

Appendix

A. Data source

We use the 20% RIF CMS Medicare fee-for-service data as our core data sets.

See <https://www.resdac.org/> for the detailed descriptions.

Carrier claims

The Carrier files contain final action fee-for-service claims submitted on a CMS-1500 claim forms. Most of the claims are from non-institutional providers, such as physicians, physician assistants, clinical social workers, and nurse practitioners. Claims for other providers, such as free-standing facilities are also found in the Carrier file. Examples include independent clinical laboratories, ambulance providers, and free-standing ambulatory surgical centers. The description of Carrier files can be found at <https://www.resdac.org/cms-data/files/Carrier-rif>. The data set contains an observation at a claim-line level. It includes diagnosis, procedure code, date of service, payment amount, provider id, provider tax id, provider specialty code, etc., for each line of service of a claim from a CMS-1500 form. We use the claim files for 2008, 2010, 2012, and 2014 for our analysis. The variables we use from the data set include:

- BENE-ID
A unique beneficiary identification number.
- TAX_NUM
Employee identification number of physician/supplier used to identify to whom payment is made for the line item service on the non-institutional claim.
- CLM_FROM_DT
The from-date of a claim. It is the first day on the billing statement covering services rendered to the beneficiary.
- PRF_PHYSN_NPI
Carrier line performing NPI number.

- PRVDR_ZIP

The zip code of the physician/supplier who performed the Part B service for this line item on the Carrier claim.

- PRVDR_SPCLTY

The specialty code of the provider of the service.

- HCPCS_CD

The Health Care Common Procedure Coding System (HCPCS) is a collection of codes that represent procedures, supplies, products and services which may be provided to Medicare beneficiaries and to individuals enrolled in private health insurance programs.

The description can be found at:

<https://www.cms.gov/medicare/coding/medhcpcsgeninfo/index.html>.

- LINE_COINSRNC_AMT

Line coinsurance amount. The beneficiary coinsurance liability amount for this line item service on the non-institutional claim.

- LINE_BENE_PTB_DDCTBL_AMT

Line beneficiary Part B deductible amount. The amount of money for which the Carrier has determined that the beneficiary is liable for the Part B cash deductible for the line item service on the non-institutional claim.

- LINE_NCH_PMT_AMT

Line NCH payment amount. The amount of payment made from the trust funds (after deductible and coinsurance amounts have been paid) for the line item service on the non-institutional claim. It is the amount that Medicare is responsible for reimbursing for the line item.

- LINE_BENE_PRMRY_PYR_PD_AMT

Line Beneficiary Primary Payer Paid Amount. The amount of a payment made on behalf of a Medicare beneficiary by a primary payer other than Medicare.

Outpatient claims

Outpatient claims contain final action, fee-for-service claims data submitted by institutional outpatient providers. Examples of institutional outpatient providers include hospital outpatient departments, rural health clinics, renal dialysis facilities, outpatient rehabilitation facilities, comprehensive outpatient rehabilitation facilities, and community mental health centers. The description of these files can be found at <https://www.resdac.org/cms-data/files/op-rif>. The data set contains an observation at a claim level. It includes payment amount, beneficiary id, etc., for each claim. We use the claim files for 2008, 2010, 2012, and 2014 for our analysis. The variables we use from the data set include:

- **BENE_ID**
A unique beneficiary identification number.
- **CLM_PMT_AMT**
Claim payment amount. The amount of payment made from the Medicare trust fund for the services covered by the claim record.
- **NCH_BENE_PTBDUCTBL_AMT**
NCH beneficiary Part B deductible amount. The amount of money for which the intermediary or Carrier has determined that the beneficiary is liable for the Part B cash deductible on the claim
- **NCH_BENE_PTBCOINSRNC_AMT**
NCH beneficiary Part B coinsurance amount. The amount of money for which the intermediary has determined that the beneficiary is liable for Part B coinsurance on the institutional claim.
- **NCH_PRMRYPYR_CLMPD_AMT**
NCH primary payer claim paid amount. The amount of a payment made on behalf of a Medicare beneficiary by a primary payer other than Medicare.

