# Physician labor supply, financial incentives, and access to healthcare

Lionel Wilner (CREST) Philippe Choné (CREST)

3rd Health Economics Conference (TSE)

June 2025

# Outline

1. Motivation
2. Institutional background
3. Data
4. Identification strategy
5. Results

# Outline

1 Motivation

2 Institutional background

3 Data

4 Identification strategy

5 Results

# Why do we (health)care?

**The access to healthcare**

- (OECD) Policy objective: Improving the access to healthcare
- Problems: Medical deserts, primary care provider shortages
- Extensive margin: Entry (*numerus clausus*), exit (later retirement), migration (foreign doctors)
- Intensive margin: Increasing labor supply with higher financial incentives?

**Do physicians respond to financial incentives?**

- Mixed evidence (to say the least), depending on country and time
- No: Small elasticities (in the U.S.: Rizzo and Blumenthal 1994, Showalter and Thurston 1997)
- Yes... but in which direction? Income vs. substitution effects
  - *Positive* price elasticity of the provision of care (*Substitution effects dominate*): Clemens and Gottlieb (2014) in the U.S. (Medicare) find 1.5
  - *Negative* price elasticity of the provision of care (*Income effects dominate*): Early ('70s-'80s) U.S. studies based on time series, Coudin et al. (2015) in France, Fortin et al. (2021) in Canada

# This paper

- Estimates the **price elasticity of the provision of healthcare** by **French general practitioners** (GPs) between 2016 and 2018
- Exploits a policy-induced shock on financial incentives
- The regulator, namely the French public health insurance (Cnam), agreed to revalue sector 1 GPs' visits from **May 1, 2017** onward
- Reimbursement rate increased from **€23 to €25 (+8.7%)**
- Claims data: *Système National des Données de Santé* (SNDS)
  - Comprehensive information on claim files for the universe of French patients and physicians
- Identification strategy: **DiD**
  - **Treatment: Sector 1 GPs**
  - Various possible **comparison groups: Direct access specialists, Sector 2 GPs, Sector 1 GPs in 2016**, etc.

# Preview of results

- **Elasticity** of GPs' activity wrt price: **1, on average**
- **Heterogeneity** in response to financial incentives: **Early-career (30-39)** doctors most price-sensitive (price-elasticity of **2**) while old-age physicians (60-69) almost inelastic
  - Consistent with stronger income effect at older ages (life-cycle)
- Mechanisms:
  - Essentially **no change in** the number of visits per patient (**Intensity of care**)
  - **Higher number of patients (Access to healthcare)**
    - Physicians work **more days (+4%)**
    - Physicians see **more patients per day (+5%)**
  - The number of patients for whom they are *médecin traitant* increased (about +4%)
    - Consistent with doctors admitting **new patients**, and becoming their *médecin traitant*
  - Decrease in drug prescription (per patient), especially antibiotics
  - Little change in travel times from patients to doctors

**Cost for public health insurance: about €0.5bn/yr**, hence a rather cost-effective policy to enhance the access to healthcare, with limited adverse effects on the intensity of care

# Outline

1 Motivation

2 Institutional background

3 Data

4 Identification strategy

5 Results

# French GPs

About 60% of the 100,000 GPs in France are self-employed

They choose either sector 1 or sector 2 upon start of a new practice

- Sector 1: Regulated fees but reduced social contributions
- Sector 2: Unregulated fees (Free-billing within 'ethical' limits, i.e. with *tact et mesure*, e.g. not allowed to charge extra fees to low-income patients)

Tightened access to sector 2 since 1990 (Coudin et al. 2015): Eligibility conditions include

- Qualifying university teaching for at least 2 years
- Some hospital practice

Cannot switch from sector 1 (absorbing state) to sector 2

# Regulated fees

May 1, 2017: Increase in sector 1 GPs' visit fees from €23 to €25

- A +8.7% policy-induced shock on financial incentives
- Publicly disclosed at the end of the *Convention médicale* (August 25, 2016), at the end of a bargaining session between Cnam and physicians' unions (MG France, etc.)

Other shocks (coming soon?):

- November 1, 2023: €26.5 (+6%)
- December 22, 2024: €30 (+13.2%)

Comparison with other OECD countries: €46 on average

- UK: €0 (public), €95-€315 (private)
- Spain: €0 (public), €30-€40 (private)
- Germany, Italy, the Netherlands: about €75
- Switzerland: about €100
- Portugal: €40-€70
- Belgium: €25

# Patients

Patients choose their GPs freely based on public information (sector and fees)

Copayment scheme:

- 70% of the service reference price is reimbursed by public health insurance
- 30% of that price may be reimbursed by private health insurance
- Extra fees (sector 2): either (partly) covered by private health insurance or out-of-pocket (OOP)
- In 2017, 4% of population is deprived of private health insurance

# Specialists

Direct access specialists:

- Gynecologists
- Ophthalmologists
- Pediatricians
- Stomatologists

can be consulted without any referral as opposed to other specialists (e.g., dermatologists, endocrinologists, etc.)

The latter experienced a €2 increase in their specific surcharges from July 1, 2017 onward

Reimbursed fees of some specialists also increased from July 1, 2017 onward:

- Cardiologists
- Psychiatrists
- Pediatricians (according to some price scheme that depends on the child's age)

In what follows: Direct access specialists at the exclusion of pediatricians

# Outline

1 Motivation

2 Institutional background

3 Data

4 Identification strategy

5 Results

# Comprehensive database

Universe of French patients and physicians observed from 2016 to 2018

- Unique wrt to the U.S., for instance (Medicare: 65+ patients only)

Granularity: Claims files at the visit level with information on fees, drug prescription, etc.

Sample restrictions:

- Non-missing information on physicians' gender, age, and location
- Non-missing information on population, density, and *Accessibilité Potentielle Localisée* (APL) of municipality of practice
- Mainland France (Metropolitan France at the exclusion of Corsica)
- Healthcare providers: GPs and direct access specialists

Aggregation of the data: Physician-month level (mostly)

# Working sample

- Self-employed physicians
- General practitioners (GPs), either sector 1 or sector 2
- Direct access specialists (gynecologists, ophthalmologists, stomatologists)
- Aged 30 to 79
- Period: January 2016-October 2018
  - Excluding November and December 2018 because of right-censoring
  - Processing time for claim files may last up to 40 days

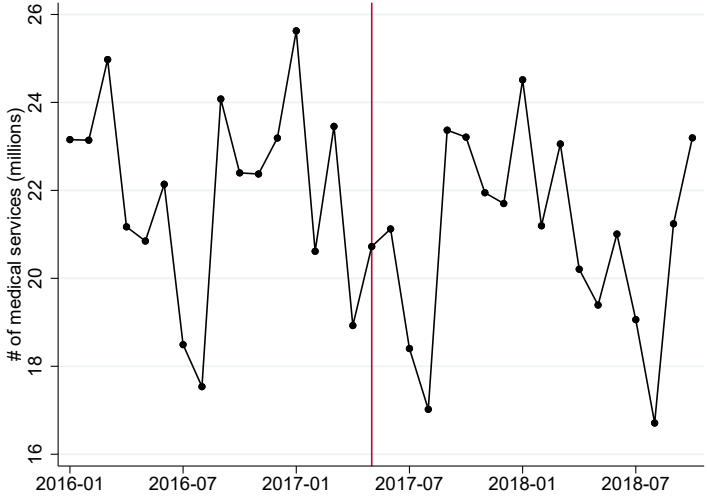
About 55,000 GPs in January 2016

- NB Practices for now, but ultimately doctors

Aggregation at the physician-month(-day) level: about 1.8M (33M) observations

Activity | Number of active GPs | Share of sector 1 GPs | Heterogeneity among GPs

# Evolution of GPs' activity between January 2016 and October 2018



# Outline

1 Motivation

2 Institutional background

3 Data

4 Identification strategy

5 Results

# DiD

Identification strategy

- Treatment (T): Sector 1 GPs
- Comparison (C): Direct access specialists

Alternate identification strategies

- T: Sector 1 GPs, C: Sector 2 GPs
- T: Sector 1 GPs in 2017, C: Sector 1 GPs in 2016

