

Has the Malpractice Crisis in Florida Really Affected Access to Care?

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The Malpractice “Crisis”

- High malpractice premiums have been a concern of policy analysts for a long time:
 - Defensive medicine might drive up costs
 - Physician exit might harm access
 - This study focuses on the latter

Prior Research

- GAO investigated anecdotal reports of MD exit
 - Few confirmed exits linked to malpractice
 - Questioned whether exit rate had increased
 - Examined limited number of anecdotes
 - Did not examine service reductions
 - Limited to 2002
- Systematic research is somewhat lacking
 - Baicker/Chandra and Erus find modest relationship between malpractice premiums and physician location decisions
 - Klick's paper is an important addition to this literature

Purpose of this Paper

- Systematic study of Florida – a crisis state
 - Focus on neurosurgery and obstetrics
 - Examine travel times for high risk procedures (craniotomies and high risk deliveries)
 - Assess MD activity levels, including exit
- Statistical comparisons
 - Pre-post comparison
 - Comparison with low-risk procedures
 - Comparison with California (a non-crisis state)
- Case studies of markets that experienced MD exit

Main results

- Little evidence of increased of travel times; mainly for craniotomies
- Fewer providers performing high risk procedures; decline concentrated among *low volume providers*
- Case studies suggest few markets are “devastated” by exit

Why Study Access?

- Physician responses could affect both incidence and access
 - If there are substitute, lower risk, interventions then incidence of high risk procedures may fall
 - Health Affairs publication found no incidence effects
 - If a patient's preferred provider leaves a market, then patients may have to travel further for care
 - Rural markets may feel biggest impact

Why Study Florida?

- Florida is a good study state for several reasons
 - It is an AMA crisis state
 - Premium increases in Florida exceed the median U.S. increase
- Florida has unique data
 - Patient level hospital data, including clinical information and the patient's residence zip code
 - The license number of the operating physician
 - The data is recent – allowing us to study all of 2004

Identifying High Risk Procedures

- We limit analysis to Neurosurgery and Obstetrics
 - Media reports suggest that these specialties, along with Emergency Medicine, have been hardest hit by the “crisis”
- High risk procedures in neurosurgery
 - Craniotomies
 - These have the highest mortality risk, highest expense

- High risk procedures in obstetrics
 - Ideally, confine to risks that are present prior to delivery
 - Could use “secondary diagnoses” to identify conditions
- Problem using secondary diagnoses to define HRDs
 - Coding inconsistent over time
 - Instead, we use DRGs for deliveries with complications
 - Drawback – some of these complications arose during delivery

Travel Times Methods

- Unit of observation is the patient
- We estimate “difference in difference” regressions to compare trends in travel times for various groups
 - E.g., High risk versus low risk deliveries
 - E.g., Florida versus California
 - Regression controls for other factors that might affect travel times such as age, race and insurance coverage

Neurosurgery Travel Time Results

(comparison with low risk neurosurgeries)

Year	All Patients		Rural Only	
	Craniotomy Travel Times	Other Neurosurgery Travel Times	Craniotomy Travel Times	Other Neurosurgery Travel Times
1996	33.46	22.96	55.11	41.88
2000	36.88 P=.00	24.67 P=.00	61.97 P=.00	43.85 P=.02
2004	41.93 P=.00	25.06 P=.00	66.68 P=.00	43.54 P=.05
Diff in Diff: [2004-2000] _{Crani} -- [2004-2000] _{oth_neur}	4.661 P=.000		5.013 P=.001	
Diff in Diff: [2004-2000] _{Cran} - [2000-1996] _{Crani}	1.630 P=.042		-2.162 P=.354	

HRD Travel Time Results

(comparison with non-HRDs)

Year	All Patients		Rural Only	
	HRD Travel Times	Other Delivery Travel Times	HRD Travel Times	Other Delivery Travel Times
1996	20.66	19.96	40.42	37.90
2000	21.48 P=.00	21.03 P=.00	41.62 P=.00	38.52 P=.00
2004	22.45 P=.00	21.92 P=.00	41.64 P=.00	38.79 P=.00
Diff in Diff: [2004-2000] _{HRD} – [2004-000] _{oth deliv}	0.197 P=.052		-.261 P=.474	
Diff in Diff: [2004-2000] _{HRD} – [2000-1996] _{HRD}	0.245 P=.133		-1.186 P=.049	

Volume and Exit Definitions

Type of Exit	Initial Year Volume	Volume 3 years later
Very Low Volume Exit	1-3 procedures	0 procedures
Low Volume Exit	4-10	0-1 procedures
Medium Volume Exit	11-24	At least 67% reduction
High Volume Exit	25+	At least 50% reduction

Distribution of Activities

Distribution of Physicians by Category (%)

	1998	2000	2002	2004	Chi ² Prob
CRANIOTOMY					
Very low volume	49.88	53.41	51.43	48.73	0.078
Low volume	8.35	8.84	6.37	12.01	
Medium volume	12.99	11.04	12.09	15.24	
High volume	20.19	18.07	18.24	16.40	
Very high volume	8.58	8.63	11.87	7.62	
HRD					
Very low volume	20.58	20.82	17.61	17.69	0.002
Low volume	20.40	18.65	20.06	17.34	
Medium volume	29.60	30.20	34.56	32.28	
High volume	22.62	23.04	20.45	23.33	
Very high volume	6.80	7.29	7.31	9.36	

Exit Rates

Table XII: Exit Rates (%)

	1998- 2000	2000-02	2002-04	Chi2 prob
NEUROSURGERY				
Very low volume exit	72.09	80.08	85.04	0.003
Low volume exit	13.89	27.27	31.03	0.215
Medium volume exit	14.29	16.36	10.91	0.705
High volume exit	2.3	4.44	12.05	0.021
Very high volume exit	8.11	2.33	7.41	0.468
HRDs				
Very low volume exit	60.66	65.88	71.69	0.018
Low volume exit	24.24	29.47	39.03	0.000
Medium volume exit	9.19	10.84	14.04	0.046
High volume exit	10.11	7.77	8.23	0.496
Very high volume exit	7.27	7.63	7.96	0.981

Case Studies

- Rural markets
- At least 5 high risk patients in 2002
- Exiters between 2002 and 2004 accounted for large percentage of 2002 procedures
- Identified only 6 such cases for craniotomies (30 patients)
- Identified 14 zip codes for HRDs (119 patients)

Example of Case Study

- *18 HRDs in 2002*
 - *Performed by 11 doctors*
 - *One exiting MD performed 6*
 - *All 11 patients traveled less than 40 minutes*

- *29 HRDs in 2004*
 - *Performed by 12 doctors; one new doctor performed 7*
 - *5 of the 29 patients traveled more than 50 minutes*

Example of Case Study

- 12 HRDs in 2002
 - Performed by 8 doctors
 - One exiting MD performed 6
 - All patients traveled over 85 minutes
- 14 HRDs in 2004
 - Performed by 8 doctors
 - One new MD performed 6
 - Local hospital begins performing HRDs, reducing travel times

Conclusions

- Mixed evidence that the “crisis” had harmful effects through 2004
- Travel times higher for urban craniotomy patients
- Otherwise:
 - Apparent decrease (from trend) for rural craniotomy patients
 - No change in times for HRDs
 - Reduction in activity by low volume providers
 - Exit by neurosurgeons at low to medium activity levels
 - Few case studies of rural markets affected by exit; these show no consistent harmful effects

The End