Medpar

Medpar contains final action fee-for-service claims data submitted by inpatient hospital providers for reimbursement of facility costs. The description of these files can be found at <https://www.resdac.org/cms-data/files/ip-rif>. The data set contains an observation at a claim level. It includes payments, beneficiary id, etc., for each claim. We use the claim files for 2008, 2010, 2012, and 2014 for our analysis. The variables we use from the data set include:

- BENE_ID
A unique beneficiary identification number.
- MDCR_PMT_AMT
Claim payment amount. The amount of payment made from the Medicare trust fund for the services covered by the claim record.
- BENE_PTA_COINSRNC_AMT
NCH beneficiary Part A coinsurance liability amount. The amount of money for which the intermediary has determined that the beneficiary is liable for Part A coinsurance on the institutional claim.
- BENE_BLOOD_DDCTBL_AMT
NCH beneficiary blood deductible liability amount. The amount of money for which the intermediary determined the beneficiary is liable for the blood deductible.
- BENE_PRMRY_PYR_AMT
NCH primary payer claim paid amount. The amount of a payment made on behalf of a Medicare beneficiary by a primary payer other than Medicare

Risk scores

Risk scores are calculated from CMS-HCC 2015 model. For each year t , we use information including claims and demographics from year $t - 1$, and only calculate the scores for patients who are fully enrolled for 12 months of part A and B in year $t - 1$, using the community score model.

B. Sample and variable construction

The physician sample includes, for each year, the primary care physicians (NPIs) who bill from the Carrier-claim data. Primary care providers are NPIs in the physician sample that have at least one of her specialty in general practices, internal medicine, family practices, or geriatrics (that is, the variables `PROV_SPECIALTY` is one of 01, 08, 11, or 38) from the Carrier files.

The sample of patients of each year in 2008, 2010, 2012, and 2014 include the beneficiaries who are enrolled in both Part A and Part B for the full 12 months (note that this excludes enrollees who die within the year), enrolled in Medicare because of age, and have at least one non-lab primary care visit from the Carrier files. It further restricts to patients who have risk scores calculated using full $t - 1$ data, which requires a patient to be fully enrolled for 12 months in both Part A and B for $t - 1$ as well.

Organization-Level Variables Denote a physician organization as org .

- Organization org

We define an organization as a `TAX_NUM` in the physician sample. An organization org includes all `NPI` from the physician sample that bill from the same `TAX_NUM`.

- $Size_{org,t}$

The size of an organization org in year t is the number of unique providers (`NPI`) from the org in year t from the Carrier files.

- $Big_{org,t}$

An organization org in year t is considered a big organization, $Big_{org,t} = 1$ if $Size_{org,t} > 30$. It is considered small, $Big_{org,t} = 0$, if $Size_{org,t} \leq 30$.

Physician-Level Variables Denote a primary care physician as j

- $hrr_{j,t}$

The HRR of a provider j in year t is determined by j 's zip code. We use the most frequent zip code that a provider j bills from the Carrier files in year t . We then use

Dartmouth Atlas' crosswalk files to link the zip code to HRR. The crosswalk files can be found at <http://www.dartmouthatlas.org/tools/downloads.aspx?tab=39>

- $\%big_{j,t}$

The percentage of big organizations that a primary care provider j is associated with in year t . Let O be the set of organizations that j bills from in the Carrier files in year t . Let $n = |O|$.

$$\%big_{j,t} := \frac{1}{n} \sum_{org \in O} Big_{org,t},$$

where $Big_{org,t}$ is whether organization org is big in year t (as defined above).

- Org_{jt}

The average organization size of physician j in year t . If a physician belongs to multiple organizations in that year, we take the simple average of the organization sizes across different organizations.

Patient-Level Variables Denote a patient as i .

