study also focuses on the effect of the expansion on hospitals that treat a disproportionate share of low-income, uninsured patients, as these providers offer a high level of free or reduced cost care.

In this analysis, I use an experimental research design using a national sample of U.S. hospitals to empirically evaluate the following research questions:

1. Did hospitals in states that expanded Medicaid early experience a reduction in their provision of uncompensated care relative to hospitals in states that did not expand?
2. Did hospitals that treat a disproportionate share of low-income patients in states that expanded Medicaid early experience a reduction in their provision of uncompensated care relative to similar hospitals in states that did not expand?

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DATA and METHODS

Data: Medicare Healthcare Cost Report Information System (HCRIS) for the years 2007-2013

Intervention: Early Medicaid expansion (2011)

DV: Hospital uncompensated care charges

Pre-Treatment Period: Fiscal years 2007-2010

Post-Treatment Period: Fiscal years 2010-2013

Treatment Group: Hospitals in the four states that implemented their Medicaid expansion in 2011 (CA, MN, NJ, and WA)

Control Group: Hospitals in states that are not expanding Medicaid

Sample: General, short-term, non-federal hospitals that are observed in each year for the given period (20 total states)

Method: Difference-in-differences estimation; preferred when there is pre- and post-treatment data for both the treatment and control groups

Descriptive Statistics

Table 1: Descriptive Statistics (2010)

	Mean/ Proportion	SD	Min	Max
UC Days Per Bed	12.67	17.44	0.11	285.94
Treatment	0.22	0.41	0	1
DSH	0.66	0.48	0	1
Employees	1005.19	1366.59	24	9801.24
Government	0.27	0.44	0	1
Non-Profit	0.54	0.50	0	1
For-Profit	0.20	0.40	0	1
Teaching Hospital	0.26	0.44	0	1
Medicare Days	0.46	0.19	0.05	0.91
Unemployment Rate	8.72	2.34	4.70	12.40
HHI	4.89	4.00	0.96	26.97
Percent Public Beds	0.27	0.12	0.05	0.80
N	548			

Regression Results

Table 2: Difference-in-Differences Regression Results

	Dependent Variable: Uncompensated Care Days Per Bed			
	DD	DD	DDD	DDD
Treatment*FY2011	0.193 (0.437)	0.691 (0.478)	0.625 (0.500)	0.941* (0.369)
Treatment*FY2012	-0.03 (0.661)	0.49 (0.676)	0.104 (0.531)	0.325 (0.514)
Treatment*FY2013	-1.697 (1.033)	-0.901 (1.061)	0.46 (0.694)	0.965 (0.806)
Treatment*DSH*FY2011			-0.637 (0.753)	-0.453 (0.811)
Treatment*DSH*FY2012			-0.185 (1.079)	0.123 (1.177)
Treatment*DSH*FY2013			-3.086** (0.875)	-2.977** (0.912)
Treatment	2.278*** (0.483)	4.272*** (0.701)	1.714 (1.074)	2.813 (2.367)
FY2011	-0.74 (0.361)	-1.021 (0.508)	-0.864** (0.296)	-1.150* (0.422)
FY2012	-0.493 (0.421)	-0.715 (0.678)	-0.401 (0.329)	-0.679 (0.619)
FY2013	-1.203* (0.453)	-1.688 (0.939)	-0.871 (0.476)	-1.651 (0.855)
DSH			6.754*** (0.980)	0.622 (1.607)
Treatment*DSH			0.687 (1.563)	2.009 (3.099)
DSH*FY2011			0.192 (0.677)	0.082 (0.637)
DSH*FY2012			-0.142 (0.925)	-0.388 (0.966)
DSH*FY2013			-0.513 (0.856)	-0.497 (0.867)
Controls	NO	YES	NO	YES
Constant	13.047*** (0.264)	9.386* (4.373)	7.661*** (0.786)	10.294* (4.753)
R-squared	0.101	0.267	0.129	0.268
N	2192	2192	2192	2192

* p<0.05, ** p<0.01, *** p<0.001

Notes: Model includes state level dummy variables (output not shown). All dollar figures used in the analysis are adjusted to 2013 dollars. Standard errors in parentheses are robust and clustered at the state level. Control variables include number of employees, ownership type (non-profit, for-profit, or government), teaching hospital, Medicare share of hospital days (percent of total days), state unemployment rate, hospital competition (HHI of beds by state), and percent public hospital beds in state.