Rely on

- SUTVA (see later)
- CTA

# Summary statistics (Doctors)

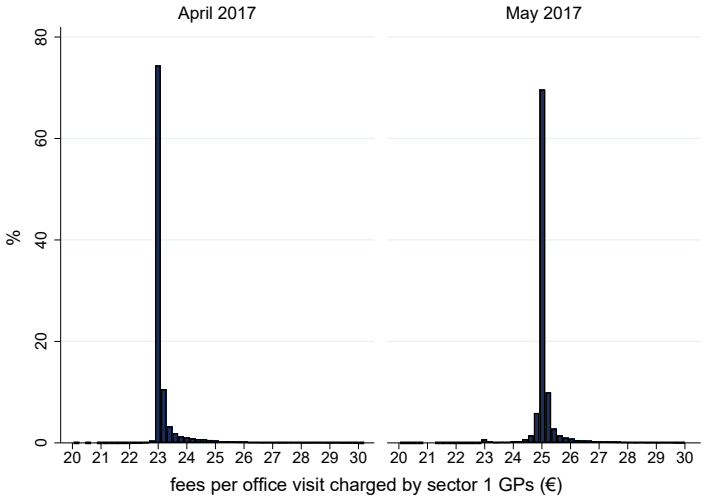
Possible to (fully) match sector 1 GPs and direct access specialists in January 2016 on the basis of age, gender, and location (namely, density and classification into categories of medical deserts)

Table 1: Summary statistics - Balancing checks

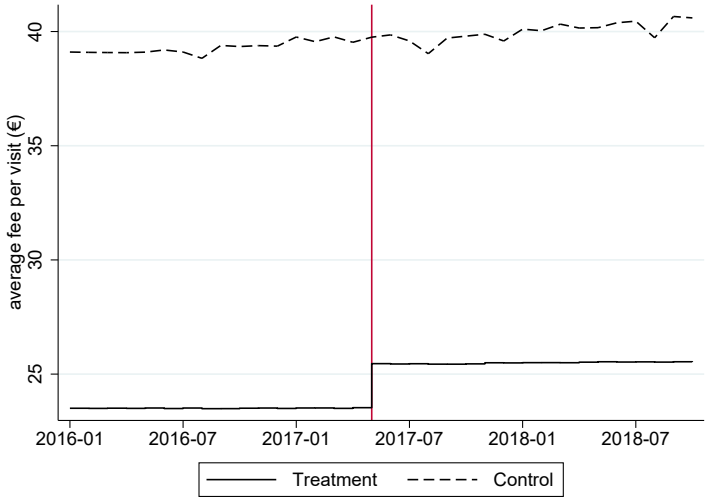
| | Sector 1 GPs | Sector 2 GPs | Direct access specialists (Matched) | Direct access specialists (Unmatched) |
|---|---|---|---|---|
| Women | 0.357 | 0.287 | 0.315 | 0.471 |
| Age | 53.2 | 62.2 | 52.8 | 57.2 |
| Paris region | 0.133 | 0.406 | 0.149 | 0.238 |
| Dense area | 0.367 | 0.658 | 0.369 | 0.612 |
| Intermediate density | 0.337 | 0.264 | 0.387 | 0.349 |
| Weakly dense | 0.290 | 0.075 | 0.242 | 0.039 |
| Not dense | 0.006 | 0.003 | 0.002 | 0.001 |
| Medical desert (ZIP) | 0.173 | 0.191 | 0.165 | 0.113 |
| ZAC | 0.528 | 0.561 | 0.543 | 0.548 |
| Not a medical desert | 0.299 | 0.248 | 0.291 | 0.339 |
| Share of female patients | 0.580 | 0.647 | 0.600 | 0.655 |
| Share of $65^{+}$ patients | 0.297 | 0.312 | 0.324 | 0.295 |
| Observations | 50630 | 4750 | 6474 | 6474 |

*Note.* Sample means computed in January 2016.

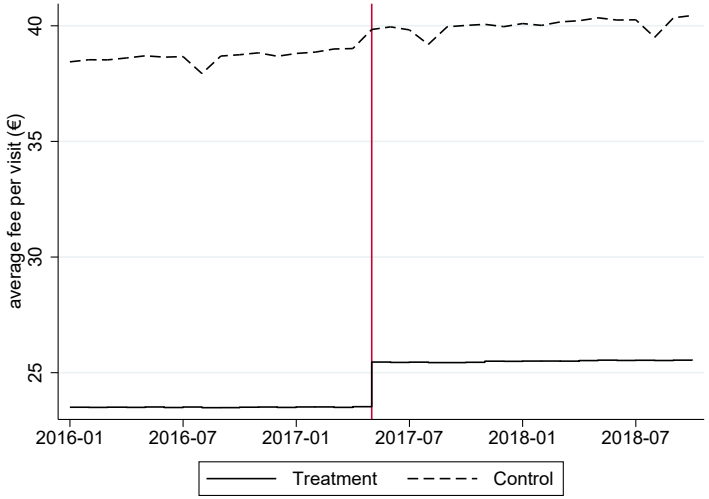
# Evolution of fees (Sector 1 GPs)



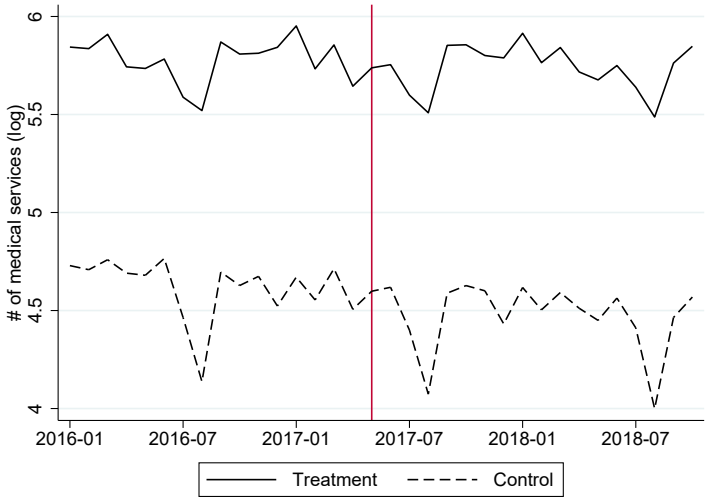
# Evolution of doctors' fees - Comparison group: Direct access specialists



# Evolution of doctors' fees - Comparison group: Sector 2 GPs



# The plausibility of the CTA - Activity (C: Direct access specialists)




After matching
Other comparison groups
Other outcomes

# Estimating equation

Notations: Doctor $j$, calendar month $t$, treatment dummy $T$, Post a dummy equal to 1 after May 1, 2017

$$Y_{jt} = \beta T_j \times \text{Post}_t + \alpha_j + \gamma_t + \varepsilon_{jt} \tag{1}$$

Heterogeneity of TE: Possible to allow for $\beta$ to depend on $j$ or/and $t$:

- Time (to event): Event study
- Observed characteristics of physician

N.B. Same timing of treatment for all units (physicians) here

Clustering of standard errors: Physician level

Identification strategy #3 on the sole sector 1 GPs:

$$Y_{jmy} = \beta T_y \times \text{Post}_m + \alpha_{jy} + \gamma_m + \varepsilon_{jmy}, \tag{2}$$

where

- $m = 1, \ldots, 12$ indexes months within year $y = 2016, 2017$
- $T_y = 1$ if $y = 2017$
- $\text{Post}_m = 1$ if $m \geq 5$

# Outline

1 Motivation

2 Institutional background

3 Data

4 Identification strategy

5 Results

# Impact of the reform on activity (GPs)

Table 2: Impact of the reform on activity (C: Direct access specialists)

| | (1) | (2) | (3) |
|---|---|---|---|
| Post × Treatment | 0.0905*** | 0.0965*** | 0.0879*** |
| | (0.00540) | (0.00572) | (0.00583) |
| Physician FE | Yes | Yes | Yes |
| Month-year FE | Yes | Yes | Yes |
| Excluding April and May 2017 | No | Yes | Yes |
| Present in January 2016 and October 2018 | No | No | Yes |
| Observations | 1920379 | 1806757 | 1539472 |
| $R^2$ | 0.886 | 0.884 | 0.885 |

*Note.* Dependent variable: Number of medical services per GP and per month (log).

