Bending the Cost Curve? Results from a Comprehensive Primary Care Payment Pilot

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Abstract (249 words)

Background: There is much interest in understanding how using bundled primary care payments to support a patient-centered medial home (PCMH) affects total medical costs.

Research Design and Subjects: We compare 2008-2010 claims and eligibility records on about 10,000 patients in practices transforming to a PCMH and receiving risk-adjusted base payments and bonuses, with similar data on approximately 200,000 patients of non-transformed practices remaining under fee-for-service reimbursement.

Methods: We estimate the treatment effect using difference-in-differences, controlling for trend, payer type, plan type, and fixed effects. We weight to account for partial-year eligibility, use propensity weights to address differences in exogenous variables between control and treatment patients, and use the Massachusetts Health Quality Project (MHQP) algorithm to assign patients to practices.

Results: Estimated treatment effects are sensitive to: control variables, propensity weighting, the algorithm used to assign patients to practices, how we address differences in health risk, and whether/how we use data from enrollees who join, leave or change practices. Unadjusted PCMH spending reductions are 1.5% in year one and 1.8% in year 2. With fixed patient assignment and other adjustments, medical spending in the treatment group appears to be 5.8% (p=0.20) lower in Year 1 and 8.7% (p=0.14) lower in Year 2 than for propensity-matched, continuously-enrolled controls; the largest proportional two-year reduction in spending occurs in laboratory test use (16.5%, p=0.02).

Conclusion: Although estimates are imprecise due to limited data and quasi-experimental design, risk-adjusted bundled payment for primary care may have dampened spending growth in three practices implementing a PCMH.

Key Terms: Patient-centered medical home, payment systems, primary care, risk adjustment, Medicare, Medicaid

INTRODUCTION

We examine changes in costs during the first two years of a primary care practice transformation and payment reform initiative started in 2009 by the Capital District Physicians' Health Plan (CDPHP), a not-for-profit network health plan in upstate New York. This patient-centered medical home (PCMH) pilot is of great interest as a "virtual all-payer" innovation[1], with practices encouraged to change treatment protocols for everyone, regardless of payer or benefit design. We examined whether the pilot saved money.

The Centers for Medicare and Medicaid Innovation (CMMI) has funded several pilots and demonstrations to increase value in health care spending.[2] One strategy is to encourage primary care practices to become "patient-centered medical homes," within which teams of clinical professionals use electronic medical records (EMRs)[3,4] to sustain the health of a specified panel of patients.[5] Ideally, payments to practices support coordinated, preventive care that reduces avoidable utilization.[6-8]

The PCMH may save money while maintaining or improving quality.[9-14] However, the best-studied pilots have involved integrated managed care plans, including Kaiser Permanente, the Veterans Health Administration, and Geisinger Health Plan with salaried primary care practitioners (PCPs) and other organizational features uncommon in the US.[14,15] Other pilots have primarily retained fee-for-service (FFS) payment with a small coordination–and-management supplement)[16]; few have used models to substantially adjust payments or bonuses for differences in patient risk.

In 2009 three EMR-enabled practices with at least 35 percent of their workloads covered by CDPHP volunteered for its PCMH pilot. Collectively, they employ fourteen physicians and

four other professional staff.[1] CDPHP implemented risk-adjusted base payments and outcomes-based bonuses as advocated by Goroll et al[17] and developed in Ash and Ellis[18], and Ellis and Ash[19]. In the new system, 63 percent of payments were calculated as a risk-adjusted "bundle"; 27 percent as bonus; and only 10 percent by FFS. Novel features of this pilot include: linked practice transformation and payment reform; diverse plan types and payers; and CDPHP's not owning hospitals or specialist practices, yet unilaterally self-financing this transformation. While this pilot officially ended in 2010, CDPHP has since expanded this PCMH model to additional primary care practices.[1]

METHODS

Data and Methodology

We analyzed practices in Albany, Rensselaer, Saratoga, and Schenectady counties, where CDPHP's three pilot (treatment) practices draw the most patients. We use eligibility, provider, medical and pharmacy claims data for the years 2007-2010, and the Massachusetts Health Quality Project (MHQP) assignment algorithm described in Song et al[20] to assign 296,457 patients to 2526 PCPs billing from 1122 distinct practices. Broadly, patients are assigned during a year to the primary care practice that provided the plurality of their care in the last 18 months. Supplemental material describes and compares MHQP's patient assignment algorithm with CDPHP's.

Difference in Difference Specification

To identify the effect of the PCMH on spending, we estimated

$$S_{ijt} = \lambda_i + \gamma D + \varphi t_{09} + \delta(D * t_{09}) + \mu t_{10} + \tau(D * t_{10}) + X_{ijt}^{'}\beta + \varepsilon_{ijt} \qquad \text{(i)}$$

where *i* indicates a patient; *j*, his/her assigned practice; and *t,* year. The dependent variable, *S*, is annualized spending; *D*, the treatment dummy; t_{09} and t_{10} are time-period dummies for 2009 and

2010 (in contrast to 2008), respectively. The vector X contains individual characteristics including dummies for: Medicare and Medicaid versus the reference category of "privately insured"; HMO, preferred provider organization (PPO) and point of service (POS) versus FFS; and administrative services only (ASO) versus non-ASO contracts. Fixed-effect λ_i capture patient health status. Standard errors are clustered at the practice level. We modeled the effects of the PCMH using both fixed- and changing- PCP assignment; fixed-assignment estimates are robust to post-implementation changes in patient mix.

Propensity Score Analysis

Table 1 describes treatment and control samples in 2008 and 2010. Privately insured and Medicaid populations are approximately 70% and 20%, respectively, of the control group versus 80% and 10% of those treated. Control group patients average 6 years younger than treatment group patients (37 versus 43, respectively) — largely because no treatment group practitioners were pediatricians.

We used propensity score weights to address imbalances. That is, we first modeled the probability that a person is "treated,"[21] then weighted each observation by that probability, using the proportional "overlap weight"[22] from a logistic model using age, gender, plan type, and payer type. We replicated the Song et al[20] algorithm, weighting separately within each study year to achieve comparable (propensity-weighted) mean values of all predictor variables in the control and treatment groups each year (see Table 1, first and third columns). We also follow the Medicare program's method of annualizing spending, and weighting each person-year observation by the fraction of the year he/she is eligible.[23]

Plan members could receive care from any practice at any time, potentially changing their *ex post* practice assignment. Indeed, 2,889 members had their assigned PCP changed between

control and treatment practices during 2008-2010. Since switching could be endogenous to medical home implementation, our primary analysis assigned each person to their 2008 practices and omitted enrollees who enter and exit; an on-line supplement also reports results from other assignment and selection methods. As a sensitivity analysis we also present results using an alternative propensity scoring approach.

RESULTS

We first examined changes over two years in the (raw) sample means of spending in treatment and control groups, adjusting only for fractional-year eligibility (the data are in the third from bottom row of Table 1). Average cost increased by $442 from 2008 to 2010 for controls, versus $386 (that is, $56 less growth) for those treated. Table 1 shows both the changing composition and spending of treatment and control groups. Analogous findings from 2008 to 2009 are similar: in the pilot's first year, treatment group average costs grew by $48 less than the control group's. Since these estimates do not control for changes in insurance and who is assigned to the treatment practices, we next used regression analysis with patient-level fixed effects, multiple plan-type controls, and propensity score weighting.

Table 2 summarizes findings from two fixed-effects, difference-in-difference models using weighted least squares; one used fixed- and the other changing-PCP assignment. Each person-year observation during 2008, 2009 or 2010 is weighted by the individual's eligible months during that year multiplied by their propensity score, with standard errors clustered by practice. These models differ in how they assign a patient year to the treatment or control group. Our preferred model (see the first two columns) uses *Fixed 2008 PCP Assignment,* as of 2008, prior to implementation, and excludes new entrants and exiters. Thus, it "holds treatment

practices accountable" for all care received by their 2008 patients, even when later care is delivered by a non-PCMH practice; a PCMH does not "get credit" for lowering costs by shedding difficult patients or selectively recruiting healthy ones. With this specification, estimated savings were $198 in the first 12 months (p=.20) and $289 in the second year (p=.15).

The second model in Table 2 uses *Changing PCP Assignment*. Although, patients can enter, exit or be reassigned to a new practice yearly with this specification, point estimates for average treatment effect estimates remain similar in magnitude (-$186 in year 1 and -$297 in year 2), and not statistically significant. A range of model variants, included in the supplementary material, produce similar findings: that is, similarly large, and non-statistically-significant point estimates for the treatment effect in each year.

Although total estimated yearly cost savings are not statistically significant, some subsets of spending are. Sticking with our Fixed 2008 PCP assignment method, Table 3 presents Year 1 and Year 2 treatment effect estimates resulting from twelve alternative specifications. Estimated savings change little when omitting controls, focusing on only primary care specialties, or non-pediatric primary care specialties. No statistically significant savings appear by payer type, although there is a hint of smaller savings on Medicaid enrollees relative to Medicare and privately-insured enrollees. Estimated emergency department treatment effects are statistically significant (-11.0%, p=0.01) in Year 1 and remain meaningful (-9.6%, p=0.12) in Year 2. Looking at six outpatient service components, statistically significant reductions were found for evaluation and management visits (-3.4%, p=0.00 in Year 1; -6.5%, p=0.00 in Year 2) and laboratory tests (-16.5%, p=0.02 in Year 2).