- Visit v

A visit v_i for patient i is a Carrier-File claim from-date $FROM_DT$ such that there exists a claim-line for patient i on this date of which the performing provider PRF_PHYSN_NPI is a primary care provider. During this construction, we also exclude any claim-line services for lab tests. We follow the definition for lab tests in Finkelstein et al. (2016). Betos codes beginning with T are diagnostic tests, and codes beginning with I are imaging tests. We use a crosswalks between HCPCS_CD and BETOS 2014 code. <https://github.com/chse-ohsu/PublicUseData/tree/master/BETOS>.

- w_{it}^{big}

The fraction of patient i 's visits in big organizations for primary care in year t . For each visit date v with a primary care provider in an organization org , take the big organization indicator of that organization $Big_{v,t} = Big_{org,t}$. If on the same date, a patient visits multiple primary care organizations, let n_v be the total number of distinct

primary care organizations of that date v . Then, define $Big_{v,t} = \frac{1}{n_v} \sum_{org \in v} Big_{org,t}$. Let V be the set of primary care visit dates i has in year t , and number of V is n .

$$w_{it}^{big} = \frac{1}{n} \sum_{v \in V} Big_v$$

- s_{it} , as_{it} , and r_{it}

A patient i 's medical spending in year t , s_{it} , is the sum of total spending by Medicare, beneficiary, and third party primary payer, covering Carrier, Inpatient, and Outpatient claims. It is the sum of:

Carrier files:

LINE_COINSRNC_AMT
 LINE_BENE_PTBDCTBL_AMT
 LINE_NCH_PMT_AMT
 LINE_BENE_PRMRYPYR_PD_AMT

Outpatient files:

CLM_PMT_AMT
 NCH_BENE_PTBDCTBL_AMT
 NCH_BENE_PTBDCTBL_COINSRNC_AMT
 NCH_PRMRYPYR_CLM_PD_AMT

Inpatient files:

MDCR_PMT_AMT
 BENE_PTA_COINSRNC_AMT
 BENE_BLOOD_DCTBL_AMT
 BENE_PRMRYPYR_AMT

A patient's risk-adjusted spending is defined as $\%as_{it} = s_{it}/r_{it}$ where r_{it} is the calcu-

lated risk score. In this paper, all dollars are adjusted by CPI-U to 2014 dollars.

- $h_{i,t}$
A patient is assigned to a HRR h in year t by the zip code of his medical visits (not only primary care) that is most frequent among all his Carrier claims.
- Any inpatient admission
A dummy for whether a patient has inpatient spending.
- Number of inpatient admissions
Number of inpatient visits for patient i in year t .
- Inpatient spending
The total inpatient unadjusted spending for patient i in year t .
- Number of outpatient visit
Number of outpatient visits for patient i in year including both outpatient and Carrier claims.
- Outpatient spending
The total outpatient unadjusted spending for patient i in year t .
- Number of primary care and specialist visits
Primary care visits and specialist visits for patient in year t . Using HCFA specialty code from the Carrier-claim files as an index to classify PC and specialist visits. Primary care doctors are defined as such if their specialty code is in (01, 08, 11, 38) in the Carrier claims. Specialists are defined as such if their specialty code is in (2-7, 10, 12-31, 33-36, 39-41, 44-48, 62, 64-66, 68, 76-78, 81-86, 90-94, 96, 98). All visits exclude lab tests.
- Distinct number of organizations, primary care physicians, and specialist visited
The distinct number of organization visited by a patient in a year is the distinct numbers of TAX_NUM a patient visited in a year. Distinct primary care physicians and specialized visited in a year are computed using the distinct number of NPIs a patient visited in that year.

- Log of above variables

They are computed as log of the above variables plus 1 so that the log of variables with 0 values will be 0.

- Log inpatient amount conditional on positive spending

If a patient spends positive inpatient amount in a year, the log inpatient amount conditional on positive spending is also computed.

HRR-Level Variables For HRR h and year t , we define the following variables.