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Clustered standard errors at the physician level

# Robustness checks

Table 3: Impact of the reform on activity - Robustness checks

| Robustness check | Post × Treatment | | Comparison group | Unit FE | Time FE | Observations | $R^2$ |
|---|---|---|---|---|---|---|---|
| Activity (Sector 1 GPs) | 0.0879*** | (0.00488) | Sector 2 GPs | Physician | Month-year | 1742230 | 0.874 |
| Activity (Sector 1 GPs) | 0.0686*** | (0.00165) | Sector 1 GPs in 2016 | Physician-year | Month | 1004277 | 0.877 |
| Activity (Sector 2 GPs) | 0.00803 | (0.00736) | DA specialists | Physician | Month-year | 336834 | 0.873 |
| Pre-matching | 0.120*** | (0.0257) | DA specialists | Physician | Month-year | 1673711 | 0.876 |
| Placebo reform (May 1, 2016) | 0.0317 | (0.0196) | DA specialists | Physician | Month-year | 823477 | 0.906 |
| Placebo reform (May 1, 2016) | 0.0199 | (0.0138) | Sector 2 GPs | Physician | Month-year | 798915 | 0.902 |
| Balanced panel | 0.0804*** | (0.00523) | DA specialists | Physician | Month-year | 1428580 | 0.871 |
| Trimming | 0.0961*** | (0.00602) | DA specialists | Physician | Month-year | 1779080 | 0.882 |
| Paris seasonality | 0.0941*** | (0.00872) | DA specialists | Physician | Month-year | 1806757 | 0.886 |

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Clustered standard errors at the physician level

# Impact of the reform on various outcomes

Table 4: Impact of the reform on various outcomes

| Dependent variable | Post × Treatment | | Comparison group | Unit FE | Time FE | Observations | $R^2$ |
|---|---|---|---|---|---|---|---|
| Activity (per month, log) | 0.0965*** | (0.00572) | DA specialists | Physician | Month-year | 1806757 | 0.884 |
| Health insurance spending (per month, log) | 0.172*** | (0.00584) | DA specialists | Physician | Month-year | 1806529 | 0.885 |
| # of patients (per month, log) | 0.105*** | (0.00573) | DA specialists | Physician | Month-year | 1806757 | 0.885 |
| # of services (per patient, log) | 0.00239*** | (0.000677) | Sector 2 GPs | Physician | Month-year | 1742230 | 0.806 |
| # of patients (per day, log) | 0.0506*** | (0.00364) | DA specialists | Physician | Day-year | 33826817 | 0.507 |
| # of workdays (per month, log) | 0.0418*** | (0.00278) | DA specialists | Physician | Month-year | 1806757 | 0.723 |
| Probability of retirement | -0.00593*** | (0.00204) | Sector 1 GPs in 2016 | Physician-year | Month | 344600 | 0.812 |
| # of patients as *médecin traitant* (per month, log) | 0.0398*** | (0.00154) | Sector 1 GPs in 2016 | Physician-year | Month | 922795 | 0.932 |
| Share of home visits | -0.00443*** | (0.000214) | Sector 1 GPs in 2016 | Physician-year | Month | 1004277 | 0.943 |
| Share of women among patients | -0.00190*** | (0.000244) | Sector 1 GPs in 2016 | Physician-year | Month | 1004277 | 0.714 |
| Share of 65+ among patients | -0.0138*** | (0.000262) | Sector 1 GPs in 2016 | Physician-year | Month | 1004277 | 0.892 |
| Share of patients living in same city | -0.00174*** | (0.000282) | Sector 1 GPs in 2016 | Physician-year | Month | 1004277 | 0.951 |
| All drugs (per patient, log €) | -0.0442*** | (0.00554) | Sector 2 GPs | Physician | Month-year | 1742208 | 0.856 |
| Antibiotics (per patient, log €) | -0.0925*** | (0.00611) | Sector 2 GPs | Physician | Month-year | 1685289 | 0.735 |
| Antidepressants (per patient, log €) | -0.0318*** | (0.00664) | Sector 2 GPs | Physician | Month-year | 1623056 | 0.818 |
| Opioids (per patient, log €) | -0.0367*** | (0.00910) | Sector 2 GPs | Physician | Month-year | 1640372 | 0.771 |
| All drugs + reimbursed fees (per patient, log €) | -0.0154*** | (0.00308) | Sector 2 GPs | Physician | Month-year | 1742230 | 0.792 |
| All drugs + reimbursed fees (log €) | 0.0701*** | (0.00381) | Sector 2 GPs | Physician | Month-year | 1742230 | 0.939 |

*Note.* DA: Direct access. April and May 2017 are excluded from estimation samples.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Clustered standard errors at the physician level

# Impact on travel times

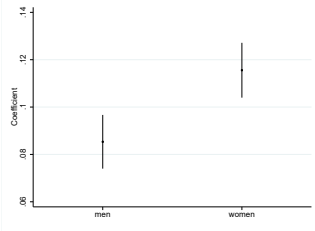
Table 5: Impact of the reform on travel times between patients and GPs (in minutes)

| Dependent variable | mean | sd | p10 | p25 | p50 | p75 | p90 |
|---|---|---|---|---|---|---|---|
| Post × Treatment | -0.0652 | -0.174** | -0.0599** | -0.0342 | -0.00367 | -0.0283 | -0.106 |
| | (0.0399) | (0.0802) | (0.0298) | (0.0302) | (0.0360) | (0.0551) | (0.105) |
| Physician FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Month-year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 1101847 | 1095290 | 1101847 | 1101847 | 1101847 | 1101847 | 1101847 |
| $R^2$ | 0.726 | 0.685 | 0.527 | 0.644 | 0.719 | 0.616 | 0.575 |

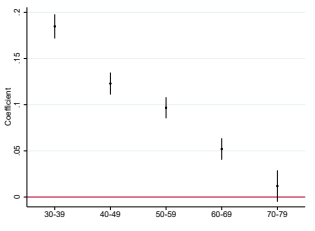
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Clustered standard errors at the physician level

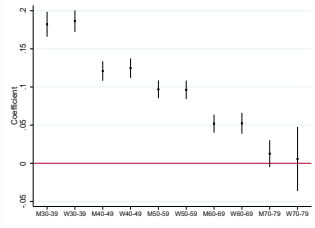
# Heterogeneity of TE - 1



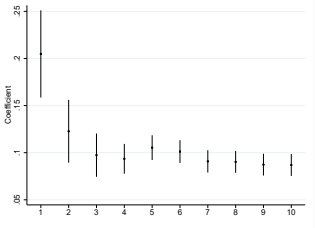

(a) Gender




(b) Age

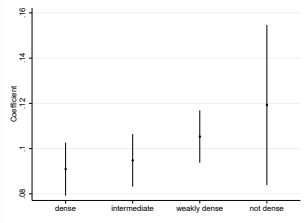



(c) Age $\times$ gender

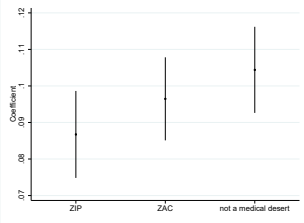



(d) Income (in 2016)

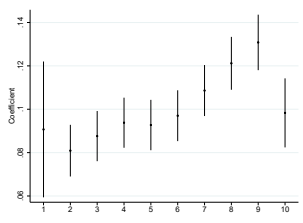
# Heterogeneity of TE - 2




(a) Location




(b) Medical deserts




(c) Competition (Proxy: Share of multiple-source patients)

# Impact of the July 1, 2017 reform on activity (Specialists)

Table 6: Impact of the reform on activity for psychiatrists and cardiologists (T: Sector 1, C: Sector 2)

| | Cardiologists | Psychiatrists |
|---|---|---|
| Post × Treatment | 0.0118 | -0.0199** |
| | (0.0132) | (0.00863) |
| Physician FE | Yes | Yes |
| Month-year FE | Yes | Yes |
| Observations | 125740 | 183473 |
| $R^2$ | 0.863 | 0.817 |

*Note.* Dependent variable: Number of medical services per physician and per month (log).

