

WENNBERG INTERNATIONAL COLLABORATIVE  
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# Physician Retirement, Practice Closures and Discontinuity of Primary Care

What are the causal impacts on patients?

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# Motivation and Research Questions

- General practitioners (GPs) as an economically efficient source of primary care.
- When retiring, GPs in Switzerland increasingly close down their practices, especially in peripheral areas.
- For patients, practice closures reduce availability and generate a discontinuity of care.
- Literature: No evidence regarding the impacts of practice closures.

**Research Questions:** How do practice closures and the resulting discontinuities of care affect:

(a) patients' utilization patterns?

(b) patients' health-related outcomes and costs?

# Empirical Strategy

- Dynamic perspective: we study the impact by comparing patients' utilization and outcomes before and after a practice closure
- Two Groups:
  - Treatment group: patients whose usual GP shuts down his practice
  - Control group: patients who experience no change (we assign a pseudo closure date)
- Difference-in-difference framework for causal inference:
  - ATT:  $\tau = E[Y_{i,t>0}(1) - Y_{i,t>0}(0) | D_i = 1]$
  - Fixed-effects model for panel data:  $Y_{it} = \tau S_{it} + \mu_i + \theta_t + \varepsilon_{it}$

# Data

- mandatory health insurance claims data (CSS Insurance), 2005-2016
  - contains information on patients' demographics, place of residence, insurance contracts, utilization and expenditures etc.
  - usual source of care: > 75% of visits
  - selection: patients observed 2 years before and after closure
- data on practice closures (tough!)
  - monthly consultations in mandatory health insurance system (Datenpool, Sasis)
  - primary data collection through (1000s of) telephone calls
  - 325 practice closures, 3'690 practices in the control group

# Descriptive Statistics

Table 1: Patient Data, Quarterly Means

		controls	treated
dependent variables	visits (main GP)	1.22	1.31
	visits (GPs)	1.27	1.37
	visits total	1.94	2.04
	inpatient days	0.47	0.48
	total costs in CHF	1070	1120
attributes	patient's age	54.90	57.44
	female	0.55	0.53
	German-speaking	0.68	0.69
	high deductible	0.20	0.18
	physician density	0.80	0.76
	number of PCG flags	0.67	0.72
N		211'225	11'473