- $f_{h,t}^{big}$

The fraction of primary care physicians working for big organizations in HRR h in year t . Let P be the set of primary care providers that are associated with h in year t , that is $P = \{\forall j \text{ st } h_{j,t} = h\}$. Let $n = |P|$. Then,

$$f_{h,t}^{big} := \frac{1}{n} \sum_{j \in P} \%big_{j,t},$$

where $\%big_{j,t}$ is the percentage of big organizations primary care provider j is associated with in year t , defined in 3.2.

- Log medical spending

Various log medical spending are computed at the HRR level. For example, to compute the HRR level log total spending, $\log(s_{h,t})$, we simply take the log of the average spending across patients at hrr in year t :

$$\log(s_{h,t}) := \log\left(\frac{1}{n} \sum_{i \in h,t} s_{i,t}\right)$$

Instrumental Variables The instruments we use is $1_{i,t}^{sb}$, whether one of a patient i 's top 2 mostly frequently visited primary care providers in year $t - 2$ move from small organizations in year $t - 2$ to big organizations in year t . Below are the steps involved to construct the variable.

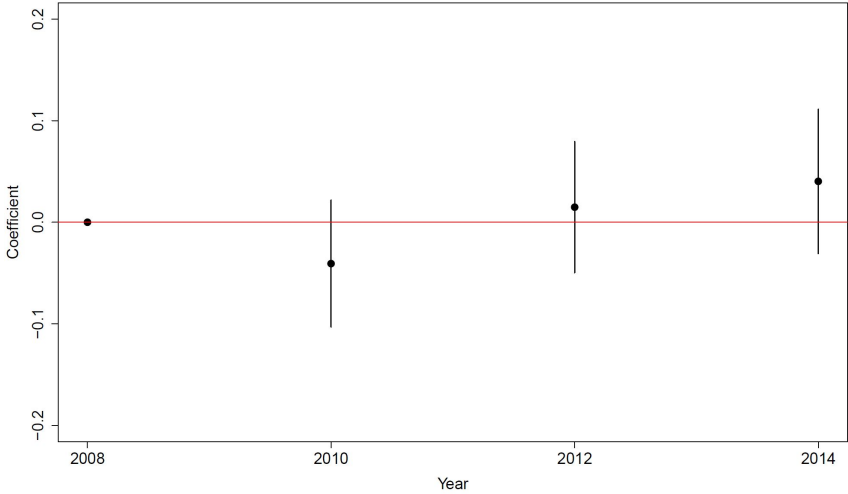
For patient i , denote the set of all primary care doctor i visits in year $t - 2$ from Carrier claims as P . For any $j \in P$, count the total number of visits v for i in year $t - 2$ associated with doctor j , $n_{j,i,t-2}$, as follows: if a visit v in year $t - 2$ is associate with k primary care doctors including doctor j , then $n_{v,j,t-2} := \frac{1}{k}$. Then, define $n_{j,i,t-2} := \sum_v n_{v,j,t-2}$. Among P , rank all primary care physicians js by $n_{j,i,t}$ decreasingly. Denote them as $J_{i,t-2}^{(1)}, J_{i,t-2}^{(2)}, \dots, J_{i,t-2}^{(n)}$ with $J_{i,t-2}^{(1)}$ having the highest $n_{j,i,t-2}$. Then consider that patient i being associated with to top-2 most frequently visited primary care doctors $J_{i,t}^{(1)}$ and $J_{i,t}^{(2)}$. Denote whether patient i 's physicians moving from small to big between year $t - 2$ and t as $1_{i,t}^{sb}$. It is 1 if one of the two physicians of patient i in year $t - 2$ worked for 0% big organizations in year $t - 2$ and 100% in big organizations in year t , and change organizations.

$$1_{i,t}^{sb} := \begin{cases} 1 & \text{if } \%big_{J_{i,t-2}^{(1)},t-2} = 0\% \text{ and } \%big_{J_{i,t-2}^{(1)},t} = 100\% \text{ and } chg(J_{i,t-2}^{(1)}, t) = 1 \\ 1 & \text{if } \%big_{J_{i,t-2}^{(2)},t-2} = 0\% \text{ and } \%big_{J_{i,t-2}^{(2)},t} = 100\% \text{ and } chg(J_{i,t-2}^{(2)}, t) = 1 \\ 0 & \text{otherwise} \end{cases} ,$$