April and May 2017 are excluded from estimation samples.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Clustered standard errors at the physician level.

Fees Activity

# Who are the 'new patients'? (Preliminary)

Patient-level analysis:

$$\text{Visit}_{it} = \beta_i \text{Post}_t \times T_{c(i)} + \alpha_i + \gamma_t + \varepsilon_{it} \quad (3)$$

Treatment dummy $T_{c(i)}$ equal to 1 when patient $i$ resides in a city $c$ with at least one sector 1 GP

(Preliminary) Results (based on a random 1/100 subsample of French patients):

- Zero impact on monthly probability of visiting sector 1 GPs after May 1, 2016 (Placebo)
- Positive impact on monthly probability of visiting sector 1 GPs after May 1, 2017
- Decreasing effect with patients' age:
  - Children (0-9) visit more often
  - Seniors ($60^+$) visit less often
- No significant difference for patients with chronic disease
- Amplified spatial inequality in access to healthcare ('Mathew effect')?
  - Patients living in under-served areas (ZIP, i.e. medical deserts) visit less
  - To a smaller extent, also true for less deprived areas (ZAC)
  - Patients living in non under-served areas visit more

Other outcome: $\text{Emergency}_{it}$ (annual probability of visiting emergency department after May 1, 2017)

- Zero effect

# Conclusion

Summary

- Exogenous variation in sector 1 GPs' fees on May 1, 2017
  - Quasi-experimental research design
  - Comprehensive, granular data at the physician-month(-day) level
  - High external validity
- Physicians respond to financial incentives with a unitary price elasticity of care provision, on average
- Heterogeneity of response: Early-career doctors, mostly

Policy implications

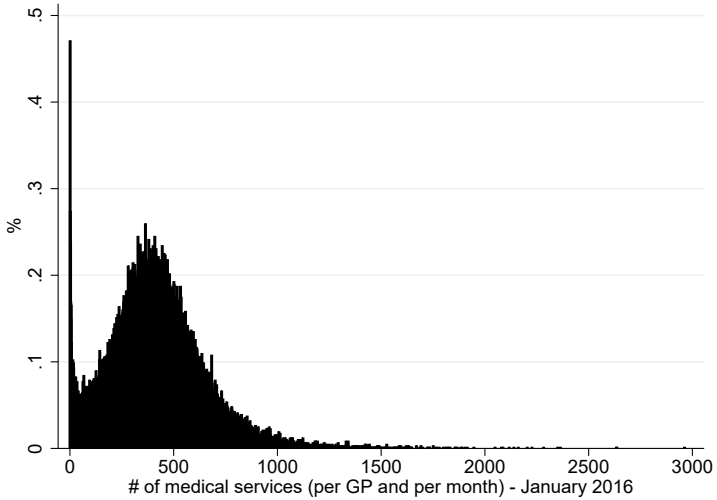
- **Cost-effective policy to enhance the access to healthcare**
- **Limited adverse effects on the intensity of care**
- **Targeting: Newly graduates at the exit of medical schools**

Extensions

- Other outcomes: **Quality of care?** Referrals to other healthcare providers?
- Future increases in doctors' fees (**2023: €26.5 per visit, 2024: €30**)

