

STA 199 project

# The Economics behind Medicine

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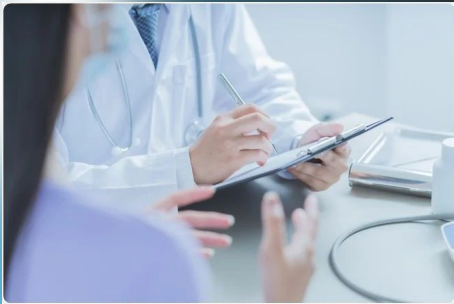
# Research Topic: Where do doctors go wrong?

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**Hypothesis: Severe cases will lead to higher malpractice payments**

## **Motivation:**

- **Medical malpractice is a key issue in healthcare**
- **Understanding which certain types of medical errors lead to higher financial liability**



# Meet the Data

Source: National Practitioner Data Bank (NPDB)

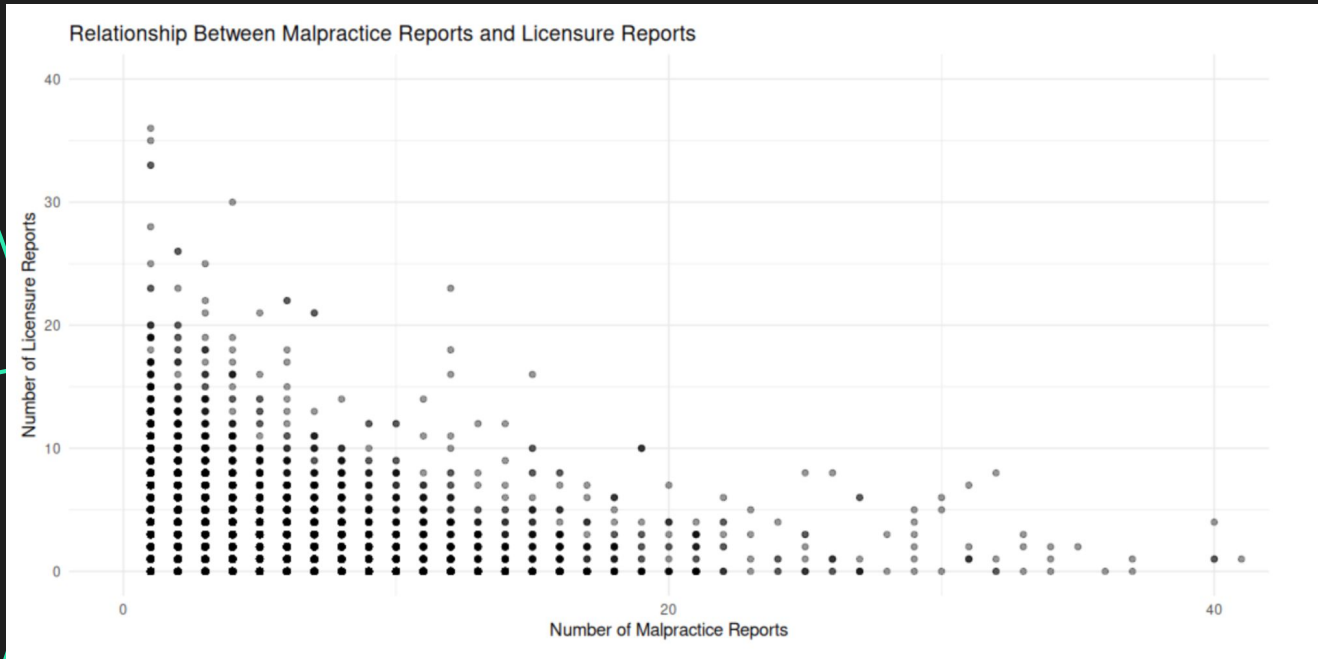
Time frame: Data collection since 1986

Records: total of 407, 915 payments