We also estimated models with CDPHP's patient assignment algorithm, which uses the HMOs' reported PCP assignment when available before applying an algorithm that favors

primary care specialties over non-primary care specialties. Those results (see the supplement, Part B) also point towards savings, but less strongly than those shown here.

Treatment and control practice samples differ in average risk scores, calculated by applying Verisk Health's DxCG prospective risk adjustment model to prior-year data (see Table 1). Mean risk scores start lower and grow less rapidly for treatment versus control patients, particularly after propensity score weighting. That is, the claims data suggest that treatment group patients start healthier and accumulate illnesses less rapidly than these controls.

To estimate savings while holding "health status" (risk scores) constant, we added the diagnosis-based prospective risk score from the prior year to the propensity score predictors used elsewhere in this paper. The new propensity model provides new weights for the controls that adjust for the observed differences in risk between treated and control patients. Detailed findings from replicating the regressions of Table 3 (but using the new weights) are in Table C-1 in the online supplement; this specification generally finds larger effects and improved statistical significance. With this model, for example, estimated savings in Years 1 and 2 grow to $286 (8.8%, p=0.06) and $318 (9.8%, p=.11); other estimates also become larger and P-values for savings drop towards, and below, the 0.05-level for Medicare beneficiaries, inpatient care, and imaging. One concern with these analyses is that apparent differences in health status between treatment and control practices could be endogenous.[24] For example, a PCMH might generate fewer nuisance visits (and illness coding) of the type that FFS billing encourages; conversely, a PCMH might proactively identify diseases that remain "hidden" in less intensively-managed patients. Due to concerns about the comparability of coding for treatment and control patients, we have highlighted the Table 3 difference-in-differences estimates which address risk without measuring it – by using each person as their own control.

CONCLUSION

We conducted many analyses, varying the sample, the duration of eligibility required for inclusion, practice assignment algorithms, fixed- versus variable-assignment rules, using and not using explicit measures of patient risk, and examining total spending versus several of its parts. While virtually all estimates of all outcomes showed savings, the amount varied considerably and almost never achieved significance at the 0.05 level.

Our most credible model (with individual fixed effects and multiple control variables in the continuously enrolled sample) suggests reductions in health care spending growth on the order of 6% to 8% and large, statistically-significant percentage reductions in emergency department (9.6%) and laboratory use (16.5%) after changing incentives for primary care providers in these newly created PCMHs.

Such reductions in total health care spending, if real, would have covered CDPHP's one-time $35,000 stipend to encourage transformation and annual performance bonuses of up to $50,000 per physician,[1] although transformation costs were subsidized by CDPHP and its implementation partners, TransforMed and Verisk Health, making full costs hard to calculate.[1] Cost analyses should be revisited in a greatly expanded set of "treatment" practices.

This study has weaknesses. It describes only three self-selected practices during an initial two years of practice transformation and payment reform, with an evolving bonus system. Furthermore, even extensive modeling of limited data is no substitute for a larger sample; the very existence of savings remains a tentative finding.

Still, the apparent PCMH effects are large, and patterns of suggested savings in inpatient services and selected outpatient services are plausible. As CDPHP expands its medical home pilot, its effect on clinical quality, patient satisfaction and costs will remain of keen interest.

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Tables

Table 1: Summary Statistics for 2008 and 2010 in Various Samples, with Changing PCP Assignment, and Including Entry and Exit

	2008			2010		
	Treatment	Control: unadjusted	Control: propensity weighted	Treatment	Control: unadjusted	Control: propensity weighted
No of Patients:	11,686	217,276	217,276	10,734	217,957	217,957
Payer Type						
Medicare (%)	8	8	8	10	9	10
Medicaid (%)	8	18	8	10	23	10
Privately Insured (%)	84	74	83	80	68	79
Plan Type						
Health Maintenance Organization (HMO) (%)	76	79	76	71	77	72
Point Of Service (POS) (%)	10	8	10	2	2	2
Preferred Provider Organization (PPO) (%)	4	4	4	7	6	7
Exclusive Provider Organization (EPO) (%)	10	10	10	20	15	20
Insurance Type						
Administrative Services Only (ASO) (%)	17	14	17	11	10	11
Gender						
Female (%)	55	55	55	56	55	56
Eligibility Months						
Mean	11.4	11.2	11.4	11.4	11.2	11.4
Standard Deviation	2.0	2.2	0.5	1.94	2.2	0.4
Median	12	12	12	12	12	12
Age as of Dec. 31						
Mean	42.7	36.0	42.5	43.9	36.8	43.6
Standard Deviation	18.64	22.3	4.7	19.21	22.7	4.6
Median	45	37	46	46	38	47
Lagged Prospective Risk Score						
Mean	1.54	1.56	1.81	1.72	1.76	2.06
Standard Deviation	7.74	9.51	0.71	9.30	10.51	0.76
Median	0.93	0.78	0.97	1.01	0.86	1.09
Total Medical Spending						
Mean	3,022	2,895	3,356	3,408	3,337	3,883
Standard Deviation	32,859	42,777	10,633	33,378	44,088	10,671
Median	926	744	895	1,026	864	1,049

Note: Eligibility months is the number of enrolled months in a plan offered by Capital District Physicians' Health Plan (CDPHP). Physician assignment is based on Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) assignment algorithm.

Table 2: Difference-in-Difference Regressions Using Individual Fixed Effects

	Fixed 2008 PCP Assignment, and Excluding Entry and Exit		Changing PCP Assignment, and Including Entry and Exit	
Dependent Variable:	Annualized Medical Spending			
	(1)		*(2)*	
Parameter:	Coefficient	p-value	Coefficient	p-value
Treatment X $Year_{2009}$	-198	0.20	-186	0.31
Treatment X $Year_{2010}$	-289	0.15	-297	0.24
Medicare	345	0.68	555	0.54
Medicaid	-258	0.33	151	0.74
Health Maintenance Organization (HMO)	114	0.38	18	0.95
Preferred Provider Organization (PPO)	-1141	0.00	-657	0.01
Point of Service (POS)	-1556	0.00	-950	0.01
Administrative Services Only (ASO)	1993	0.01	926	0.01
$Year_{2009}$	425	0.00	622	0.00
$Year_{2010}$	865	0.00	1081	0.00
Treatment			730	0.02
No. of Patient Years	410,334		692,270	
No. of Clusters (Practices)	941		1,122	
R-Squared	0.0020		0.0025	
Dependent Mean	3,428		3,413	

Notes: Both models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. Omitted group is year=2008, private insurance, fee-for-service or exclusive provider organization, and non-ASO. Physician assignment is based on Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) assignment algorithm.

Table 3: Treatment Effect Sensitivity Analysis Using Alternative Samples and Dependent Variables, with Fixed 2008 PCP Assignment, and Excluding Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	410,334	3,428	0.0020	-198	156	-5.8%	0.20	-289	199	-8.4%	0.15
2. Basic Difference-in-Difference	410,334	3,428	0.0018	-198	153	-5.8%	0.20	-298	202	-8.7%	0.14
II. By Physician Specialty											
3. Primary Care Specialties Only	380,320	3,495	0.0021	-184	156	-5.3%	0.24	-270	199	-7.7%	0.17
4. Non-Pediatric Primary Care Specialties	263,132	3,563	0.0023	-249	163	-7.0%	0.13	-353	212	-9.9%	0.10
III. By Payer											
5. Medicare Only	47,660	6,301	0.0041	-378	400	-6.0%	0.34	-244	391	-3.9%	0.53
6. Medicaid Only	40,074	1,785	0.0009	-95	226	-5.3%	0.68	72	310	4.1%	0.82
7. Privately Insured Only	322,600	3,104	0.0019	-178	141	-5.7%	0.21	-311	197	-10.0%	0.12
IV. By Place of Service											
8. Inpatient Care	410,334	912	0.0005	-66	65	-7.2%	0.31	-102	90	-11.1%	0.26
9. Emergency Care	410,334	92	0.0002	-10	4	-11.0%	0.01	-9	6	-9.6%	0.12
10. Outpatient Care, and Other Care	410,334	2,391	0.0039	-124	96	-5.2%	0.19	-167	112	-7.0%	0.14
V. By Type of Service†											
11. Evaluation & Management	410,334	704	0.0106	-24	8	-3.4%	0.00	-46	9	-6.5%	0.00
12. Procedures	410,334	841	0.0008	-63	40	-7.5%	0.12	-77	49	-9.1%	0.12
13. Imaging	410,334	376	0.0004	-19	11	-5.2%	0.07	-15	12	-4.0%	0.20
14. Tests	410,334	175	0.0008	-14	10	-8.2%	0.15	-29	13	-16.5%	0.02
15. Durable Medical Equipment	410,334	113	0.0001	-5	9	-4.0%	0.60	1	31	1.0%	0.97
16. Others	410,334	238	0.0012	-24	18	-10.2%	0.18	-4	37	-1.7%	0.91

Notes: Each row is from a different regression. All models weighted by months of eligibility and propensity scores; standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only. Physician assignment is based on Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) assignment algorithm.