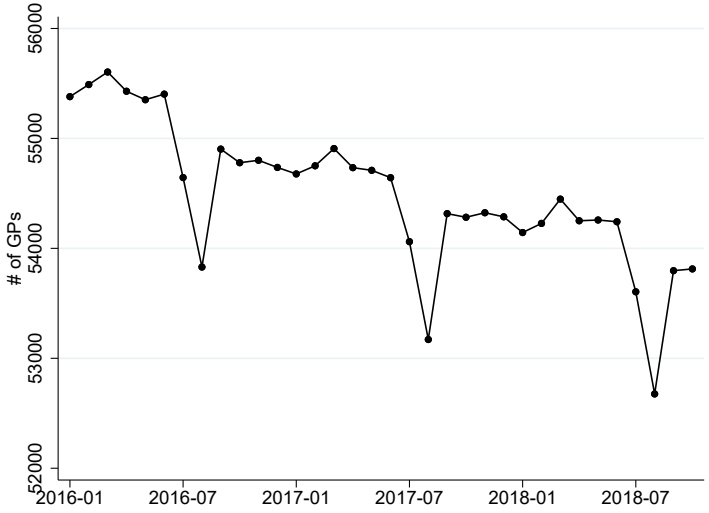
# Appendix

# Activity (Number of medical services per month) in January 2016



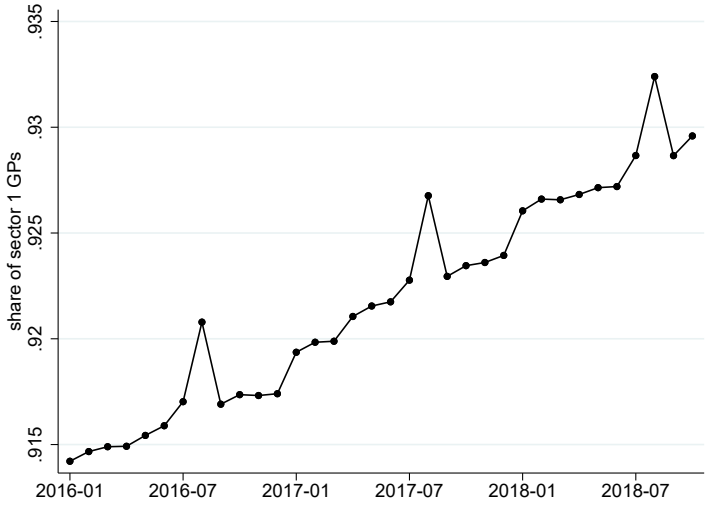

return

# Number of active GPs in sample



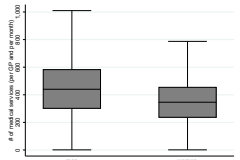

return

# Share of sector 1 GPs in sample

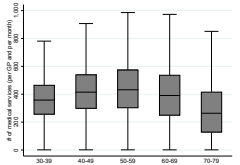



return

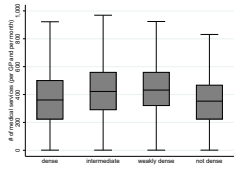
# Heterogeneity among GPs



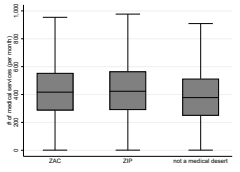

(a) Gender




(b) Age




(c) Density of area

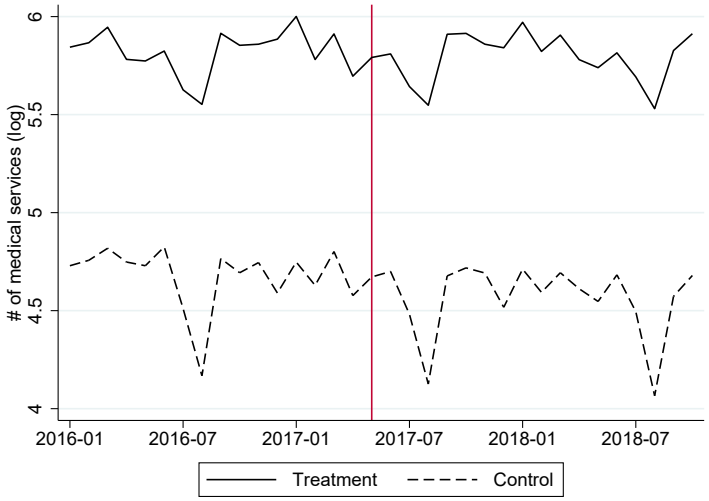



(d) Medical desert

Figure 3: GPs' activity, depending on various dimensions

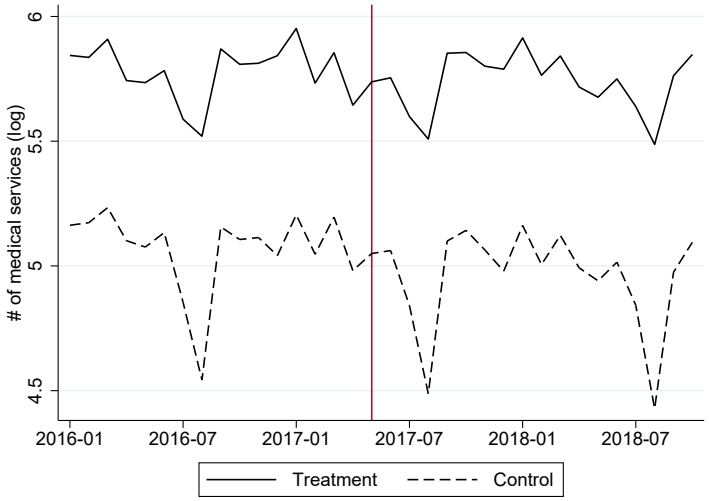
return

# The plausibility of the CTA - Activity (C: Matched direct access specialists)



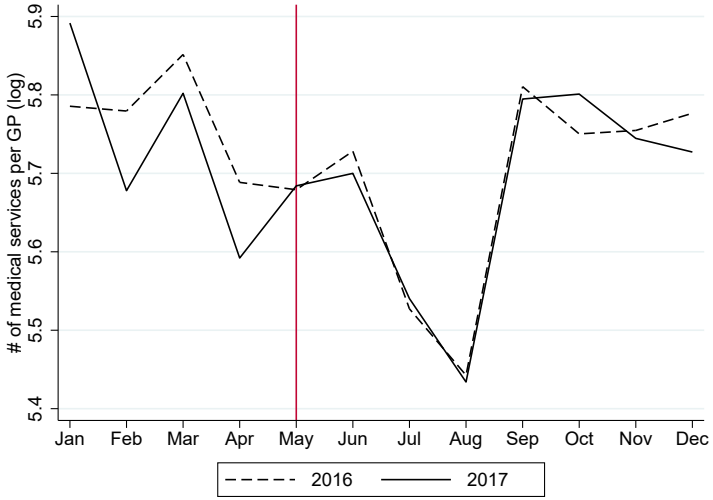

return

# The plausibility of the CTA - Activity (C: Sector 2 GPs)



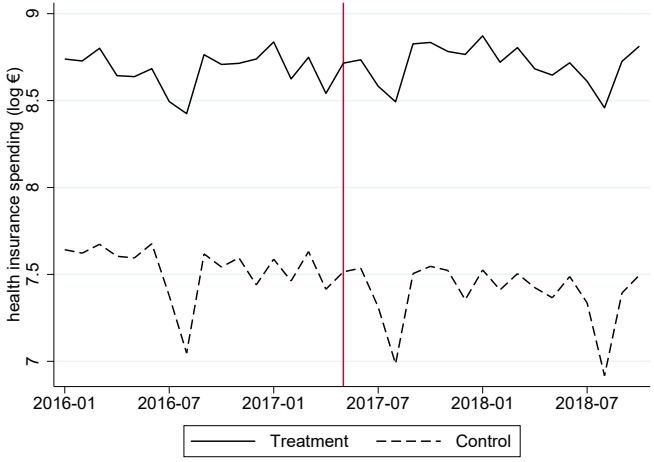

return

# The plausibility of the CTA - Activity (C: Sector 1 GPs in 2016)



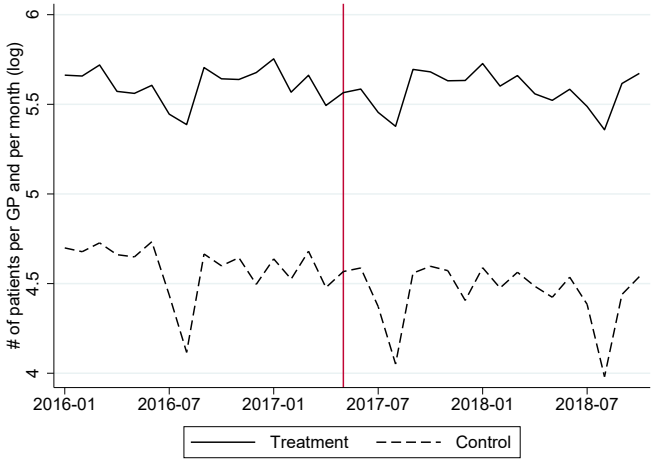

return

# The plausibility of the CTA - Health insurance spending (C: Direct access specialists)



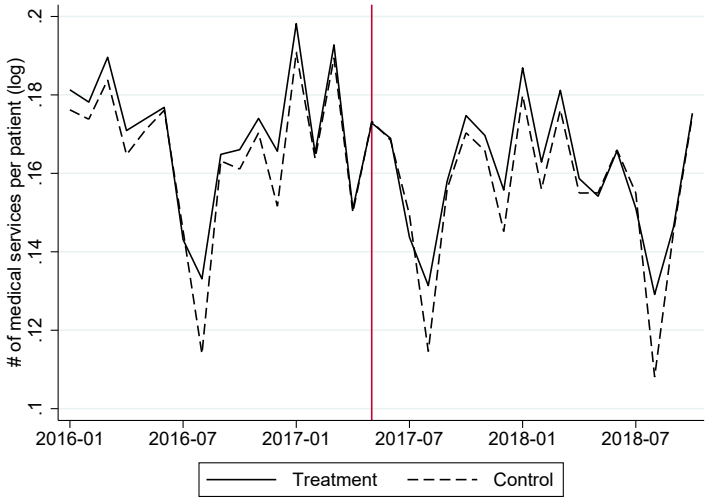

return

# The plausibility of the CTA - Number of patients per month (C: Direct access specialists)



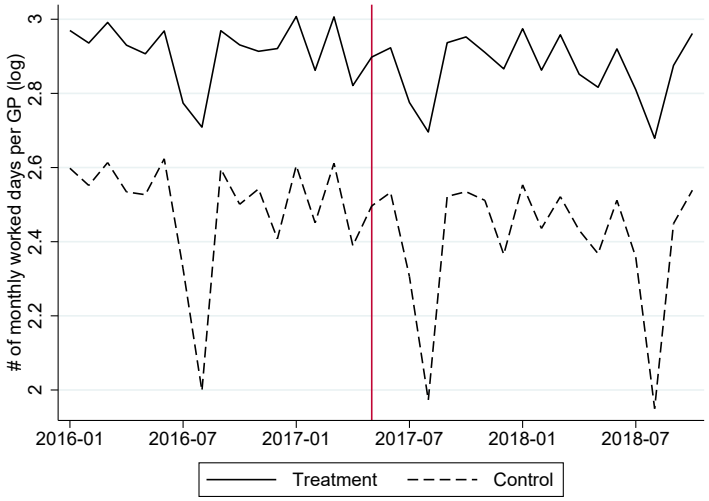

return

# The plausibility of the CTA - Intensity of care (C: Sector 2 GPs)



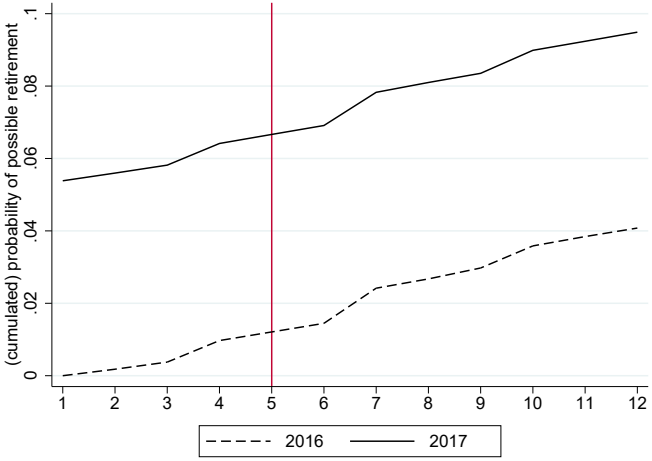

return

# The plausibility of the CTA - Workload (C: Direct access specialists)



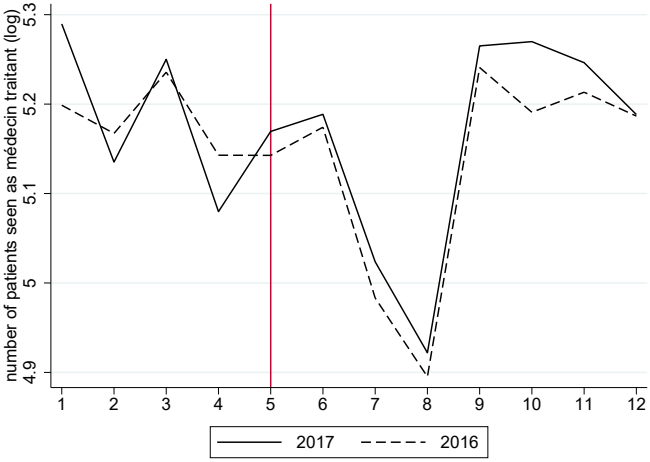

return

# The plausibility of the CTA - Probability of retirement (C: Sector 1 GPs in 2016)



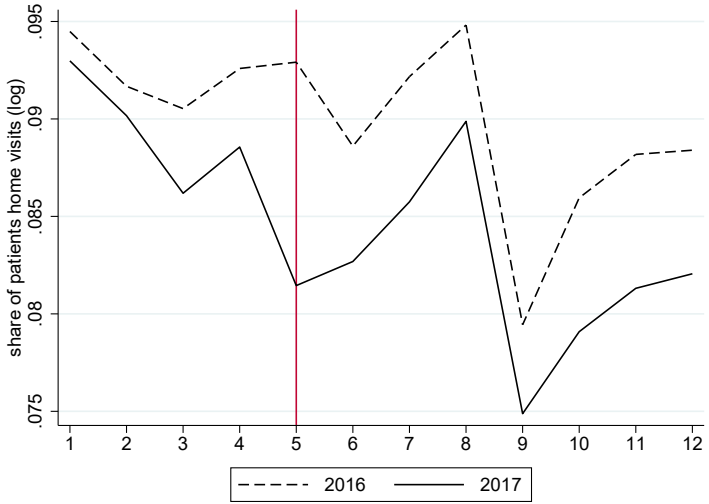