RESULTS

Fig 1: DDD

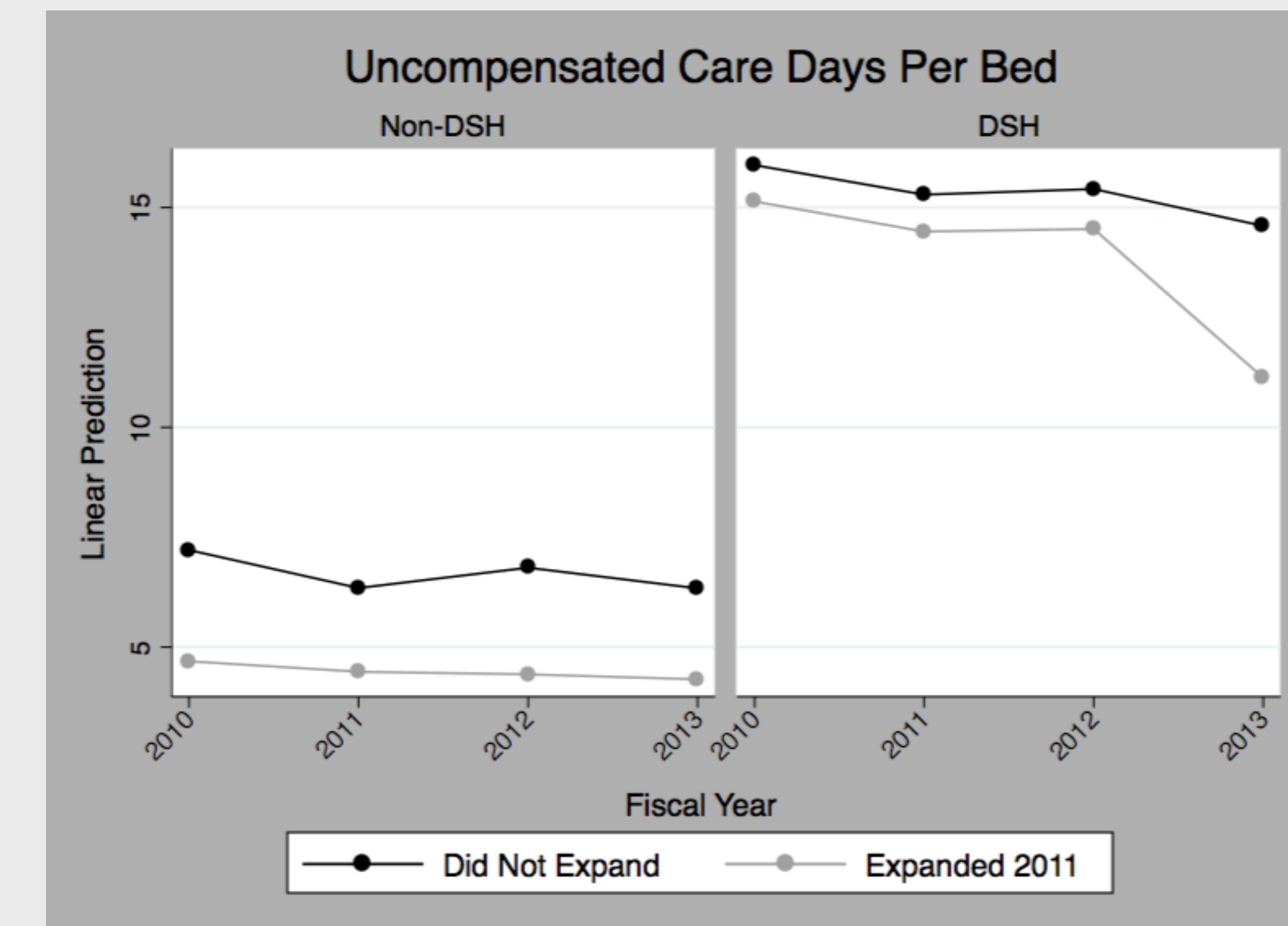
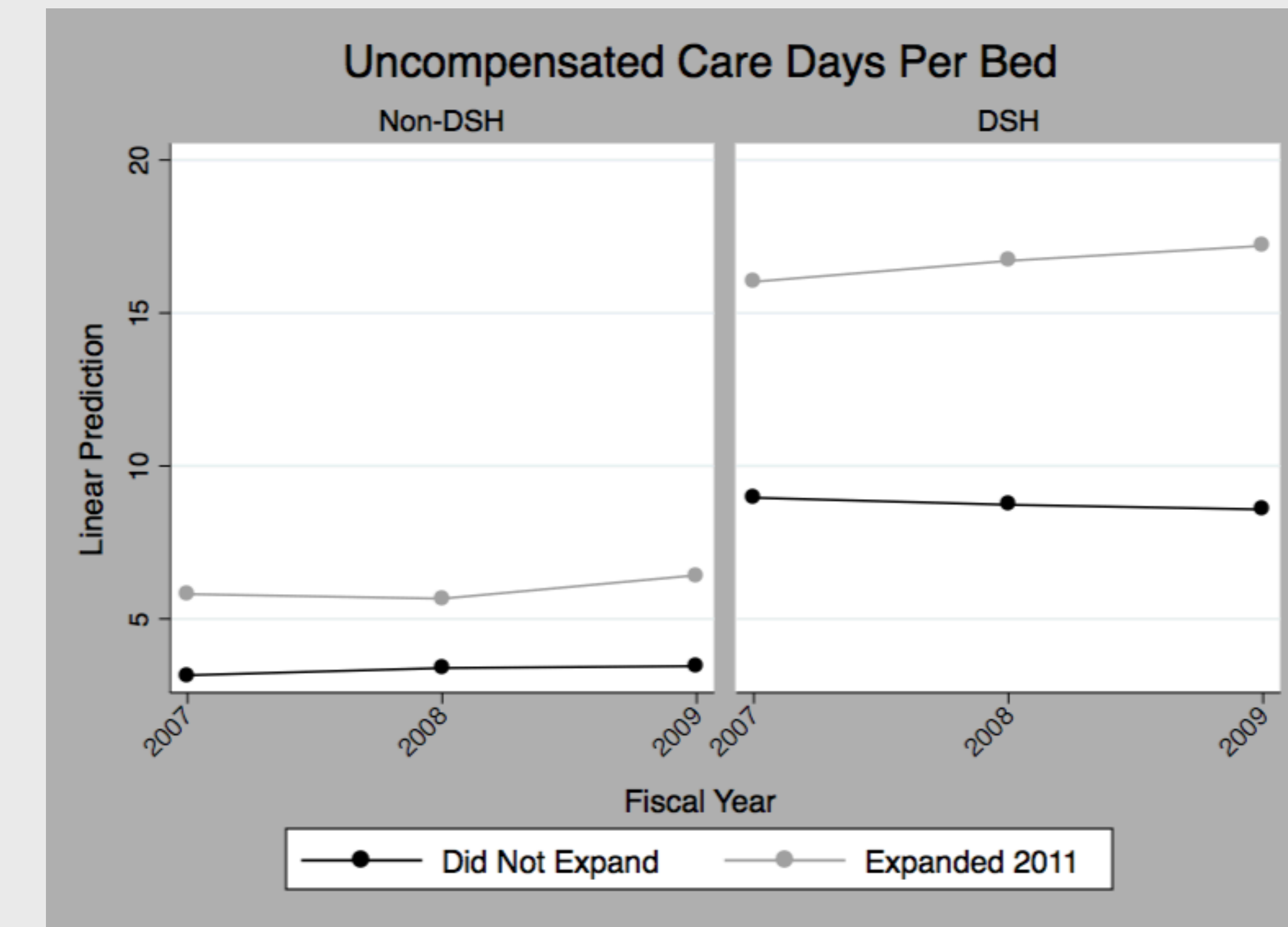