Supplemental Digital Content for

Bending the Cost Curve? Results from a Comprehensive Primary Care Payment Pilot

Appendix A. Physician Assignment Algorithms: MHQP vs. CDPHP

Appendix B. Further Results from the Difference-in-Difference Analysis

Appendix C. Further Results from the Difference-in-Difference Analysis When Including Risk Scores in the Propensity Score Model

Appendix A. Physician Assignment Algorithms: MHQP vs. CDPHP

MHQP's PCP assignment algorithm

CDPHP's PCP assignment algorithm

Table A-1: Ex Post Assignment of Patients to Physicians

MHQP's Physician Assignment Algorithm

We evaluate the patient assignment algorithm used by Massachusetts Health Quality Project. This method groups CPT codes into two categories: well visit/physical exams and other E&M codes. The algorithm initially assigns a member only to a physician with a primary care specialty who has contracted with CDPHP to serve as a PCP only if the member had a well visit/physical exam in the last 18 months that was billed by this MD. If the member had a well visit/physical during this time frame with two or more such physicians, the member is assigned to the one with the most recent well visit/physical exam. Remaining members are assigned to the physician, with a non-primary care specialty and a contractual agreement to serve as a PCP, if the member had a well visit/physical exam in the last 18 months that was billed by this MD. If the member has a well visit/physical during this time frame with 2 or more specialists, the algorithm attributes the member's care to the specialist with the most recent well visit/physical exam. In our data there were some physicians whose specialty code could not be identified. In our modification of the MHQP algorithm we next repeat the above steps of the assignment methodology for these physicians. For the members with no well visit/physical exam the algorithm repeats the above steps but replaces well visit/physical exam codes with the remaining E&M codes.

After the initial steps, we allow members to be assigned to physicians who have not contracted with CDPHP to serve as a PCP using the same assignment strategy and codes as described previously. The members who remain unassigned are then attributed to the primary care physician with whom the member had a visit in the last 18 months, even though none of the visits to that physician were either well visits or E&M codes. The algorithm next attributes remaining unassigned members to a well-defined group of specialists with whom the member

had a visit in the last 18 months, even though none of the visits to that physician were either well visits or E&M codes. Finally, members who remain unassigned are attributed to other physicians or facilities they have visited, even if they did not have a well visit or E&M code visit. Only patients making no medical visits during the 18-month period remain unassigned to any provider.

Altogether, the MHQP algorithm assigned 296,457 patients in three years to 2526 PCPs billing from 1122 distinct practices located in the four-county study region. Note that the substantially larger number of PCPs and practices from the MHQP algorithm arises because physicians who have not contracted with CDPHP to serve as a PCP are ultimately allowed to be assigned as the patient's PCP, whereas the CDPHP assignment requires that a physician contract with the plan to be a PCP.

CDPHP's Physician Assignment Algorithm

To make base payments to participating PCMH practices and evaluate their performance, CPDHP developed an algorithm to assign patients to specific primary care physicians (PCPs). The algorithm even assigns those patients who are enrolled in plans (such as PPOs) which do not require patients to choose their PCP. Using 24 months of evaluation and management (E&M) codes, which include preventive visits, the CDPHP algorithm only assigns members to a physician who has signed a contract with CDPHP that allows him to serve as a PCP; the specialty of the physician is not restricted to primary care. If the member has at least one E&M (including preventive code) from any physician flagged as PCP then the member is assigned to that practitioner. In the event that there are E&M (including preventive codes) from more than one practitioner the algorithm assigns the member to the practitioner from whom there are more codes in aggregate. Further, if the member has same number of E&M (including preventive

codes) from more than one physician the member is assigned to the physician with whom he has more preventive codes. If there still exists a tie between two or more PCPs, patient assignment goes to the PCP who has been visited most recently.

In the absence of any E&M (including preventive) codes in the last 24 months the member is assigned to the physician who is the member's 'chosen' PCP in the CDPHP records. If there exists no such PCP the algorithm assigns the member to the PCP who bills more dollars. If none of the above holds for a member the algorithm assigns him to the PCP with the most recent date-of-service given that the service is provided in an office setting and not in emergency department or urgent care setting. Altogether, the CDPHP algorithm assigned 265,313 patients in three years to 752 PCPs billing from 324 distinct practices located in the four county study region.

Table A-1: Ex Post Assignment of Patients to Physicians

	Massachusetts Health Quality Project MHQP Primary Care Physician (PCP) Assignment Algorithm	Capital District Physicians' Health Plan (CDPHP) PCP Assignment Algorithm
Claims Used:	18 months	24 months
Codes Used Intially:	Well care visits	Evaluation and Management (E&M) codes including well care visits
Codes Used Susequently:	Other E&M Other visits	Any other visit to an eligible provider
Assigned to:	Physicians with primary care specialty	Physicians with CDPHP PCP contract
Physician Speciality:	*Other physicians with CDPHP PCP contract	Not restricted to primary care specialty
Also:	All other physicians	Specialists only if CDPHP PCP contract
Tiebreaker #1	Most recent well care visit	Physician with more E&M codes
Tiebreaker #2	Most recent E&M visit	More preventive codes
Tiebreaker #3	Most office visits for any reason	Most recent PCP visited
Tiebreaker #4	Most recent office visit for any reason	Member's 'chosen' PCP
Tiebreaker #5		Most spending on non E&M
Tiebreaker #6		Most recent any other office visit
Result:	*2526 PCPs billing from 1122 practices*	*752 PCPs billing from 324 practices*

Notes: *as modified for this paper

Appendix B. Further Results from the Difference-in-Difference Analysis

Figure B-1. Age Distribution in 2008 Using Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment, with Changing PCP Assignment, and Including Entry and Exit

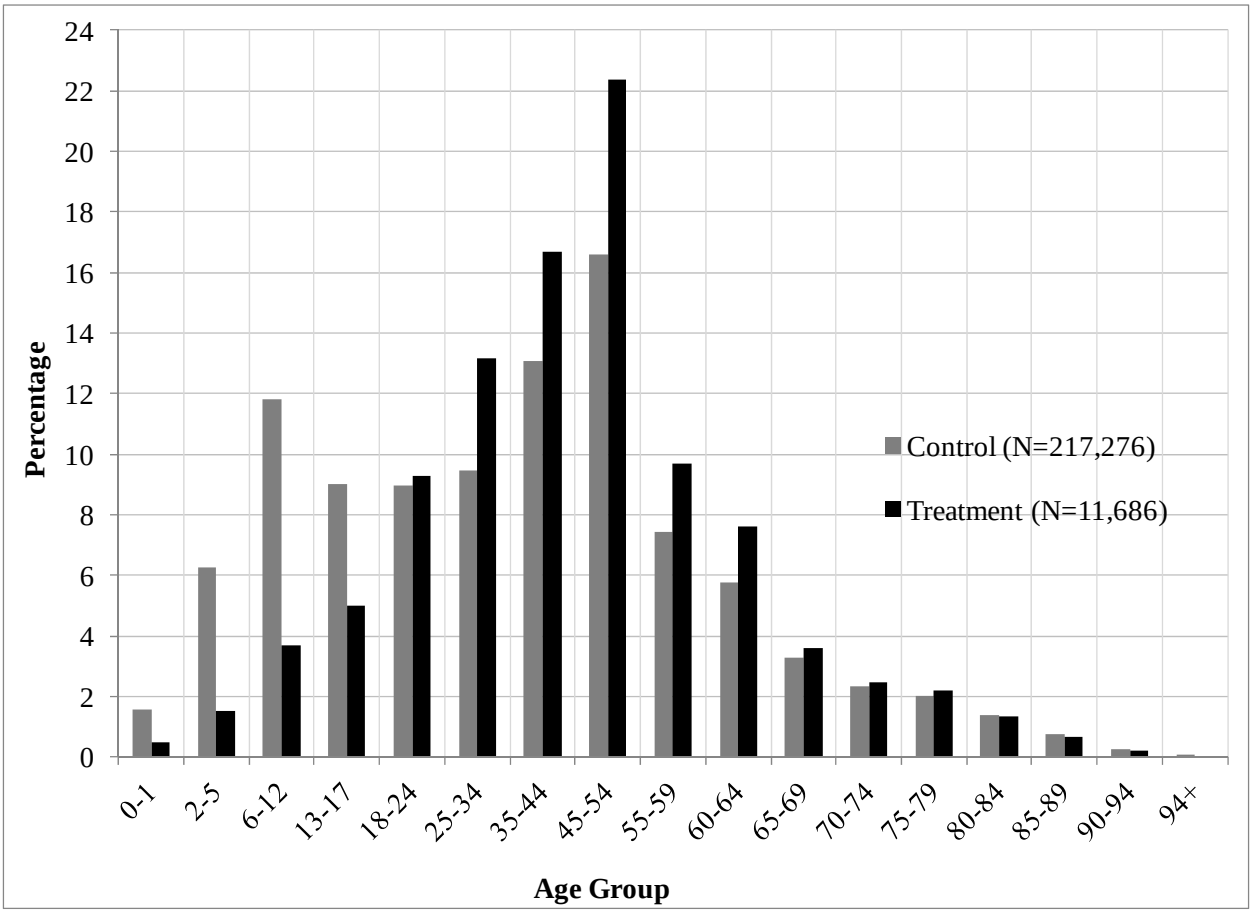

Table B-1: Summary Statistics for Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment, with Fixed 2008 PCP Assignment, and Excluding Entry and Exit