return

# The plausibility of the CTA - Number of patients seen as a *médecin traitant* (C: Sector 1 GPs in 2016)



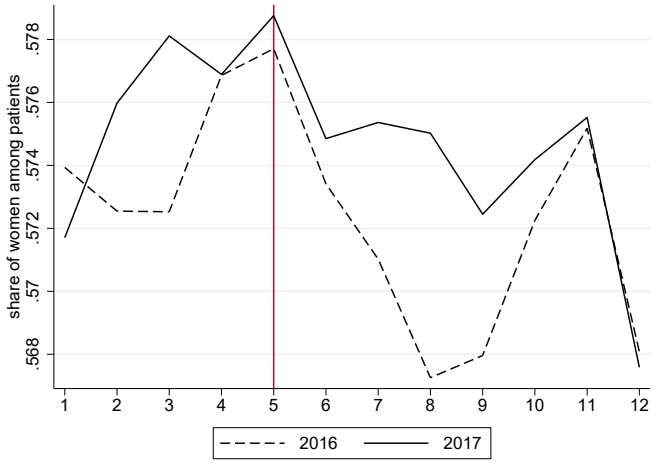

return

# The plausibility of the CTA - Share of home visits (C: Sector 1 GPs in 2016)



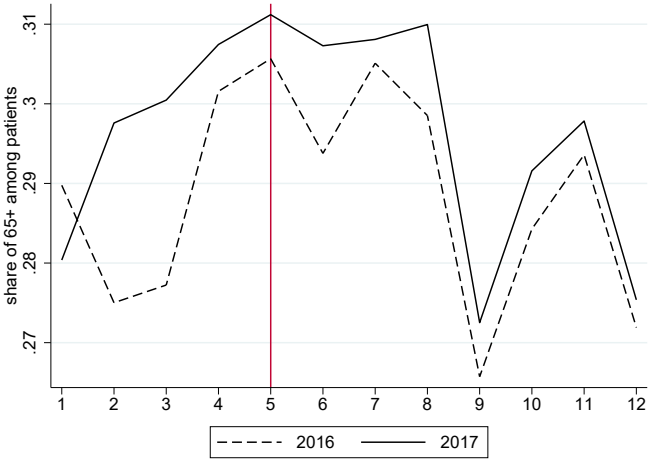

return

# The plausibility of the CTA - Share of women among patients (C: Sector 1 GPs in 2016)



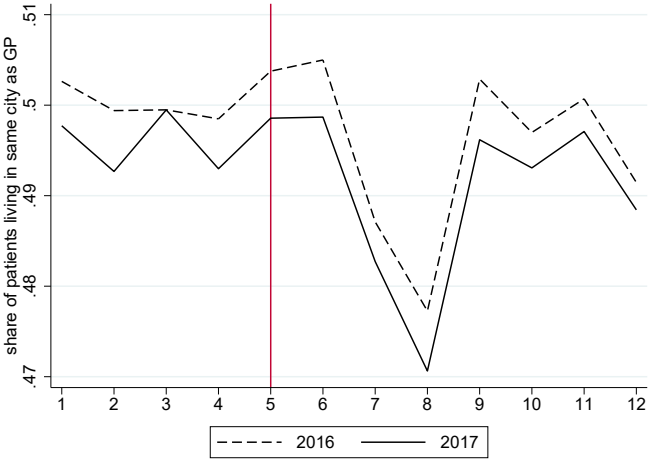

return

# The plausibility of the CTA - Share of 65+ among patients (C: Sector 1 GPs in 2016)



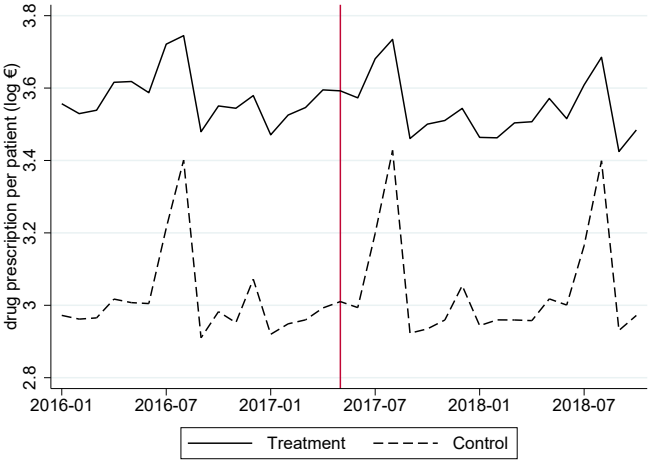

return

# The plausibility of the CTA - Share of patients living in the same city (C: Sector 1 GPs in 2016)



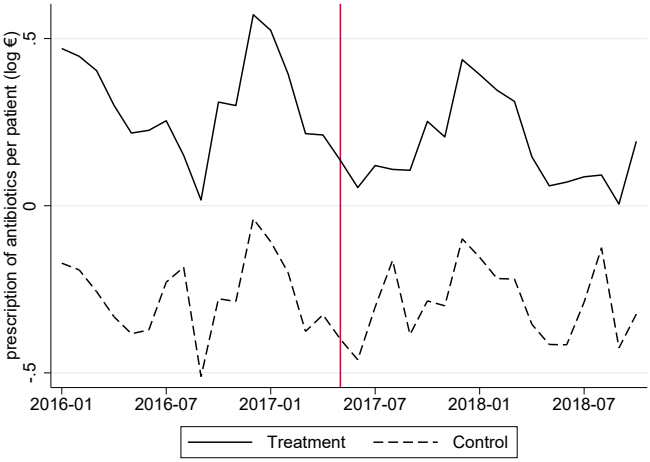

return

# The plausibility of the CTA - Drug prescription (per patient) (C: Sector 2 GPs)



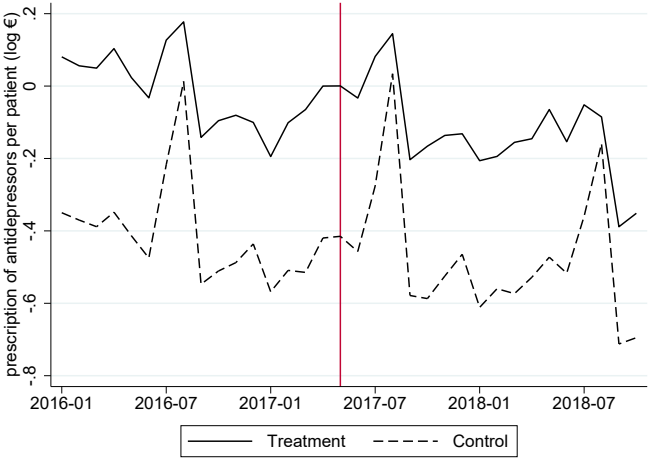

return

# The plausibility of the CTA - Antibiotics prescription (per patient) (C: Sector 2 GPs)



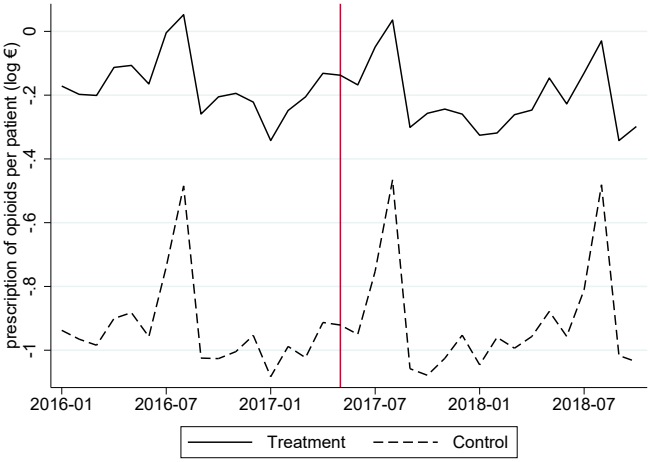

return

# The plausibility of the CTA - Antidepressants prescription (per patient) (C: Sector 2 GPs)



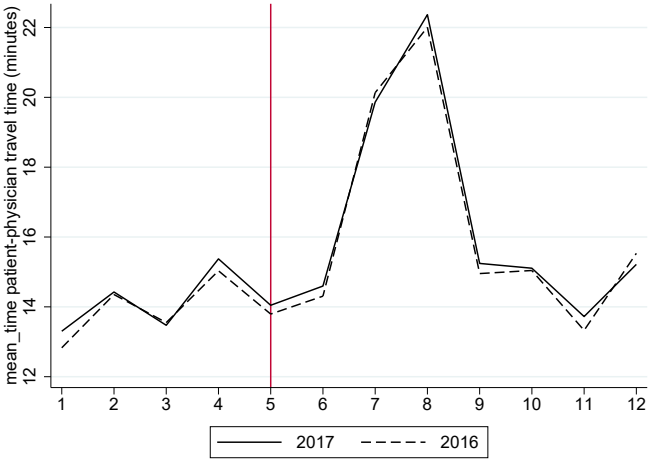

return

# The plausibility of the CTA - Opioids prescription (per patient) (C: Sector 2 GPs)



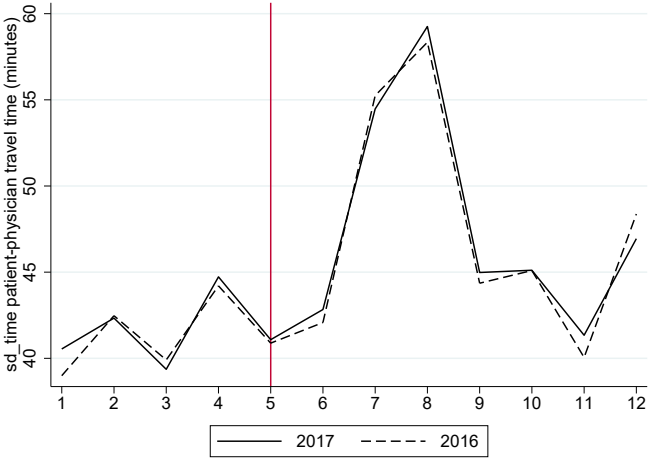

return

# The plausibility of the CTA - Mean travel time from patient to physician (C: Sector 1 GPs in 2016)



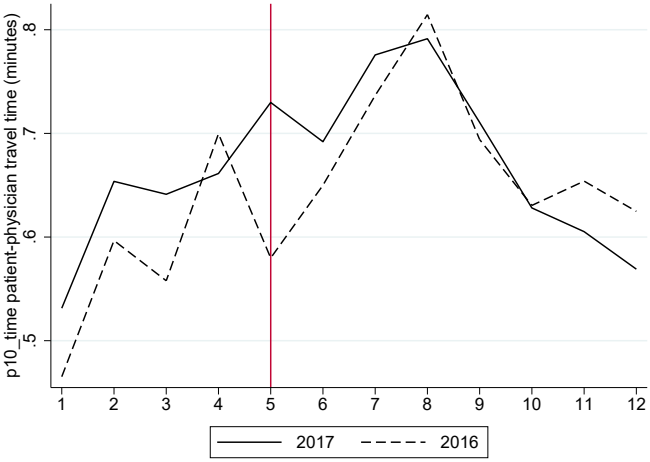

return

# The plausibility of the CTA - Variance of travel times from patient to physician (C: Sector 1 GPs in 2016)



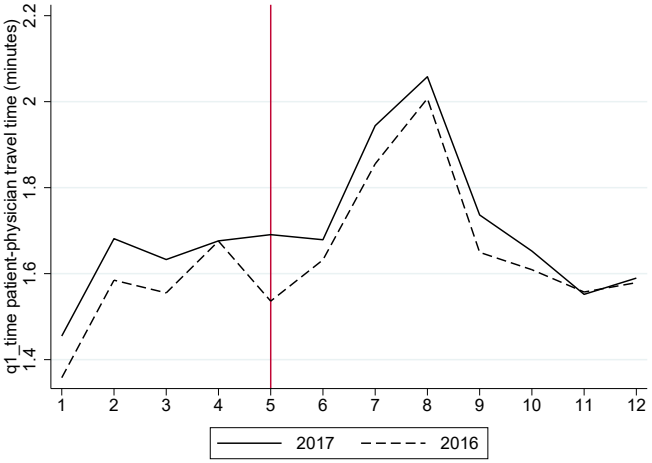

return

# The plausibility of the CTA - P10 of travel time from patient to physician (C: Sector 1 GPs in 2016)



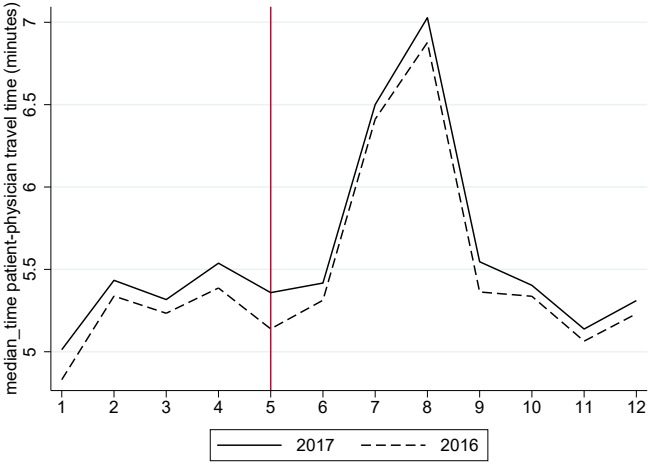