Change of organizations for a physician j in year t is defined as the most often billed organization for j is more than 80% in year $t - 2$ but that organization is billed less than 20% of the claims in in year t . Technically, Let $org_{j,t-2}^m$ be the mode of organization (TAX_NUM) that is associated with j in year $t - 2$ ranked by number of claims billed in the Carrier files. Let $n_{j,t}$ be the total number of claims j has in year t . Let $m_{j,t-2}^{t-2}$ and $m_{j,t}^{t-2}$ be the number of claims physician j has in year $t - 2$ and year t with provider $org_{j,t-2}^m$. Then we consider a provider changes organization as $\frac{m_{j,t-2}^{t-2}}{n_{j,t-2}} \geq 0.8$ and $\frac{m_{j,t}^{t-2}}{n_{j,t}} \leq 0.2$, denoted as $chg(j, t) = 1$.

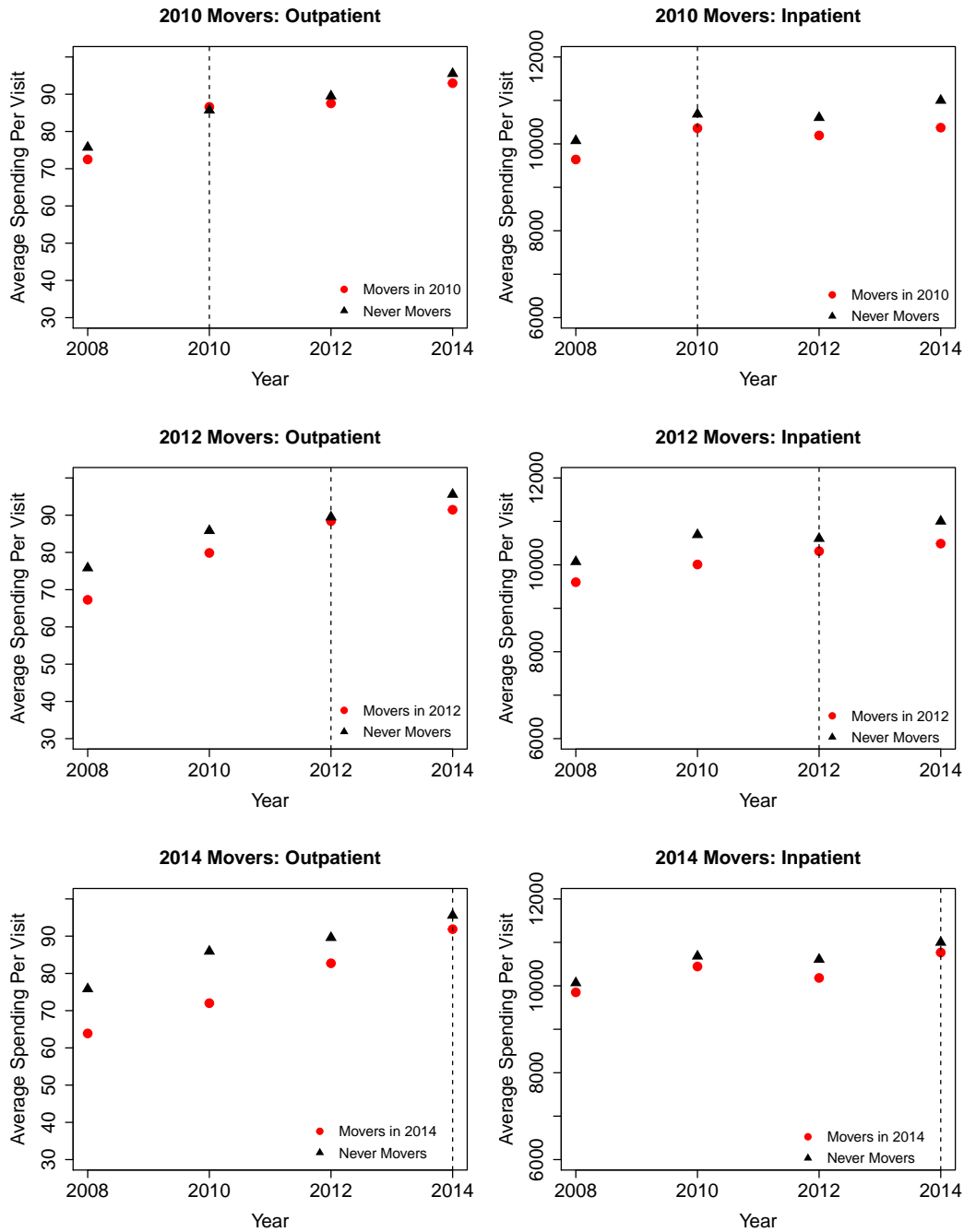
We similarly define indicators 1_{it}^{bs} , $1_{i,t}^{bb}$, and $1_{i,t}^{ss}$ for patients whose primary care physicians move from big to small, big to big, and small to small organizations between year $t - 2$ and t .