	2008			2009			2010		
	Treatment	Control: unadjusted	Control: propensity weighted	Treatment	Control: unadjusted	Control: propensity weighted	Treatment	Control: unadjusted	Control: propensity weighted
Observations:	7,405	129,373	129,373	7,405	129,373	129,373	7,405	129,373	129,373
Payer Type									
Medicare (%)	11	11	11	12	12	12	13	12	13
Medicaid (%)	4	10	4	4	10	4	4	10	4
Privately Insured (%)	85	79	85	84	78	84	83	78	83
Plan Type									
Health Maintenance Organization (HMO) (%)	83	83	83	78	79	78	71	75	71
Point Of Service (POS) (%)	5	5	5	2	2	2	2	2	2
Preferred Provider Organization (PPO) (%)	4	4	4	6	6	6	7	6	7
Exclusive Provider Organization (EPO) (%)	9	8	9	13	13	13	21	16	20
Insurance Type									
Administrative Services Only (ASO) (%)	13	13	13	13	13	13	12	13	12
Gender									
Female (%)	57	56	57	57	56	57	57	56	57
Eligibility Months									
Mean	12	12	12	12	12	12	12	12	12
Standard Deviation	46	39	46	47	40	47	48	41	48
Median	0	0	0	0	0	0	0	0	0
Age as of Dec. 31									
Mean	12	12	12	12	12	12	12	12	12
Standard Deviation	18	23	5	18	23	5	18	23	5
Median	48	43	50	49	44	51	50	45	51
Lagged Prospective Risk Score									
Mean	1.64	1.66	1.89	1.78	1.82	2.08	1.91	1.99	2.27
Standard Deviation	7.40	9.07	0.64	8.67	10.28	0.72	9.95	11.25	0.80
Median	1.05	0.90	1.12	1.11	0.98	1.22	1.17	1.06	1.31
Total Medical Spending									
Mean	2991	2821	3183	3228	3180	3610	3560	3524	4040
Standard Deviation	28867	36886	8785	32250	36025	8989	32972	41609	10397
Median	1072	864	1028	1088	955	1139	1134	992	1199

Note: Eligibility months is the number of enrolled months in a plan offered by Capital District Physicians' Health Plan (CDPHP). Physician assignment is based on Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) assignment algorithm.

Table B-2: Summary Statistics for Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment, with Fixed PCP Assignment, and Including Entry and Exit

	2008			2009			2010		
	Treatment	Control: unadjusted	Control: propensity weighted	Treatment	Control: unadjusted	Control: propensity weighted	Treatment	Control: unadjusted	Control: propensity weighted
Observations:	11,686	217,276	217,276	11,671	222,946	222,946	10,903	217,788	217,788
Payer Type									
Medicare (%)	8	8	8	9	8	9	11	9	11
Medicaid (%)	8	18	8	9	20	9	10	23	11
Privately Insured (%)	84	74	83	82	72	82	79	68	79
Plan Type									
Health Maintenance Organization (HMO) (%)	76	79	76	74	77	74	72	77	72
Point Of Service (POS) (%)	10	8	10	2	2	2	2	2	2
Preferred Provider Organization (PPO) (%)	4	4	4	11	9	11	6	6	6
Exclusive Provider Organization (EPO) (%)	10	10	10	13	12	13	20	15	20
Insurance Type									
Administrative Services Only (ASO) (%)	17	14	17	17	14	16	11	10	11
Gender									
Female (%)	55	55	55	56	55	56	56	55	56
Eligibility Months									
Mean	11	11	11	11	11	11	11	11	11
Standard Deviation	43	36	42	43	36	43	44	37	44
Median	2	2	0	2	2	0	2	2	0
Age as of Dec. 31									
Mean	12	12	12	12	12	12	12	12	12
Standard Deviation	19	22	5	19	22	5	19	23	5
Median	45	37	46	45	37	47	46	38	48
Lagged Prospective Risk Score									
Mean	1.54	1.56	1.81	1.63	1.63	1.91	1.76	1.76	2.09
Standard Deviation	7.74	9.51	0.71	8.80	10.05	0.74	9.46	10.51	0.77
Median	0.93	0.78	0.97	0.97	0.80	1.01	1.03	0.86	1.11
Total Medical Spending									
Mean	3022	2895	3356	3211	3161	3670	3421	3337	3932
Standard Deviation	32859	42777	10633	37090	40686	9925	35142	44027	10811
Median	926	744	895	978	837	1003	1026	864	1066

Note: Eligibility months is the number of enrolled months in a plan offered by Capital District Physicians' Health Plan (CDPHP). Physician assignment is based on Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) assignment algorithm.

Table B-3: Summary Statistics for Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment, with Changing PCP Assignment, and Including Entry and Exit

	2008			2009			2010		
	Treatment	Control: unadjusted	Control: propensity weighted	Treatment	Control: unadjusted	Control: propensity weighted	Treatment	Control: unadjusted	Control: propensity weighted
Observations:	11,686	217,276	217,276	11,770	222,847	222,847	10,734	217,957	217,957
Payer Type									
Medicare (%)	8	8	8	9	8	9	10	9	10
Medicaid (%)	8	18	8	9	20	9	10	23	10
Privately Insured (%)	84	74	83	83	72	82	80	68	79
Plan Type									
Health Maintenance Organization (HMO) (%)	76	79	76	74	77	74	71	77	72
Point Of Service (POS) (%)	10	8	10	2	2	2	2	2	2
Preferred Provider Organization (PPO) (%)	4	4	4	11	9	11	7	6	7
Exclusive Provider Organization (EPO) (%)	10	10	10	13	12	13	20	15	20
Insurance Type									
Administrative Services Only (ASO) (%)	17	14	17	17	14	16	11	10	11
Gender									
Female (%)	55	55	55	56	55	56	56	55	56
Eligibility Months									
Mean	11	11	11	11	11	11	11	11	11
Standard Deviation	43	36	42	43	36	43	44	37	44
Median	2	2	0	2	2	0	2	2	0
Age as of Dec. 31									
Mean	12	12	12	12	12	12	12	12	12
Standard Deviation	19	22	5	19	22	5	19	23	5
Median	45	37	46	45	37	46	46	38	47
Lagged Prospective Risk Score									
Mean	1.54	1.56	1.81	1.62	1.63	1.90	1.72	1.76	2.06
Standard Deviation	7.74	9.51	0.71	9.01	10.04	0.74	9.30	10.51	0.76
Median	0.93	0.78	0.97	0.96	0.80	1.00	1.01	0.86	1.09
Total Medical Spending									
Mean	3022	2895	3356	3239	3160	3648	3408	3337	3883
Standard Deviation	32859	42777	10633	44238	40309	9874	33378	44088	10671
Median	926	744	895	978	837	997	1026	864	1049

Note: Eligibility months is the number of enrolled months in a plan offered by Capital District Physicians' Health Plan (CDPHP). Physician assignment is based on Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) assignment algorithm.

Table B-4: Basic Difference-in-Difference Regressions Using Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment

	Fixed 2008 PCP Assignment, and Excluding Entry and Exit		Fixed PCP Assignment, and Allowing Entry and Exit		Changing Patient Assignment, and Including Entry and Exit	
Dependent Variable:	Annualized Medical Spending					
	(1)		*(2)*		*(3)*	
Parameter:	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Treatment X $Year_{2009}$	-194	0.20	-130	0.33	-78	0.56
Treatment X $Year_{2010}$	-294	0.06	-184	0.18	-144	0.28
No of Patient Years	410,334		692,270		692,270	
R-Squared	0.0011		0.0006		0.0005	
Dependent Mean	3,428		3,422		3,413	

Notes: Each model is estimated without individual fixed effects. The control variables used are dummies for 2009, 2010, treatment, and their interaction. Omitted group is year=2008. All models are weighted by months of eligibility and propensity scores; standard errors are not clustered. Physician assignment is based on Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) assignment algorithm.

Table B-5: Difference-in-Difference Regression Using Individual Fixed Effects and Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment

	Fixed 2008 PCP Assignment, and Excluding Entry and Exit		Fixed 2008 PCP Assignment, and Including Entry and Exit		Changing PCP Assignment, and Including Entry and Exit	
Dependent Variable:	Annualized Medical Spending					
	(1)		*(2)*		*(3)*	
Parameter:	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Treatment X $Year_{2009}$	-198	0.20	-220	0.22	-186	0.31
Treatment X $Year_{2010}$	-289	0.15	-332	0.13	-297	0.24
Medicare	345	0.68	369	0.68	555	0.54
Medicaid	-258	0.33	129	0.74	151	0.74
Health Maintenance Organization (HMO)	114	0.38	24	0.94	18	0.95
Preferred Provider Organization (PPO)	-1141	0.00	-954	0.00	-657	0.01
Point of Service (POS)	-1556	0.00	-1246	0.00	-950	0.01
Administrative Services Only (ASO)	1993	0.01	1436	0.00	926	0.01
$Year_{2009}$	425	0.00	624	0.00	622	0.00
$Year_{2010}$	865	0.00	1092	0.00	1081	0.00
Treatment					730	0.02
No. of Patient Years	410,334		692,270		692,270	
No. of Clusters (Practices)	941		1,122		1,122	
R-Squared	0.0020		0.0024		0.0025	
Dependent Mean	3,428		3,422		3,413	

Notes: All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. Omitted group is year=2008, private insurance, fee-for-service or exclusive provider organization, and non-ASO. Physician assignment is based on Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) assignment algorithm.