return

# The plausibility of the CTA - P25 of travel time from patient to physician (C: Sector 1 GPs in 2016)



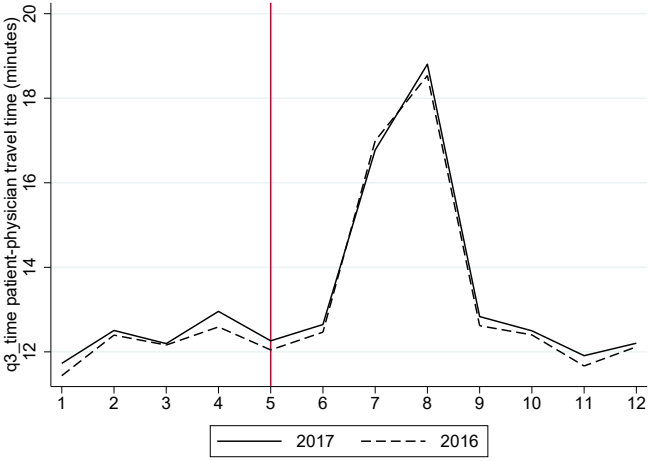

return

# The plausibility of the CTA - P50 of travel time from patient to physician (C: Sector 1 GPs in 2016)



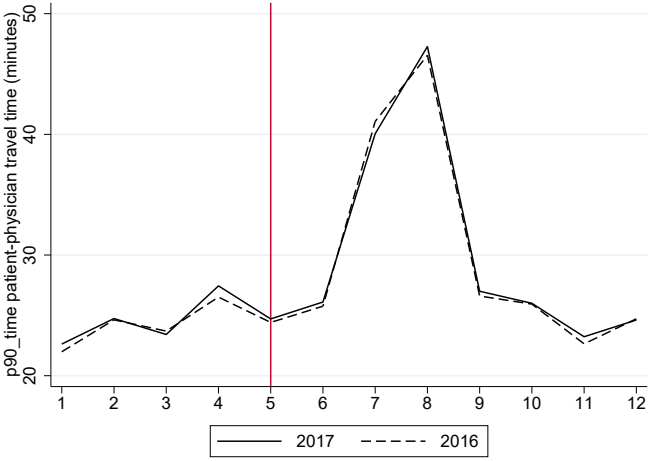

return

# The plausibility of the CTA - P75 of travel time from patient to physician (C: Sector 1 GPs in 2016)




return

# The plausibility of the CTA - P90 of travel time from patient to physician (C: Sector 1 GPs in 2016)




return

# Heterogeneity of TE - *Ceteris paribus*

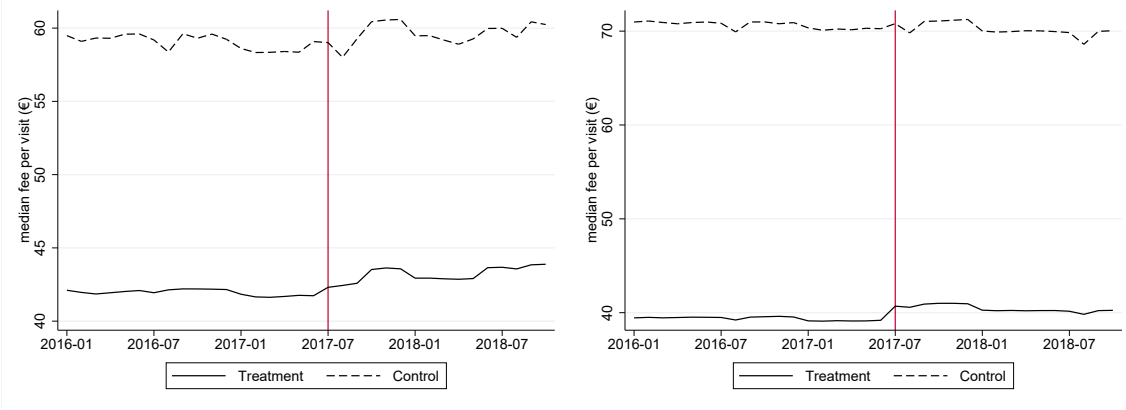
Table 7: Heterogeneity of the response to financial incentives (Activity)

| | |
|---|---|
| Post × Treatment | -1.277*** |
| | (0.0756) |
| Medical density × Post × Treatment | -1.229*** |
| | (0.0756) |
| Age (ref: 70-75) | |
| 30-39 × Post × Treatment | 0.173*** |
| | (0.0662) |
| 40-49 × Post × Treatment | 0.142** |
| | (0.0573) |
| 50-59 × Post × Treatment | 0.0916*** |
| | (0.0340) |
| 60-69 × Post × Treatment | 0.0518** |
| | (0.0262) |
| Gender (ref: men) | |
| Women × Post × Treatment | -0.00243 |
| | (0.00257) |
| Density of area (ref: dense) | |
| Intermediate × Post × Treatment | 0.000592 |
| | (0.00125) |
| Weakly dense × Post × Treatment | 0.00866** |
| | (0.00357) |
| Not dense × Post × Treatment | 0.0297* |
| | (0.0177) |
| Medical desert classification (ref: not a medical desert) | |
| ZIP × Post × Treatment | 0.00155 |
| | (0.00127) |
| ZAC × Post × Treatment | 0.00253 |
| | (0.00232) |
| Income (in 2016, ref: Group 2) | |
| Group 1 × Post × Treatment | 0.0662* |