Appendix Figure A1: Risk scores for 2012 PCP (small to big) switchers vs. non-switchers



This figure plots the estimated difference-in-differences coefficients of a regression of patient risk scores on an indicator for small to big switch in 2012 interacted with year dummy variables. The regression is conducted on a sample of patients whose physicians changed from small to big organizations and those without any provider switches (of any type). HRR-year and patient fixed effects are also included; robust standard errors are clustered at the HRR level.

Appendix Figure A2: Average Spending per Visit For Movers and Non-Movers



This figure plots average “spending per visit” which is constructed as total outpatient (inpatient) spending divided by the number of outpatient (inpatient) visits at the patient-year level for PCPs who move from small-to-big organizations and those who never move. The top row plots average yearly “spending per visit” for PCPs who move in 2010, the middle row for those who move in 2012, and the bottom row for those who move in 2014.

Appendix Table A1: The frequency of physician transitions

	2010	2012	2014
Patient whose physicians moved from small to big organizations	63,428	88,188	93,228
Patient whose physicians moved from big to small organizations	26,337	23,363	28,113
Patient whose physicians moved from small to small organizations	130,428	117,502	81,219
Patient whose physicians moved from big to big organizations	82,075	112,781	122,047
Total Patients (incl. non-movers)	3,670,235	3,707,578	3,680,873

Table shows in each year, how many patients have one of the top two mostly frequently visited primary care physicians move from small organizations in year $t - 2$ to big organizations in year t ($1_{it}^{sb} = 1$), from big to small organizations ($1_{it}^{bs} = 1$), from small to small organizations ($1_{it}^{ss} = 1$), from big to big ($1_{it}^{bb} = 1$), and the total number of patients in the sample.

Appendix Table A2: First stage and reduced forms

	First Stage		Reduced Form		
	$w_{i,t}^{big}$	Log Adj Spending	Log Spending	# Inp Visits	Log # PC Visits
IV: $1_{i,t}^{sb}$	0.327*** (0.008)	-0.042*** (0.004)	-0.053*** (0.004)	-0.029*** (0.003)	-0.042*** (0.002)
HRR-Year FE	Yes	Yes	Yes	Yes	Yes
Patient FE	Yes	Yes	Yes	Yes	Yes

Table plots the regression output of the first stage and reduced form regressions for a few of our main outcomes. Standard errors are clustered at the HRR level and displayed in parentheses. *, **, *** denote statistical significance at the 10, 5, and 1 percent levels, respectively.