Table B-6: Treatment Effect Sensitivity Analysis Using Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment, with Fixed 2008 PCP Assignment, and Excluding Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	410,334	3,428	0.0020	-198	156	-5.8%	0.20	-289	199	-8.4%	0.15
2. Basic Difference-in-Difference	410,334	3,428	0.0018	-198	153	-5.8%	0.20	-298	202	-8.7%	0.14
II. By Physician Specialty											
3. Primary Care Specialties Only	380,320	3,495	0.0021	-184	156	-5.3%	0.24	-270	199	-7.7%	0.17
4. Non-Pediatric Primary Care Specialties	263,132	3,563	0.0023	-249	163	-7.0%	0.13	-353	212	-9.9%	0.10
III. By Payer											
5. Medicare Only	47,660	6,301	0.0041	-378	400	-6.0%	0.34	-244	391	-3.9%	0.53
6. Medicaid Only	40,074	1,785	0.0009	-95	226	-5.3%	0.68	72	310	4.1%	0.82
7. Privately Insured Only	322,600	3,104	0.0019	-178	141	-5.7%	0.21	-311	197	-10.0%	0.12
IV. By Place of Service											
8. Inpatient Care	410,334	912	0.0005	-66	65	-7.2%	0.31	-102	90	-11.1%	0.26
9. Emergency Care	410,334	2,391	0.0039	-124	96	-5.2%	0.19	-167	112	-7.0%	0.14
10. Outpatient Care, and Other Care	410,334	92	0.0002	-10	4	-11.0%	0.01	-9	6	-9.6%	0.12
V. By Type of Service†											
11. Evaluation & Management	410,334	704	0.0106	-24	8	-3.4%	0.00	-46	9	-6.5%	0.00
12. Procedures	410,334	841	0.0008	-63	40	-7.5%	0.12	-77	49	-9.1%	0.12
13. Imaging	410,334	376	0.0004	-19	11	-5.2%	0.07	-15	12	-4.0%	0.20
14. Tests	410,334	175	0.0008	-14	10	-8.2%	0.15	-29	13	-16.5%	0.02
15. Durable Medical Equipment	410,334	113	0.0001	-5	9	-4.0%	0.60	1	31	1.0%	0.97
16. Others	410,334	238	0.0012	-24	18	-10.2%	0.18	-4	37	-1.7%	0.91

Notes: Each row is from a different regression. All models weighted by months of eligibility and propensity scores; standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Table B-7: Treatment Effect Sensitivity Analysis Using Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment, with Fixed PCP Assignment, and Including Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	692,270	3,422	0.0024	-220	180	-6.4%	0.22	-332	219	-9.7%	0.13
2. Basic Difference-in-Difference	692,270	3,422	0.0023	-218	174	-6.4%	0.21	-337	220	-9.8%	0.13
II. By Physician Specialty											
3. Primary Care Specialties Only	623,836	3,500	0.0026	-218	184	-6.2%	0.23	-320	226	-9.1%	0.16
4. Non-Pediatric Primary Care Specialties	424,451	3,574	0.0029	-297	196	-8.3%	0.13	-429	244	-12.0%	0.08
III. By Payer											
5. Medicare Only	58,961	7,510	0.0087	-852	438	-11.4%	0.05	-856	559	-11.4%	0.13
6. Medicaid Only	136,588	2,106	0.0009	-8	355	-0.4%	0.98	-31	308	-1.5%	0.92
7. Privately Insured Only	496,721	3,084	0.0020	-165	158	-5.4%	0.29	-289	209	-9.4%	0.17
IV. By Place of Service											
8. Inpatient Care	692,270	1,014	0.0008	-141	95	-13.9%	0.14	-166	118	-16.4%	0.16
9. Emergency Care	692,270	2,264	0.0037	-62	106	-2.7%	0.56	-134	109	-5.9%	0.22
10. Outpatient Care, and Other Care	692,270	103	0.0002	-14	4	-13.4%	0.00	-8	6	-7.7%	0.19
V. By Type of Service†											
11. Evaluation & Management	692,270	669	0.0096	-32	8	-4.7%	0.00	-51	8	-7.6%	0.00
12. Procedures	692,270	792	0.0008	-36	46	-4.5%	0.44	-66	52	-8.3%	0.20
13. Imaging	692,270	352	0.0005	-22	9	-6.1%	0.02	-16	14	-4.4%	0.27
14. Tests	692,270	164	0.0008	-11	13	-6.6%	0.39	-20	14	-12.1%	0.16
15. Durable Medical Equipment	692,270	104	0.0002	-3	9	-2.7%	0.76	5	24	5.0%	0.82
16. Others	692,270	245	0.0010	6	28	2.5%	0.83	-2	41	-0.8%	0.96
VI. By Categories of Eligibility											
17. Eligible for at least one month each year	503,265	3,461	0.0025	-134	133	-3.9%	0.32	-308	199	-8.9%	0.12
18. Full 36 months eligibility (2008-2010)	410,334	3,412	0.0020	-189	157	-5.5%	0.23	-277	199	-8.1%	0.16
19. Less than 36 months eligibility (2008-2010)	281,936	3,442	0.0051	-334	374	-9.7%	0.37	-572	486	-16.6%	0.24
20. New Arrivers and Early Departers	189,005	3,287	0.0042	-632	529	-19.2%	0.23	-578	450	-17.6%	0.20

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Table B-8: Treatment Effect Sensitivity Analysis Using Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment, with Changing PCP Assignment, and Including Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	692,270	3,413	0.0025	-186	183	-5.4%	0.31	-297	254	-8.7%	0.24
2. Basic Difference-in-Difference	692,270	3,413	0.0024	-184	176	-5.4%	0.30	-299	255	-8.8%	0.24
II. By Physician Specialty											
3. Primary Care Specialties Only	623,836	3,469	0.0025	-206	186	-5.9%	0.27	-327	259	-9.4%	0.21
4. Non-Pediatric Primary Care Specialties	424,451	3,562	0.0030	-284	198	-8.0%	0.15	-408	278	-11.4%	0.14
III. By Payer											
5. Medicare Only	58,961	7,510	0.0084	-958	575	-12.8%	0.10	-716	593	-9.5%	0.23
6. Medicaid Only	136,588	2,118	0.0010	149	334	7.0%	0.66	54	274	2.6%	0.84
7. Privately Insured Only	496,721	3,076	0.0020	-130	154	-4.2%	0.40	-283	239	-9.2%	0.24
IV. By Place of Service											
8. Inpatient Care	692,270	1,009	0.0008	-135	83	-13.4%	0.10	-178	137	-17.7%	0.19
9. Emergency Care	692,270	2,262	0.0037	-36	115	-1.6%	0.76	-91	123	-4.0%	0.46
10. Outpatient Care, and Other Care	692,270	103	0.0001	-10	4	-10.0%	0.01	-7	6	-6.6%	0.30
V. By Type of Service†											
11. Evaluation & Management	692,270	668	0.0096	-25	7	-3.7%	0.00	-47	7	-7.0%	0.00
12. Procedures	692,270	793	0.0009	-15	47	-1.9%	0.75	-42	61	-5.3%	0.49
13. Imaging	692,270	349	0.0005	-16	10	-4.5%	0.13	-12	16	-3.3%	0.48
14. Tests	692,270	164	0.0008	-8	13	-5.0%	0.53	-23	15	-14.2%	0.12
15. Durable Medical Equipment	692,270	103	0.0002	-2	9	-1.7%	0.85	2	25	1.5%	0.95
16. Others	692,270	246	0.0010	13	31	5.3%	0.67	8	47	3.2%	0.87
VI. By Categories of Eligibility											
17. Eligible for at least one month each year	503,265	3,436	0.0025	-107	132	-3.1%	0.42	-267	236	-7.8%	0.26
18. Full 36 months eligibility (2008-2010)	410,334	3,391	0.0020	-171	160	-5.0%	0.28	-233	226	-6.9%	0.30
19. Less than 36 months eligibility (2008-2010)	281,936	3,458	0.0053	-213	348	-6.1%	0.54	-490	472	-14.2%	0.30
20. New Arrivers and Early Departers	189,005	3,334	0.0048	-554	540	-16.6%	0.30	-600	477	-18.0%	0.21

