License to kill? The impact of hospital strikes
Evidence from multiple strikes in the Portuguese National Health Service

Background

○ What is the impact of hospital strikes on hospital activity and patient outcomes?
How should hospitals react to disruptions in staffing? (Absenteism, Covid Quarantine, Strikes, Holidays,...)

Hospital strikes in Portugal
(2012-2018; number of strikes)

○ Challenges for identification:
1) Determining strike exposure: patients with longer stays are more likely to have been exposed to strikes
2) Controlling for selection: are patients admitted during strikes different from other patients?
3) Hospital anticipation: are hospitals able to anticipate and adapt their structures?

Data and empirical strategy

○ NHS Hospital admissions from 2012 to 2018 (~12 million)
○ 127 hospital strikes identified from 2012 to 2018

Exposure to strike
(% of admissions; exposure at anytime)

- Any strike: 9.36%
- Physicians: 2.07%
- Nurses: 4.82%
- DTTs: 5.30%

Identification hinges on the assumption that, after controlling for hospital, patient, admissions and time, the only reason for changing outcomes for admissions exposed to strikes, is the strike itself

\[ Y = \alpha + \beta W + X\gamma + u \] with \( W = I \{ \text{Strike exposure} \} \)

Pooled OLS with inpatient care admissions as unit of observation (for length of stay: hazard model employed)

Outcomes: Hospital Mortality Rate, 30/15/7-days urgent readmission rate, Length of Stay

Controls: patient & admission characteristics, regional and time controls (~ 500 control variables included)

Hospital Admission Policy During Strikes

○ Reduction on daily admissions
○ Reduction in surgical admissions (up to 54%)
○ Increase in urgent admissions (physicians’ strikes only)
○ Severity of Illness and Risk of Mortality are not affected – no evidence of significant patient selection during strikes

Hospital Discharge Policy During Strikes

○ Longer admissions for patients exposed to nurses’ strikes on the admission day
○ Higher readmission rates for patients exposed to strikes after the admission day
○ No evidence of earlier discharges before strikes

Hospital Mortality Rates During Strikes

○ For patients admitted during a strike...
6% increase in the probability of death for patients exposed to physicians’ strikes
No impact for patients exposed to other strikes
Impact of physicians’ strikes happens only during strikes
Heterogeneity: stronger impacts for longer, urgent and severe admissions

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