Appendix Table A3: Main outcomes with varying thresholds for definition of 'big'

	Threshold for 'big'			
	50		100	
Log (adjusted total spending)	-0.088***	(0.010)	-0.105***	(0.010)
Log (total spending)	-0.042***	(0.013)	-0.059***	(0.012)
Log (inpatient spending)	-0.224***	(0.048)	-0.267***	(0.04)
Log (outpatient spending)	-0.019*	(0.010)	-0.030***	(0.009)
Number of inpatient admissions	-0.031***	(0.011)	-0.041***	(0.011)
Any inpatient admission	-0.025***	(0.005)	-0.029***	(0.005)
Log (outpatient visits)	0.004	(0.005)	-0.005	(0.005)
Log (primary care visits)	-0.091***	(0.007)	-0.107***	(0.009)
Log (specialist visits)	0.013	(0.010)	0.007	(0.006)

Table shows the reduced form regression results of the following specification, of which the level of observation is at a patient-year level. The definition of a big organization (baseline of 30 in the main analysis) is switched to 50 and 100. The dependent and independent variables are the same as in Table 3. Standard errors are clustered at the HRR level and displayed in parentheses. *, **, *** denote statistical significance at the 10, 5, and 1 percent levels, respectively.

Appendix Table A4: Main outcomes without probable mergers and acquisitions

Dep. Variable		
Log (adjusted total spending)	-0.162***	(0.016)
Log (total spending)	-0.129***	(0.014)
Log (inpatient spending)	-0.479***	(0.050)
Log (outpatient spending)	-0.077***	(0.010)
Number of inpatient admissions	-0.080***	(0.011)
Any inpatient admission	-0.051***	(0.005)
Log (outpatient visits)	-0.034***	(0.006)
Log (primary care visits)	-0.126***	(0.008)
Log (specialist visits)	-0.020*	(0.007)

Table displays the IV results excluding “probable” mergers and acquisitions. These are defined as new TINs that appear each year where the list of physicians associated with the new TIN previously had an old TIN that form groups of five or more physicians. Finally, we exclude any patient whose top two PCPs were associated with these probable MAs. This crude approximation is required because we do not observe directly when organizations switch TINs. The dependent and independent variables are the same as in Table 3. Standard errors are clustered at the HRR level and displayed in parentheses. *, **, *** denote statistical significance at the 10, 5, and 1 percent levels, respectively.

Appendix Table A5: Robustness, restricting the sample to only patients who have no partial organization-size affiliation

Dep. Variable	Mean Dep. Var.	OLS estimates		IV estimates	
Log (adjusted total spending)	8.17	0.050***	(0.010)	-0.146***	(0.019)
Log (total spending)	8.04	0.041***	(0.011)	-0.117***	(0.018)
Number of inpatient admissions	0.25	0.027***	(0.007)	-0.086***	(0.012)
Any inpatient admission	0.14	0.023***	(0.004)	-0.044***	(0.006)
Log (inpatient spending) cond. on any	9.38	-0.028*	(0.016)	-0.090	(0.077)
Log (outpatient spending)	7.89	0.019***	(0.007)	-0.069***	(0.013)
Log (outpatient visits)	2.64	0.001	(0.004)	-0.032***	(0.007)
Log (primary care visits)	1.54	-0.048***	(0.005)	-0.125***	(0.009)
Log (specialist visits)	1.66	0.023***	(0.004)	-0.017*	(0.009)
Distinct organizations	5.27	-0.288***	(0.029)	-0.458***	(0.047)
Distinct primary care physicians	1.50	0.137***	(0.014)	-0.224***	(0.025)
Distinct specialists	3.11	0.118***	(0.018)	-0.137***	(0.033)
OLS/IV?			OLS		IV
HRR-Year fixed effects			Yes		Yes
Patient fixed effects			Yes		Yes

Table shows results from a specification that is the same as in Table 3, but the sample is restricted to only those patients who fully affiliate with a big or small organization in a given year, that is $w_{it}^{big} = 1$ or $w_{it}^{big} = 0$ (but not $w_{it}^{big} \in (0, 1)$). Standard errors are clustered at the HRR level and displayed in parentheses. *, **, *** denote statistical significance at the 10, 5, and 1 percent levels, respectively.