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Table B-9: Treatment Effect Sensitivity Analysis Using Capital District Physicians' Health Plan (CDPHP) Primary Care Practitioner (PCP) Assignment, with Fixed 2008 PCP assignment, and Excluding Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	304,260	3,628	0.0026	-84	177	-2.3%	0.63	-165	237	-4.5%	0.49
2. Basic Difference-in-Difference	304,260	3,628	0.0023	-84	174	-2.3%	0.63	-172	237	-4.7%	0.47
II. By Physician Specialty											
3. Primary Care Specialties Only	294,562	3,568	0.0023	-102	178	-2.9%	0.57	-161	238	-4.5%	0.50
4. Non-Pediatric Primary Care Specialties	200,072	3,639	0.0026	-174	187	-4.8%	0.35	-224	251	-6.2%	0.37
III. By Payer											
5. Medicare Only	40,545	6,489	0.0047	-140	443	-2.2%	0.75	-146	339	-2.3%	0.67
6. Medicaid Only	29,011	1,990	0.0025	-234	175	-11.7%	0.18	48	348	2.4%	0.89
7. Privately Insured Only	234,704	3,237	0.0024	-66	181	-2.0%	0.72	-169	261	-5.2%	0.52
IV. By Place of Service											
8. Inpatient Care	304,260	924	0.0006	-22	75	-2.4%	0.77	-99	96	-10.7%	0.30
9. Emergency Care	304,260	2,576	0.0048	-60	114	-2.3%	0.60	-71	141	-2.8%	0.61
10. Outpatient Care, and Other Care	304,260	96	0.0004	-9	5	-9.6%	0.06	-2	6	-1.7%	0.79
V. By Type of Service†											
11. Evaluation & Management	304,260	767	0.0127	-10	13	-1.3%	0.42	-32	8	-4.1%	0.00
12. Procedures	304,260	891	0.0013	-12	48	-1.3%	0.80	-14	58	-1.6%	0.80
13. Imaging	304,260	405	0.0005	-11	15	-2.7%	0.46	2	19	0.4%	0.93
14. Tests	304,260	192	0.0007	-7	13	-3.8%	0.56	-20	16	-10.6%	0.21
15. Durable Medical Equipment	304,260	122	0.0001	-8	17	-6.8%	0.63	-5	34	-4.0%	0.88
16. Others	304,260	245	0.0016	-14	20	-5.9%	0.48	18	42	7.4%	0.67

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Table B-10: Treatment Effect Sensitivity Analysis Using Capital District Physicians' Health Plan (CDPHP) Primary Care Practitioner (PCP) Assignment, with Fixed PCP Assignment, and Including Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	573,476	3,495	0.0028	-138	191	-4.0%	0.47	-231	273	-6.6%	0.40
2. Basic Difference-in-Difference	573,476	3,495	0.0026	-138	179	-4.0%	0.44	-234	266	-6.7%	0.38
II. By Physician Specialty											
3. Primary Care Specialties Only	549,373	3,415	0.0026	-136	193	-4.0%	0.48	-212	272	-6.2%	0.44
4. Non-Pediatric Primary Care Specialties	372,093	3,480	0.0029	-218	205	-6.3%	0.29	-311	291	-8.9%	0.29
III. By Payer											
5. Medicare Only	54,306	7,517	0.0086	-1107	431	-14.7%	0.01	-1063	551	-14.1%	0.05
6. Medicaid Only	107,408	2,222	0.0012	-147	239	-6.6%	0.54	-238	376	-10.7%	0.53
7. Privately Insured Only	411,762	3,129	0.0024	-15	199	-0.5%	0.94	-111	317	-3.6%	0.72
IV. By Place of Service											
8. Inpatient Care	573,476	989	0.0009	-111	89	-11.3%	0.21	-137	137	-13.8%	0.32
9. Emergency Care	573,476	2,367	0.0043	-14	113	-0.6%	0.90	-73	143	-3.1%	0.61
10. Outpatient Care, and Other Care	573,476	104	0.0002	-11	5	-10.4%	0.03	-2	6	-1.9%	0.76
V. By Type of Service†											
11. Evaluation & Management	573,476	707	0.0109	-16	10	-2.3%	0.11	-37	8	-5.2%	0.00
12. Procedures	573,476	815	0.0011	4	55	0.5%	0.94	-33	64	-4.1%	0.61
13. Imaging	573,476	369	0.0005	-13	12	-3.6%	0.28	-7	19	-1.9%	0.71
14. Tests	573,476	174	0.0009	-4	15	-2.5%	0.77	-17	18	-9.8%	0.35
15. Durable Medical Equipment	573,476	107	0.0002	-7	11	-6.7%	0.51	-4	27	-3.3%	0.90
16. Others	573,476	245	0.0013	9	23	3.8%	0.68	27	39	11.1%	0.48
VI. By Categories of Eligibility											
17. Eligible for at least one month each year	359,064	3,661	0.0030	-33	168	-0.9%	0.85	-207	244	-5.7%	0.40
18. Full 36 months eligibility (2008-2010)	304,260	3,593	0.0025	-71	177	-2.0%	0.69	-144	237	-4.0%	0.54
19. Less than 36 months eligibility (2008-2010)	269,216	3,355	0.0042	-318	233	-9.5%	0.17	-504	427	-15.0%	0.24
20. New Arrivers and Early Departers	214,412	3,180	0.0033	-487	514	-15.3%	0.34	-355	647	-11.2%	0.58

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Table B-11: Treatment Effect Sensitivity Analysis Using Capital District Physicians' Health Plan (CDPHP) Primary Care Practitioner (PCP) Assignment, with Changing PCP Assignment, and Including Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	573,476	3,436	0.0025	-285	171	-8.3%	0.10	-367	282	-10.7%	0.19
2. Basic Difference-in-Difference	573,476	3,436	0.0024	-285	161	-8.3%	0.08	-365	277	-10.6%	0.19
II. By Physician Specialty											
3. Primary Care Specialties Only	549,373	3,375	0.0024	-261	171	-7.7%	0.13	-294	278	-8.7%	0.29
4. Non-Pediatric Primary Care Specialties	372,093	3,465	0.0027	-324	181	-9.3%	0.07	-393	296	-11.3%	0.18
III. By Payer											
5. Medicare Only	54,306	7,362	0.0075	-1537	440	-20.9%	0.00	-1300	664	-17.7%	0.05
6. Medicaid Only	107,408	2,196	0.0010	-168	271	-7.7%	0.53	-582	320	-26.5%	0.07
7. Privately Insured Only	411,762	3,089	0.0021	-142	164	-4.6%	0.39	-225	334	-7.3%	0.50
IV. By Place of Service											
8. Inpatient Care	573,476	961	0.0008	-188	69	-19.5%	0.01	-228	132	-23.7%	0.08
9. Emergency Care	573,476	2,341	0.0040	-78	108	-3.3%	0.47	-115	157	-4.9%	0.46
10. Outpatient Care, and Other Care	573,476	103	0.0002	-10	5	-9.6%	0.05	-3	6	-3.2%	0.59
V. By Type of Service†											
11. Evaluation & Management	573,476	700	0.0107	-23	9	-3.3%	0.01	-46	8	-6.5%	0.00
12. Procedures	573,476	807	0.0011	-15	55	-1.8%	0.79	-37	74	-4.6%	0.61
13. Imaging	573,476	363	0.0004	-19	10	-5.1%	0.07	-11	21	-3.1%	0.60
14. Tests	573,476	172	0.0008	-9	13	-5.2%	0.48	-21	19	-12.0%	0.28
15. Durable Medical Equipment	573,476	104	0.0002	-17	9	-16.0%	0.08	-12	28	-11.8%	0.66
16. Others	573,476	242	0.0011	-11	19	-4.7%	0.56	10	40	4.0%	0.81
VI. By Categories of Eligibility											
17. Eligible for at least one month each year	359,064	3,579	0.0026	-201	131	-5.6%	0.12	-366	250	-10.2%	0.14
18. Full 36 months eligibility (2008-2010)	304,260	3,536	0.0022	-215	149	-6.1%	0.15	-252	243	-7.1%	0.30
19. Less than 36 months eligibility (2008-2010)	269,216	3,294	0.0040	-470	247	-14.3%	0.06	-707	401	-21.5%	0.08
20. New Arrivers and Early Departers	214,412	3,165	0.0032	-542	535	-17.1%	0.31	-375	718	-11.8%	0.60

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Appendix C. Further Results from the Difference-in-Difference Analysis using Prospective Risk Score for Propensity Weighting

Table C-1: Treatment Effect Sensitivity Analysis Using Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment and Propensity Weighting Using Lagged Prospective Risk Score, with Fixed 2008 PCP Assignment, and Excluding Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	410,334	3,235	0.0026	-286	154	-8.8%	0.06	-318	198	-9.8%	0.11
2. Basic Difference-in-Difference	410,334	3,235	0.0023	-286	151	-8.8%	0.06	-327	201	-10.1%	0.10
II. By Physician Specialty											
3. Primary Care Specialties Only	380,320	3,304	0.0026	-274	155	-8.3%	0.08	-301	198	-9.1%	0.13
4. Non-Pediatric Primary Care Specialties	263,132	3,398	0.0028	-328	160	-9.7%	0.04	-384	211	-11.3%	0.07
III. By Payer											
5. Medicare Only	47,660	5,865	0.0057	-700	381	-11.9%	0.07	-533	382	-9.1%	0.16
6. Medicaid Only	40,074	1,645	0.0017	-223	190	-13.6%	0.24	10	298	0.6%	0.97
7. Privately Insured Only	322,600	2,943	0.0022	-233	138	-7.9%	0.09	-302	197	-10.3%	0.13
IV. By Place of Service											
8. Inpatient Care	410,334	838	0.0007	-135	60	-16.0%	0.03	-157	86	-18.8%	0.07
9. Emergency Care	410,334	89	0.0003	-11	4	-12.3%	0.00	-7	5	-7.5%	0.22
10. Outpatient Care, and Other Care	410,334	2,280	0.0044	-140	95	-6.2%	0.14	-144	113	-6.3%	0.20
V. By Type of Service†											
11. Evaluation & Management	410,334	687	0.0127	-32	7	-4.7%	0.00	-50	9	-7.3%	0.00
12. Procedures	410,334	800	0.0008	-72	40	-9.0%	0.07	-67	49	-8.4%	0.18
13. Imaging	410,334	364	0.0005	-25	11	-6.9%	0.02	-20	12	-5.6%	0.09
14. Tests	410,334	168	0.0008	-14	10	-8.6%	0.15	-27	12	-16.0%	0.03
15. Durable Medical Equipment	410,334	105	0.0002	-6	8	-5.7%	0.47	-1	32	-1.4%	0.96
16. Others	410,334	207	0.0015	-26	17	-12.5%	0.12	5	37	2.3%	0.90