Notes: quarterly averages, measured in the pre-treatment period

# Figure 1: Distribution of the Physician's Age

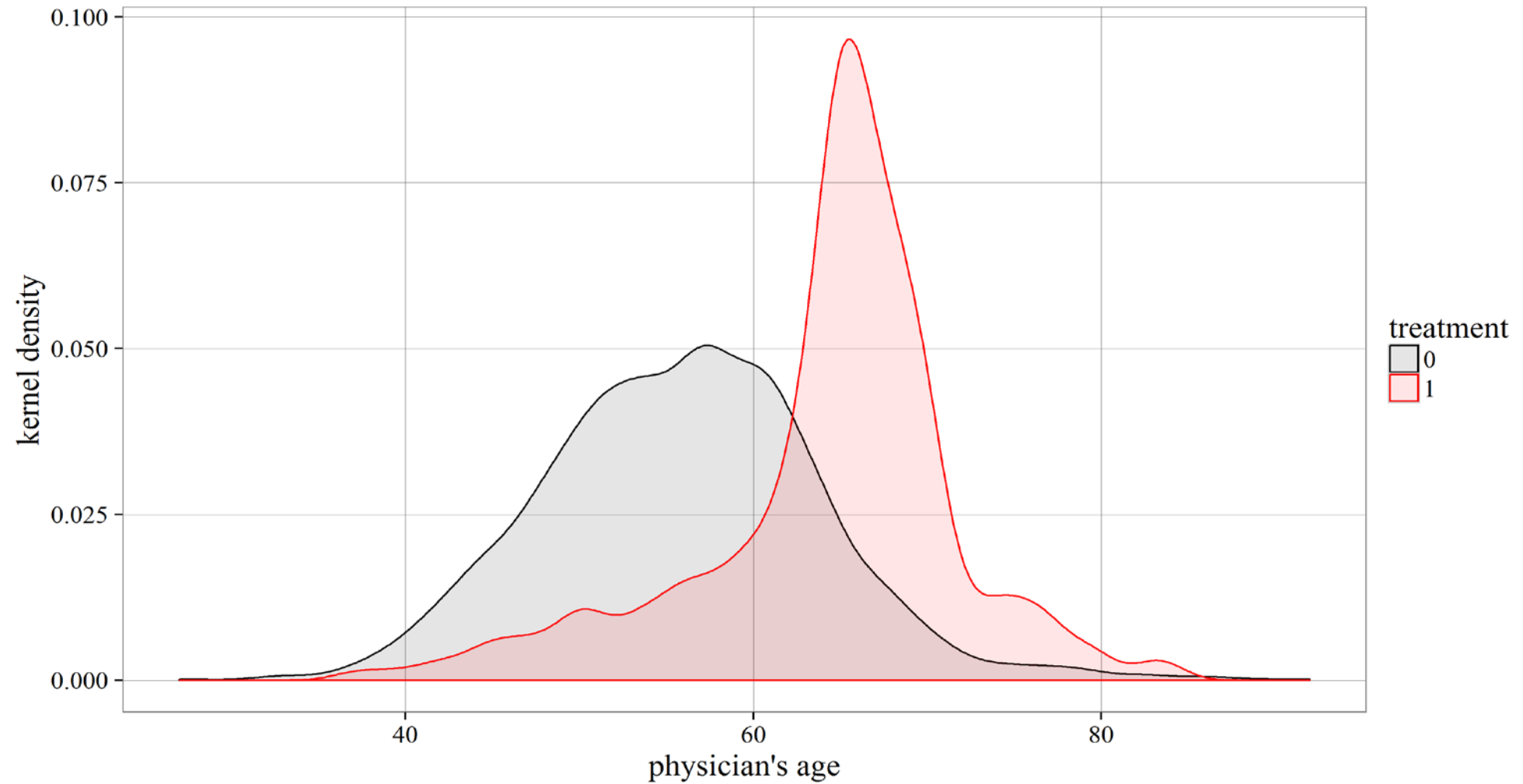
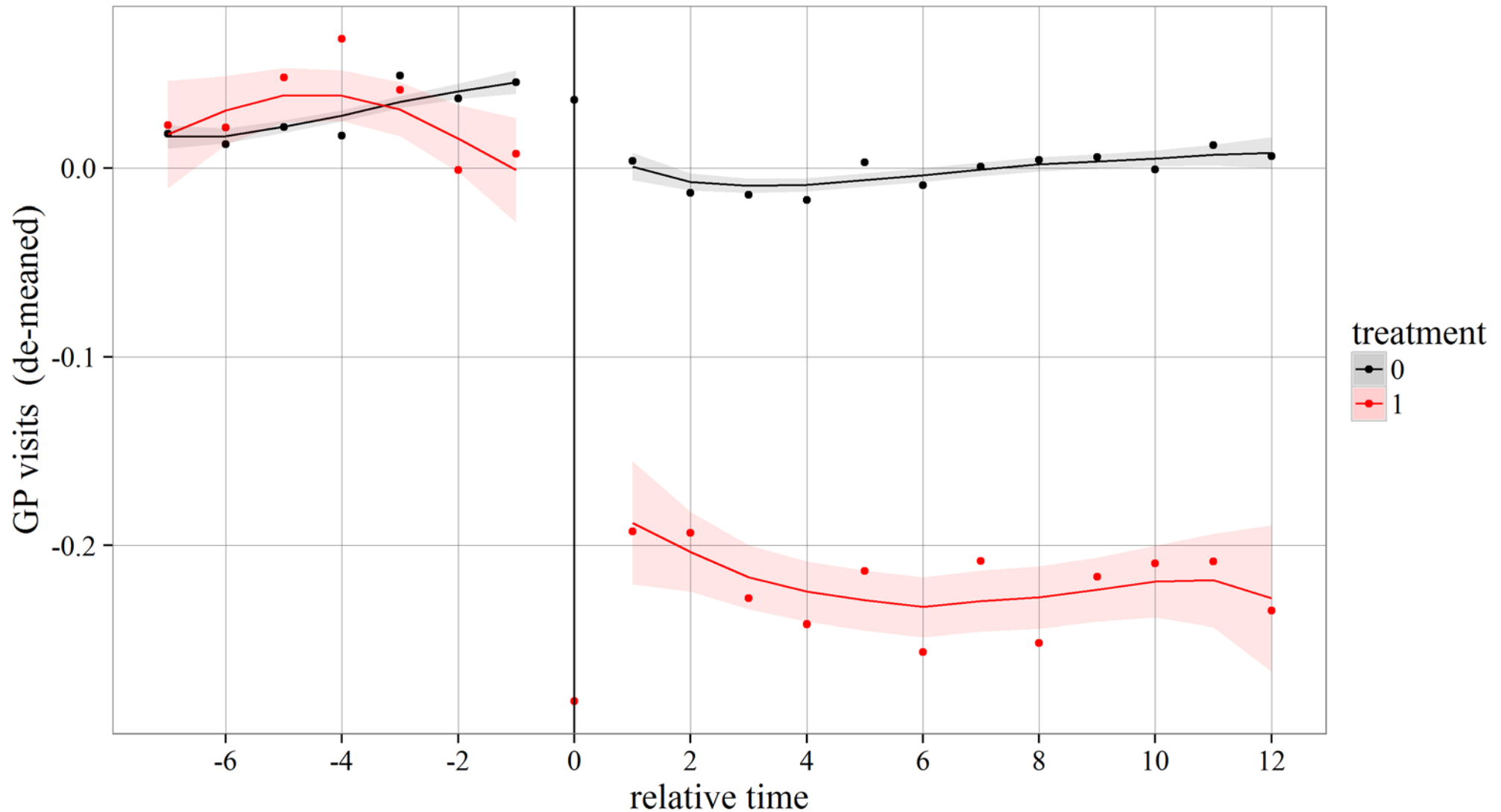


Figure 2: Change in GP Visits across Groups and Time



# Regression Estimates of Causal Effects

Table 2: Effects of Practice Closures on Outcome Variables

	estimate	std. err.	p-value	estimate in percent	outcome mean
GP visits	-0.218	0.013	0.0000	-15.9%	1.37
specialist visits	0.063	0.010	0.0000	9.5%	0.66
hospital outpatient visits	0.011	0.005	0.0427	3.7%	0.29
emergency visits	0.005	0.002	0.0086	7.5%	0.07
total costs	64.567	19.675	0.0010	5.8%	1119.95
hospitalization rate	0.002	0.001	0.0878	4.4%	0.04
PPO health plan	-0.031	0.003	0.0000	-10.5%	0.29



# (Tentative) Conclusions

- Practice closures do have persistent impacts on patients:
  - shifts in utilization across provider types
  - increase in costs, change in health plan choice
- Results have implications for health care policy and planning:
  - Avoid closures? Assist in «transfer» of affected patients to new GPs?
- Looking ahead:
  - Exploring effect heterogeneity
  - What are the impacts of practice *handovers*?