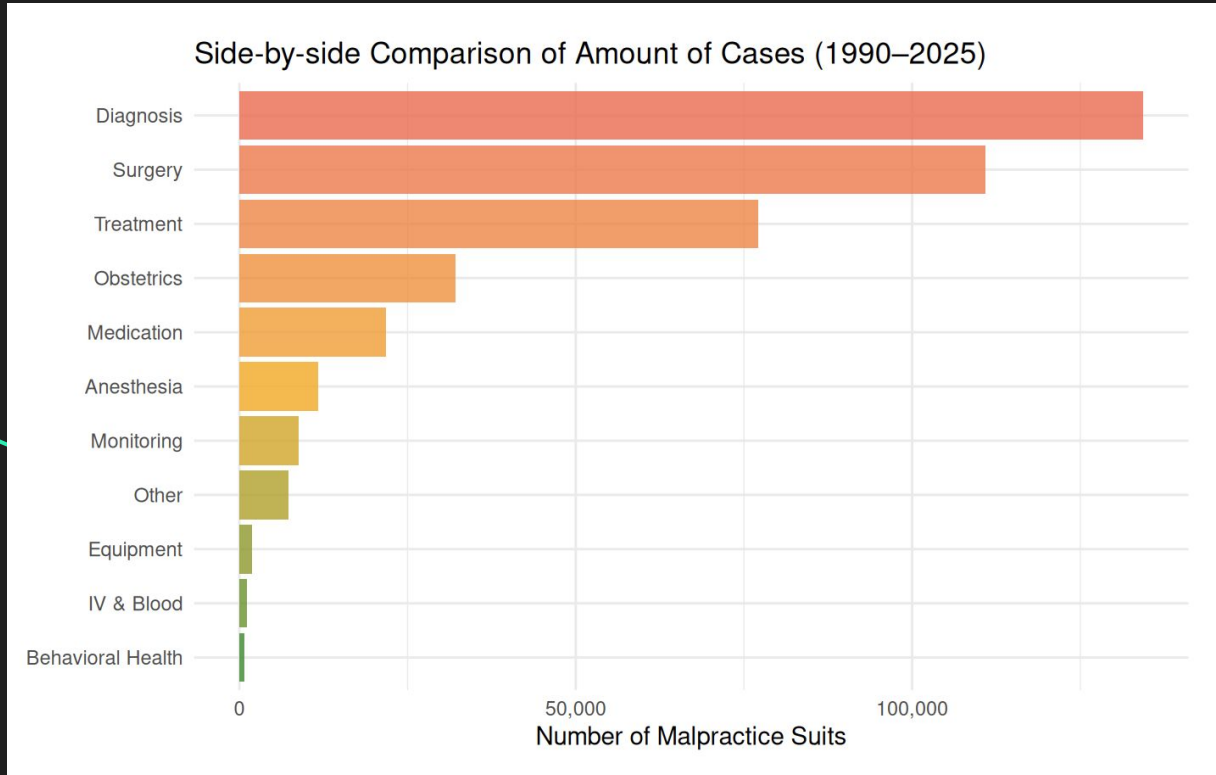
Key Variables: Payment Amount, Allegation type, State, and Year

allegation	n_cases	median_payment	mean_payment
<fct>	<int>	<dbl>	<dbl>
1 Diagnosis	134343	195000	320000.
2 Surgery	110902	125000	253587.
3 Treatment	77093	125000	258808.
4 Obstetrics	32174	245000	488733.
5 Medication	21739	97500	223263.
6 Anesthesia	11736	155000	337401.
7 Monitoring	8762	155000	313421.
8 Other	7283	62500	201004.
9 Equipment	1887	42500	139457.
10 IV & Blood	1101	97500	216946.
11 Behavioral Health	758	97500	223293.

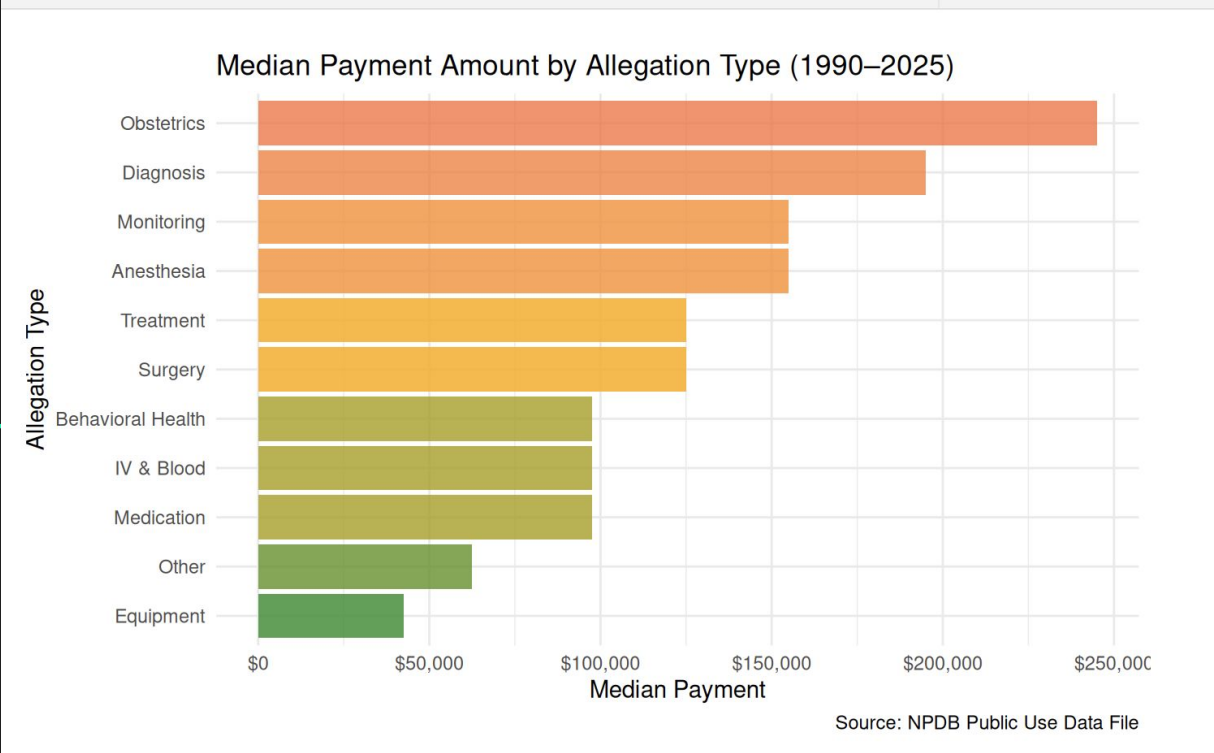
# The Relationship between Malpractice Reports & Licensure Reports