| | (0.0356) |
| Group 3 × Post × Treatment | -0.0370 |
| | (0.0187) |
| Group 4 × Post × Treatment | -0.0372** |
| | (0.0175) |
| Group 5 × Post × Treatment | -0.0240* |
| | (0.0126) |
| Group 6 × Post × Treatment | -0.0397** |
| | (0.0164) |
| Group 7 × Post × Treatment | -0.0511*** |
| | (0.0164) |
| Group 8 × Post × Treatment | -0.0409** |
| | (0.0164) |
| Group 9 × Post × Treatment | -0.0437*** |
| | (0.0164) |
| Group 10 × Post × Treatment | -0.0421** |
| | (0.0164) |
| Share of shoppers (ref: Group 2) | |
| Group 1 × Post × Treatment | 0.0138 |
| | (0.0141) |
| Group 3 × Post × Treatment | 0.00592* |
| | (0.00356) |
| Group 4 × Post × Treatment | 0.00944*** |
| | (0.00364) |
| Group 5 × Post × Treatment | 0.00450 |
| | (0.00287) |
| Group 6 × Post × Treatment | 0.00667* |
| | (0.00386) |
| Group 7 × Post × Treatment | 0.0116*** |
| | (0.00366) |
| Group 8 × Post × Treatment | 0.0139*** |
| | (0.00433) |
| Group 9 × Post × Treatment | 0.00997** |
| | (0.00407) |
| Group 10 × Post × Treatment | 0.0191*** |
| | (0.00702) |
| Observement FE × Post × Treatment | Yes |
| Constant | 5.637*** |
| | (0.00257) |
| Observations | 121,739 |
| $R^2$ | 0.870 |

Dependent variable: Number of medical services per ZIP and per month (log).
Clustered standard errors at the physician level.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

return

# Change in specialists' fees



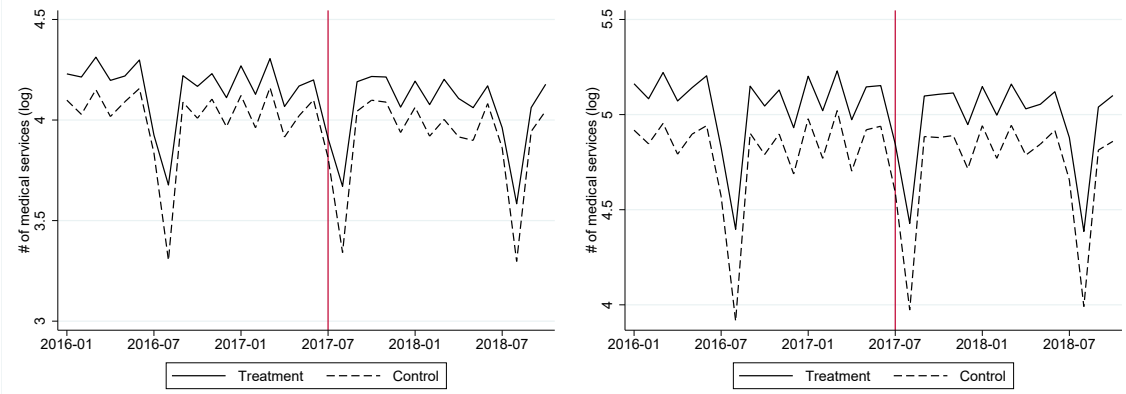

(a) Cardiologists

(b) Psychiatrists

Figure 4: Change in specialists' fees (T: Sector 1, C: Sector 2)

return

# Evolution of specialists' activity




(a) Cardiologists

(b) Psychiatrists

Figure 5: Evolution of specialists' activity (T: Sector 1, C: Sector 2)

return