Fig 2: Parallel Trends



EMPIRICAL MODEL

$$Y_{it} = \beta_0 + \beta_1 Treat_i + \beta_2 Year_t + \beta_3 DSH_i + \beta_4 (Treat_i * Year_t) + \beta_5 (Treat_i * Year_t * DSH_i) + \beta_6 (DSH_i * Year_t) + \beta_7 (DSH_i * Treat_i) + \beta_8 X_{it} + \beta_9 Z_{it} + \beta_{10} State_i + \epsilon_{it}$$

DISCUSSION

Hospitals in states that adopted the Medicaid expansion early saw a reduction in how much uncompensated care they provided relative to hospitals in non-expansion states, particularly those that treat a disproportionate share of low-income patients. Lawmakers in the 20 states that have thus far decided against the Medicaid adoption should take this into consideration moving forward, as revenue loss due to uncompensated care may jeopardize the financial health of hospitals. DSH Medicaid payments are a major funding source for hospitals that provide uncompensated care. Evidence suggests that, in the face of declining Medicaid DSH payments, hospitals may respond by reducing their provision of uncompensated care. While the decrease in low-income uninsured patients in states that expand Medicaid is expected to offset the effect of these losses, the expansion of insured individuals resulting from the ACA will not eliminate all uninsured and all uncompensated care. Hospital officials and state policymakers in expanding states will need to consider how to go about closing any remaining funding gaps left by DSH payment cuts. Hospitals in states that fail to expand Medicaid may experience similar reductions in DSH payments, but without the concomitant increase in Medicaid revenue and decrease in demand for uncompensated care to offset the financial losses. Policymakers in these states should consider the financial burden hospitals will face if changes are not made. Finally, it is possible that hospitals in treatment states did not experience the expected decline in uncompensated care because the Medicaid expansion did not enroll as many new participants as might have been expected. This is partly due to the fact that most of these states were building off existing public health insurance programs for low-income adults. In terms of the full expansions implemented by 31 states in 2014, many states also found themselves building off existing programs. Officials facing similar enrollment challenges should prioritize outreach efforts in an attempt to increase the enrollment of newly eligible low-income adults.