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Table C-2: Treatment Effect Sensitivity Analysis Using Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment and Propensity Weighting Using Lagged Prospective Risk Score, with Fixed PCP Assignment, and Including Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	692,270	3,211	0.0029	-239	178	-7.5%	0.18	-286	217	-8.9%	0.19
2. Basic Difference-in-Difference	692,270	3,211	0.0028	-238	172	-7.4%	0.17	-290	218	-9.0%	0.18
II. By Physician Specialty											
3. Primary Care Specialties Only	623,836	3,292	0.0030	-235	181	-7.1%	0.20	-271	224	-8.2%	0.23
4. Non-Pediatric Primary Care Specialties	424,451	3,395	0.0033	-303	193	-8.9%	0.12	-375	242	-11.0%	0.12
III. By Payer											
5. Medicare Only	58,961	6,923	0.0101	-911	422	-13.2%	0.03	-809	564	-11.7%	0.15
6. Medicaid Only	136,588	1,971	0.0013	-103	349	-5.2%	0.77	-65	302	-3.3%	0.83
7. Privately Insured Only	496,721	2,909	0.0024	-173	155	-6.0%	0.26	-235	206	-8.1%	0.25
IV. By Place of Service											
8. Inpatient Care	692,270	920	0.0011	-150	93	-16.3%	0.11	-145	114	-15.7%	0.20
9. Emergency Care	692,270	100	0.0002	-13	4	-13.4%	0.00	-5	6	-4.5%	0.43
10. Outpatient Care, and Other Care	692,270	2,156	0.0041	-74	105	-3.5%	0.48	-116	109	-5.4%	0.29
V. By Type of Service†											
11. Evaluation & Management	692,270	652	0.0113	-34	7	-5.2%	0.00	-49	8	-7.6%	0.00
12. Procedures	692,270	753	0.0008	-42	46	-5.6%	0.36	-59	52	-7.8%	0.26
13. Imaging	692,270	340	0.0006	-25	9	-7.5%	0.00	-19	14	-5.6%	0.17
14. Tests	692,270	158	0.0008	-10	13	-6.3%	0.43	-18	14	-11.3%	0.20
15. Durable Medical Equipment	692,270	98	0.0002	-4	9	-4.2%	0.65	3	24	3.2%	0.89
16. Others	692,270	212	0.0012	3	27	1.3%	0.92	4	41	2.0%	0.92
VI. By Categories of Eligibility											
17. Eligible for at least one month each year	503,265	3,273	0.0030	-205	131	-6.3%	0.12	-262	198	-8.0%	0.19
18. Full 36 months eligibility (2008-2010)	410,334	3,245	0.0025	-266	155	-8.2%	0.09	-303	198	-9.3%	0.13
19. Less than 36 months eligibility (2008-2010)	281,936	3,140	0.0058	-153	367	-4.9%	0.68	-201	458	-6.4%	0.66
20. New Arrivers and Early Departers	189,005	3,003	0.0046	-417	528	-13.9%	0.43	-539	421	-17.9%	0.20

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Table C-3: Treatment Effect Sensitivity Analysis Using Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment and Propensity Weighting Using Lagged Prospective Risk Score, with Changing PCP Assignment, and Including Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	692,270	3,200	0.0031	-211	181	-6.6%	0.24	-251	252	-7.9%	0.32
2. Basic Difference-in-Difference	692,270	3,200	0.0030	-209	174	-6.5%	0.23	-252	253	-7.9%	0.32
II. By Physician Specialty											
3. Primary Care Specialties Only	623,836	3,261	0.0031	-227	184	-7.0%	0.22	-278	257	-8.5%	0.28
4. Non-Pediatric Primary Care Specialties	424,451	3,387	0.0034	-294	194	-8.7%	0.13	-357	275	-10.6%	0.19
III. By Payer											
5. Medicare Only	58,961	6,911	0.0100	-1027	563	-14.9%	0.07	-674	593	-9.8%	0.26
6. Medicaid Only	136,588	1,983	0.0014	51	328	2.6%	0.88	20	267	1.0%	0.94
7. Privately Insured Only	496,721	2,898	0.0025	-143	150	-5.0%	0.34	-230	235	-7.9%	0.33
IV. By Place of Service											
8. Inpatient Care	692,270	913	0.0011	-149	78	-16.3%	0.05	-158	132	-17.3%	0.23
9. Emergency Care	692,270	99	0.0002	-10	4	-9.9%	0.01	-3	6	-3.3%	0.59
10. Outpatient Care, and Other Care	692,270	2,153	0.0043	-48	114	-2.2%	0.67	-73	123	-3.4%	0.55
V. By Type of Service†											
11. Evaluation & Management	692,270	651	0.0116	-28	7	-4.3%	0.00	-46	7	-7.1%	0.00
12. Procedures	692,270	755	0.0009	-22	47	-3.0%	0.63	-35	61	-4.7%	0.56
13. Imaging	692,270	338	0.0006	-20	10	-5.8%	0.06	-15	16	-4.5%	0.35
14. Tests	692,270	158	0.0009	-7	13	-4.7%	0.57	-21	15	-13.5%	0.16
15. Durable Medical Equipment	692,270	96	0.0002	-3	9	-3.2%	0.74	-1	25	-0.6%	0.98
16. Others	692,270	213	0.0012	10	29	4.9%	0.73	14	46	6.7%	0.76
VI. By Categories of Eligibility											
17. Eligible for at least one month each year	503,265	3,244	0.0030	-181	130	-5.6%	0.16	-226	235	-7.0%	0.34
18. Full 36 months eligibility (2008-2010)	410,334	3,222	0.0025	-251	158	-7.8%	0.11	-263	225	-8.2%	0.24
19. Less than 36 months eligibility (2008-2010)	281,936	3,153	0.0063	-42	333	-1.3%	0.90	-109	424	-3.4%	0.80
20. New Arrivers and Early Departers	189,005	3,049	0.0055	-342	534	-11.2%	0.52	-518	436	-17.0%	0.24

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Table C-4: Treatment Effect Sensitivity Analysis Using Capital District Physicians' Health Plan (CDPHP) Primary Care Practitioner (PCP) Assignment and Propensity Weighting Using Lagged Prospective Risk Score, with Fixed 2008 PCP assignment, and Excluding Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	304,260	3,422	0.0033	-197	175	-5.7%	0.26	-195	236	-5.7%	0.41
2. Basic Difference-in-Difference	304,260	3,422	0.0030	-197	172	-5.8%	0.25	-203	238	-5.9%	0.39
II. By Physician Specialty											
3. Primary Care Specialties Only	294,562	3,377	0.0030	-211	177	-6.3%	0.23	-194	238	-5.7%	0.42
4. Non-Pediatric Primary Care Specialties	200,072	3,474	0.0033	-284	184	-8.2%	0.12	-266	251	-7.6%	0.29
III. By Payer											
5. Medicare Only	40,545	6,009	0.0068	-531	427	-8.8%	0.21	-447	321	-7.4%	0.16
6. Medicaid Only	29,011	1,811	0.0034	-293	156	-16.2%	0.06	29	339	1.6%	0.93
7. Privately Insured Only	234,704	3,076	0.0030	-136	179	-4.4%	0.45	-156	260	-5.1%	0.55
IV. By Place of Service											
8. Inpatient Care	304,260	845	0.0010	-100	70	-11.9%	0.16	-161	93	-19.1%	0.08
9. Emergency Care	304,260	92	0.0005	-11	5	-12.1%	0.02	0	6	-0.1%	0.99
10. Outpatient Care, and Other Care	304,260	2,457	0.0054	-89	113	-3.6%	0.43	-41	140	-1.7%	0.77
V. By Type of Service†											
11. Evaluation & Management	304,260	747	0.0147	-21	12	-2.9%	0.09	-38	8	-5.1%	0.00
12. Procedures	304,260	852	0.0014	-27	47	-3.2%	0.56	-2	57	-0.2%	0.98
13. Imaging	304,260	391	0.0007	-19	15	-4.9%	0.20	-5	19	-1.2%	0.80
14. Tests	304,260	185	0.0008	-9	13	-4.9%	0.47	-20	16	-10.7%	0.23
15. Durable Medical Equipment	304,260	113	0.0002	-10	17	-9.2%	0.55	-8	34	-7.1%	0.81
16. Others	304,260	213	0.0020	-17	18	-8.0%	0.34	33	41	15.4%	0.42