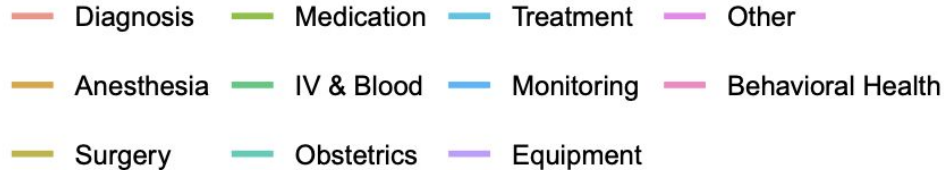
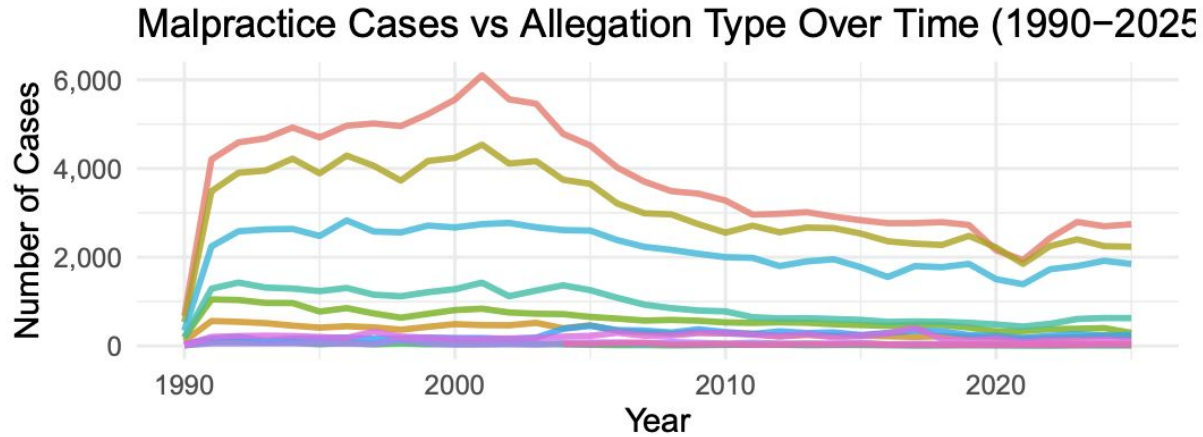
# Number of Cases by Allegation



# Median Payment by Allegation Type

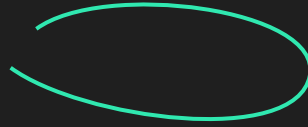


# Malpractice Cases by Allegation Type Over Time (1990–2025)



Source: NPDB Public Use Data File

# Key Conclusions



- **Allegation Type Drives Payment Size** - Obstetrics cases carry the highest median payment (\$245k), more than 5x that of Equipment claims (\$42.5K) -> Allegation type is a meaningful predictor of financial liability
- **Volume ≠ Severity** - Diagnosis errors are most common, but Obstetrics have top median payment
- **Malpractice Rates Have Declined Over Time** - possibly improved patient safety practices or different litigation patterns

# Limitations & Critique

- Limitations: Payment-only records exclude unpaid settlements | No severity/outcome data | No patient demographics | No geographic controls | No physician-level controls | No inflation adjustment across 35 years |
- Critiques: We can only show association between allegation type and payment size, not why that relationship exists -> Other factors like hospital size and legal representation likely play a role but can't be measured here
- Future Work: look into why number of malpractice cases have decreased over time