Appendix Table A6: Robustness, restricting the sample to only patients whose physicians moved from small organizations

Dep. Variable	Mean Dep. Var.	OLS estimates		IV estimates	
Log (adjusted total spending)	8.39	0.236***	(0.016)	-0.053**	(0.023)
Log (total spending)	8.38	0.221***	(0.017)	-0.057***	(0.021)
Number of inpatient admissions	0.44	0.198***	(0.015)	-0.032*	(0.018)
Any inpatient admission	0.22	0.094***	(0.006)	-0.025***	(0.008)
Log (inpatient spending) cond. on any	9.52	0.109***	(0.025)	0.068	(0.082)
Log (outpatient spending)	8.16	0.120***	(0.010)	-0.036**	(0.016)
Log (outpatient visits)	2.84	0.059***	(0.006)	-0.015*	(0.009)
Log (primary care visits)	1.74	0.036***	(0.008)	-0.054***	(0.013)
Log (specialist visits)	1.86	0.087***	(0.007)	-0.007	(0.012)
Distinct organizations	6.62	0.291***	(0.046)	-0.249***	(0.057)
Distinct primary care physicians	1.97	0.566***	0.030	0.001	(0.032)
Distinct specialists	3.87	0.504***	(0.036)	-0.047	(0.047)
OLS/IV?			OLS		IV
HRR-Year fixed effects			Yes		Yes
Patient fixed effects			Yes		Yes

Table shows the regression results of the following specification, of which the level of observation is at a patient-year level (N=1,186,992). The dependent and independent variables are the same as in Table 3. The sample is the patients among the main patient sample whose physicians have moved from small organizations during the sample period. In particular, we keep all the patients whose physicians have moved from small organizations once and only once during the entire sample period and include all years 2008, 2010, 2012, 2014 for those patients. The regression specification is as follows: $y_{it} = \beta w_{it}^{big} + HRR_{h(i;t)t} + \chi_i + k\alpha_k 1(t - m_i = k) + \epsilon_{it}$; where k captures the main effect of k th year since a physician's moving date and the patient and HRR-year fixed effects are also included. Standard errors are clustered at the HRR level and displayed in parentheses.

*, **, *** denote statistical significance at the 10, 5, and 1 percent levels, respectively.

Appendix Table A7: Reduced form regressions restricting the sample to only patients whose physicians moved to big organizations

Dep. Variable		
Log (adjusted total spending)	-0.046***	(0.005)
Log (total spending)	-0.036***	(0.004)
Log (inpatient spending)	-0.14***	(0.015)
Log (outpatient spending)	-0.020***	(0.003)
Number of inpatient admissions	-0.025***	(0.004)
Any inpatient admission	-0.015***	(0.002)
Log (outpatient visits)	-0.010***	(0.002)
Log (primary care visits)	-0.037***	(0.002)
Log (specialist visits)	-0.005*	(0.002)

Table shows the reduced form regression results of the following specification, of which the level of observation is at a patient-year level. The dependent and independent variables are the same as in Table 3. The sample is the patients among the main patient sample whose physicians have moved to a big organizations during the sample period (small-to-big and big-to-big). Standard errors are clustered at the HRR level and displayed in parentheses. *, **, *** denote statistical significance at the 10, 5, and 1 percent levels, respectively.

Appendix Table A8: Placebo test for whether 2012-2014 PCP organization changes (from small to big organizations) impact 2008-2012 patient “outcomes”

Dep. Variable		
Log (adjusted total spending)	0.057	(0.041)
Log (total spending)	0.064*	(0.039)
Log (inpatient spending)	0.34**	(0.15)
Log (outpatient spending)	0.017	(0.028)
Number of inpatient admissions	0.12***	(0.039)
Any inpatient admission	0.035**	(0.016)
Log (outpatient visits)	0.044**	(0.017)
Log (primary care visits)	0.08***	(0.017)
Log (specialist visits)	0.008	(0.270)

Table shows the reduced form regression results for patient outcomes from 2008-2010 for whether their PCP moves from a small to big organization between 2012-2014. Standard errors are clustered at the HRR level and displayed in parentheses. *, **, *** denote statistical significance at the 10, 5, and 1 percent levels, respectively.