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Table C-5: Treatment Effect Sensitivity Analysis Using Capital District Physicians' Health Plan (CDPHP) Primary Care Practitioner (PCP) Assignment and Propensity Weighting Using Lagged Prospective Risk Score, with Fixed PCP Assignment, and Including Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	573,476	3,261	0.0035	-164	189	-5.0%	0.39	-186	273	-5.7%	0.49
2. Basic Difference-in-Difference	573,476	3,261	0.0033	-163	177	-5.0%	0.36	-189	266	-5.8%	0.48
II. By Physician Specialty											
3. Primary Care Specialties Only	549,373	3,204	0.0032	-169	190	-5.3%	0.37	-177	272	-5.5%	0.51
4. Non-Pediatric Primary Care Specialties	372,093	3,298	0.0035	-256	201	-7.8%	0.20	-276	291	-8.4%	0.34
III. By Payer											
5. Medicare Only	54,306	6,819	0.0103	-1179	410	-17.3%	0.00	-1006	551	-14.8%	0.07
6. Medicaid Only	107,408	2,045	0.0017	-230	232	-11.3%	0.32	-270	376	-13.2%	0.46
7. Privately Insured Only	411,762	2,946	0.0029	-28	197	-1.0%	0.89	-62	317	-2.1%	0.84
IV. By Place of Service											
8. Inpatient Care	573,476	886	0.0012	-120	85	-13.6%	0.16	-120	137	-13.5%	0.37
9. Emergency Care	573,476	100	0.0004	-12	5	-11.7%	0.01	1	143	0.9%	0.87
10. Outpatient Care, and Other Care	573,476	2,245	0.0049	-30	112	-1.3%	0.79	-52	6	-2.3%	0.71
V. By Type of Service†											
11. Evaluation & Management	573,476	687	0.0128	-21	10	-3.0%	0.05	-38	8	-5.5%	0.00
12. Procedures	573,476	775	0.0012	-7	54	-0.9%	0.90	-25	64	-3.3%	0.69
13. Imaging	573,476	355	0.0006	-19	13	-5.4%	0.13	-12	19	-3.5%	0.51
14. Tests	573,476	167	0.0011	-4	15	-2.7%	0.76	-17	18	-10.0%	0.36
15. Durable Medical Equipment	573,476	99	0.0002	-9	11	-9.1%	0.40	-6	27	-6.5%	0.81
16. Others	573,476	208	0.0017	8	20	3.7%	0.69	37	39	17.6%	0.32
VI. By Categories of Eligibility											
17. Eligible for at least one month each year	359,064	3,450	0.0037	-120	165	-3.5%	0.47	-156	244	-4.5%	0.52
18. Full 36 months eligibility (2008-2010)	304,260	3,404	0.0032	-168	175	-4.9%	0.34	-173	237	-5.1%	0.46
19. Less than 36 months eligibility (2008-2010)	269,216	3,058	0.0048	-155	215	-5.1%	0.47	-218	427	-7.1%	0.59
20. New Arrivers and Early Departers	214,412	2,905	0.0037	-321	506	-11.1%	0.53	-328	647	-11.3%	0.61

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Table C-6: Treatment Effect Sensitivity Analysis Using Capital District Physicians' Health Plan (CDPHP) Primary Care Practitioner (PCP) Assignment and Propensity Weighting Using Lagged Prospective Risk Score, with Changing PCP Assignment, and Including Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009) Coefficient	Standard Error	% effect 2009	p-values	Year 2 Effects (2010) Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	573,476	3,188	0.0032	-322	171	-10.1%	0.05	-332	278	-10.4%	0.23
2. Basic Difference-in-Difference	573,476	3,188	0.0031	-321	161	-10.1%	0.04	-330	273	-10.4%	0.23
II. By Physician Specialty											
3. Primary Care Specialties Only	549,373	3,152	0.0030	-306	171	-9.7%	0.07	-271	275	-8.6%	0.32
4. Non-Pediatric Primary Care Specialties	372,093	3,275	0.0032	-373	181	-11.4%	0.03	-370	294	-11.3%	0.21
III. By Payer											
5. Medicare Only	54,306	6,610	0.0097	-1640	440	-24.8%	0.00	-1237	667	-18.7%	0.06
6. Medicaid Only	107,408	2,011	0.0017	-259	271	-12.9%	0.32	-623	310	-31.0%	0.04
7. Privately Insured Only	411,762	2,895	0.0027	-166	164	-5.7%	0.30	-189	330	-6.5%	0.57
IV. By Place of Service											
8. Inpatient Care	573,476	852	0.0010	-205	69	-24.1%	0.00	-220	124	-25.9%	0.08
9. Emergency Care	573,476	98	0.0004	-11	108	-11.2%	0.02	-1	5	-0.7%	0.91
10. Outpatient Care, and Other Care	573,476	2,212	0.0046	-97	5	-4.4%	0.37	-95	157	-4.3%	0.54
V. By Type of Service†											
11. Evaluation & Management	573,476	679	0.0129	-29	9	-4.2%	0.00	-48	7	-7.0%	0.00
12. Procedures	573,476	765	0.0012	-27	55	-3.6%	0.61	-31	73	-4.0%	0.67
13. Imaging	573,476	349	0.0006	-25	10	-7.2%	0.01	-18	21	-5.1%	0.41
14. Tests	573,476	165	0.0010	-9	13	-5.6%	0.47	-21	19	-12.5%	0.28
15. Durable Medical Equipment	573,476	96	0.0002	-19	9	-19.7%	0.04	-15	28	-16.0%	0.58
16. Others	573,476	203	0.0015	-14	19	-6.7%	0.44	19	39	9.6%	0.62
VI. By Categories of Eligibility											
17. Eligible for at least one month each year	359,064	3,352	0.0033	-305	131	-9.1%	0.02	-325	248	-9.7%	0.19
18. Full 36 months eligibility (2008-2010)	304,260	3,333	0.0028	-326	149	-9.8%	0.03	-291	241	-8.7%	0.23
19. Less than 36 months eligibility (2008-2010)	269,216	2,982	0.0046	-313	247	-10.5%	0.17	-432	360	-14.5%	0.23
20. New Arrivers and Early Departers	214,412	2,881	0.0037	-371	535	-12.9%	0.48	-358	711	-12.4%	0.61

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.

Table C-7: Treatment Effect Sensitivity Analysis Using Massachusetts Health Quality Project (MHQP) Primary Care Practitioner (PCP) Assignment and Propensity Weighting—Fixed at 2008—Using Lagged Prospective Risk Score, with Fixed 2008 PCP Assignment, and Excluding Entry and Exit

Model Name	No. of Patient Years	Dependent Mean	R-square	Year 1 Effects (2009)				Year 2 Effects (2010)			
				Coefficient	Standard Error	% effect 2009	p-values	Coefficient	Standard Error	% effect 2010	p-values
I. Models of Total Medical Spending, All Payers											
1. All Controls	410,334	3,283	0.0021	-192	156	-5.9%	0.22	-247	198	-7.5%	0.21
2. Basic Difference-in-Difference	410,334	3,283	0.0018	-193	152	-5.9%	0.20	-258	199	-7.9%	0.20
II. By Physician Specialty											
3. Primary Care Specialties Only	380,320	3,351	0.0022	-176	156	-5.3%	0.26	-227	197	-6.8%	0.25
4. Non-Pediatric Primary Care Specialties	263,132	3,439	0.0024	-240	162	-7.0%	0.14	-306	210	-8.9%	0.15
III. By Payer											
5. Medicare Only	47,660	5,956	0.0046	-474	385	-8.0%	0.22	-301	387	-5.1%	0.44
6. Medicaid Only	40,074	1,683	0.0014	-189	196	-11.2%	0.33	48	297	2.9%	0.87
7. Privately Insured Only	322,600	2,981	0.0019	-154	140	-5.2%	0.27	-256	194	-8.6%	0.19
IV. By Place of Service											
8. Inpatient Care	410,334	857	0.0005	-55	63	-6.4%	0.38	-81	87	-9.5%	0.35
9. Emergency Care	410,334	89	0.0003	-9	4	-10.5%	0.01	-6	5	-6.3%	0.30
10. Outpatient Care, and Other Care	410,334	2,307	0.0041	-130	96	-5.6%	0.17	-153	112	-6.6%	0.17
V. By Type of Service†											
11. Evaluation & Management	410,334	690	0.0108	-24	8	-3.5%	0.00	-43	9	-6.2%	0.00
12. Procedures	410,334	811	0.0007	-65	40	-8.1%	0.10	-69	49	-8.5%	0.16
13. Imaging	410,334	367	0.0004	-21	11	-5.6%	0.06	-16	12	-4.5%	0.17
14. Tests	410,334	170	0.0007	-14	10	-8.0%	0.17	-26	12	-15.2%	0.04
15. Durable Medical Equipment	410,334	107	0.0002	-6	8	-5.5%	0.49	-1	31	-0.5%	0.99
16. Others	410,334	216	0.0014	-26	17	-12.1%	0.13	-2	37	-1.0%	0.95

Notes: Each row is from a different regression. All models are weighted by months of eligibility and propensity scores. Standard errors are clustered for practice IDs. All models include individual fixed effects. In addition, models 5-7 include fixed effects for insurance type and plan type, while the remaining models include fixed effects for insurance type, plan type and payer type. †Clinical categories designated according to the Berenson-Eggers Type of Service (BETOS) classification, version 2012, applied to professional claims only.