


# The Accuracy of the Medical Malpractice System: What the Evidence Tells Us



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# Today's discussion

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1. The MIMEPS study
  1. Methodology
  2. Descriptive findings
2. How often does the system “get it wrong”?
3. How well does the tort system capture the realities of medical error causation?

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# Malpractice Insurers' Medical Error Prevention and Surveillance Study (MIMEPS)

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## Sponsors:

Agency for Healthcare Research  
and Quality  
  
Harvard Risk Management  
Foundation

# Sample of insurers

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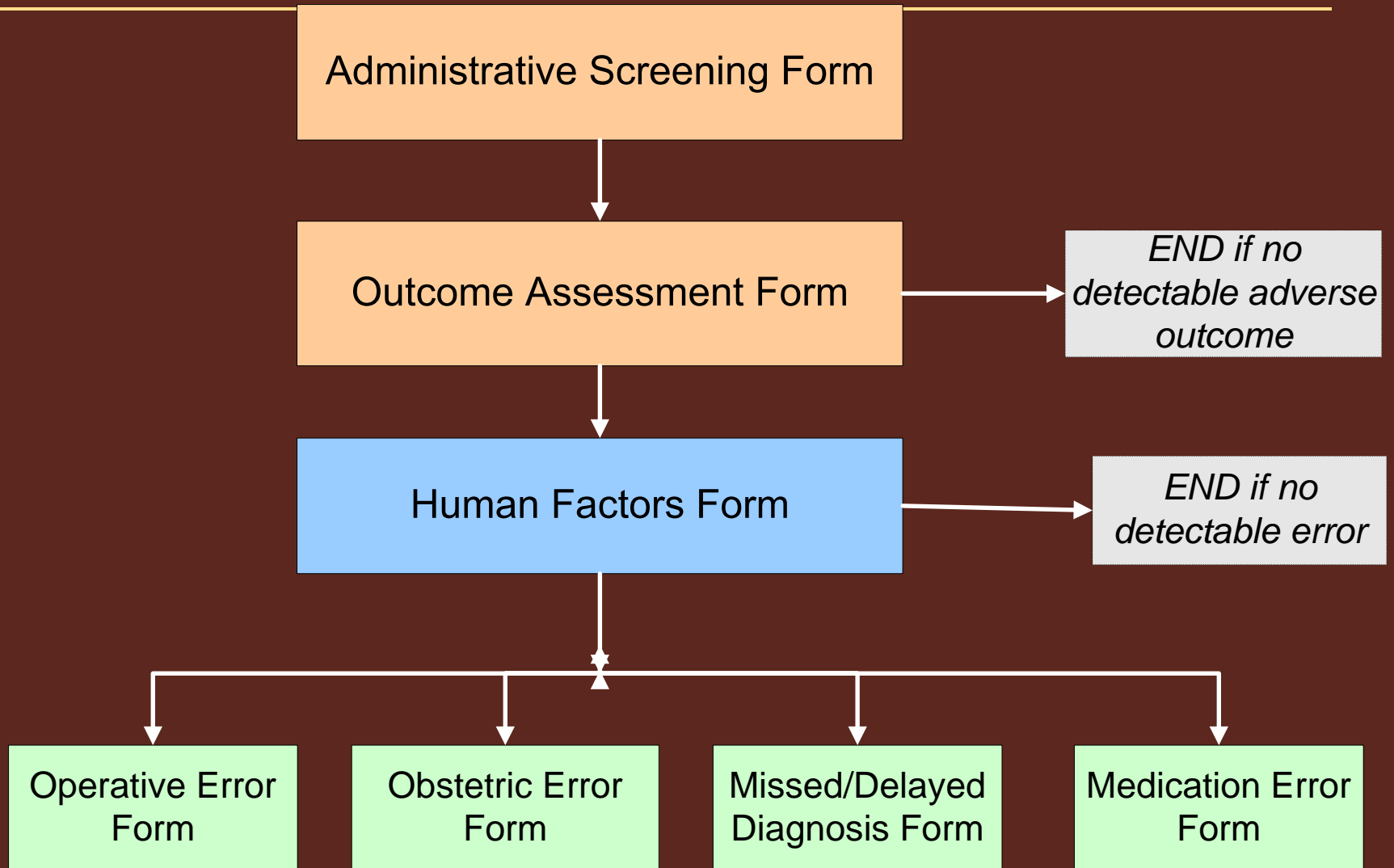
- 5 Insurers (2 Northeast, 1 Mid-Atlantic, 1 Southwest, 1 West)
- Coverage:
  - 33,000 physicians
  - 61 acute care hospitals (31 academic, 26 non-academic)
  - 428 outpatient facilities

# Sample of claims

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- Claims selected randomly in 4 clinical categories which collectively account for ~80% of claims:
  - Operative (n=444 claims reviewed)
  - Obstetrics (n=335)
  - Missed or delayed diagnosis (n=429)
  - Medication-related (n=244)
- Target number at each site based on annual claims volume

# Sequence of review



# The error judgment process

1. Was there an adverse outcome?



2. What caused the adverse outcome?

Rate the likelihood that a failure of \_\_\_\_\_ contributed to the adverse outcome.

0                      0                      0                      0                      0  
1-----2-----3-----4-----5  
Highly Unlikely                      Somewhat Likely                      Highly Likely

3. Was the adverse outcome due to error?



*In light of your responses to the above questions and all other relevant information in the claim file, indicate your confidence that the adverse outcome resulted from one or more errors.*

- o Little or no evidence (*END REVIEW*)
- o Slight to modest evidence (*END REVIEW*)
- o Not quite likely; less than 50-50 but close call (*END REVIEW*)
- o More likely than not; more than 50-50 but close call
- o Moderate/strong evidence
- o Virtually certain evidence

4. Clinical details of error

# Inter-reviewer reliability of adverse outcome and error determinations

Clinical Category	Kappa: Adverse Outcome	Kappa: Error
<b>Operative</b> (n=40 pairs)	<b>1.00</b>	<b>0.80</b>
<b>Obstetric</b> (n=32 pairs)	<b>0.70</b>	<b>0.56</b>
<b>Missed/delayed diagnosis</b> (n=42 pairs)	<b>0.63</b>	<b>0.41</b>
<b>Medication</b> (n=28 pairs)	<b>0.91</b>	<b>0.76</b>

- *Kappa for adverse events: 0.38 - 0.42 (intermediate)*
- *Kappa for negligent adverse event: 0.24 - 0.28 (poor)*

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# Clinician defendants

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Ob-Gyn	19%
General surgery	17%
Primary care	16%
Nurses	9%
Orthopedic surgery	8%
Neurosurgery	5%
Radiology	5%
Anesthesiology	4%
Emergency med.	4%
Pediatrics	4%

# Litigation outcomes

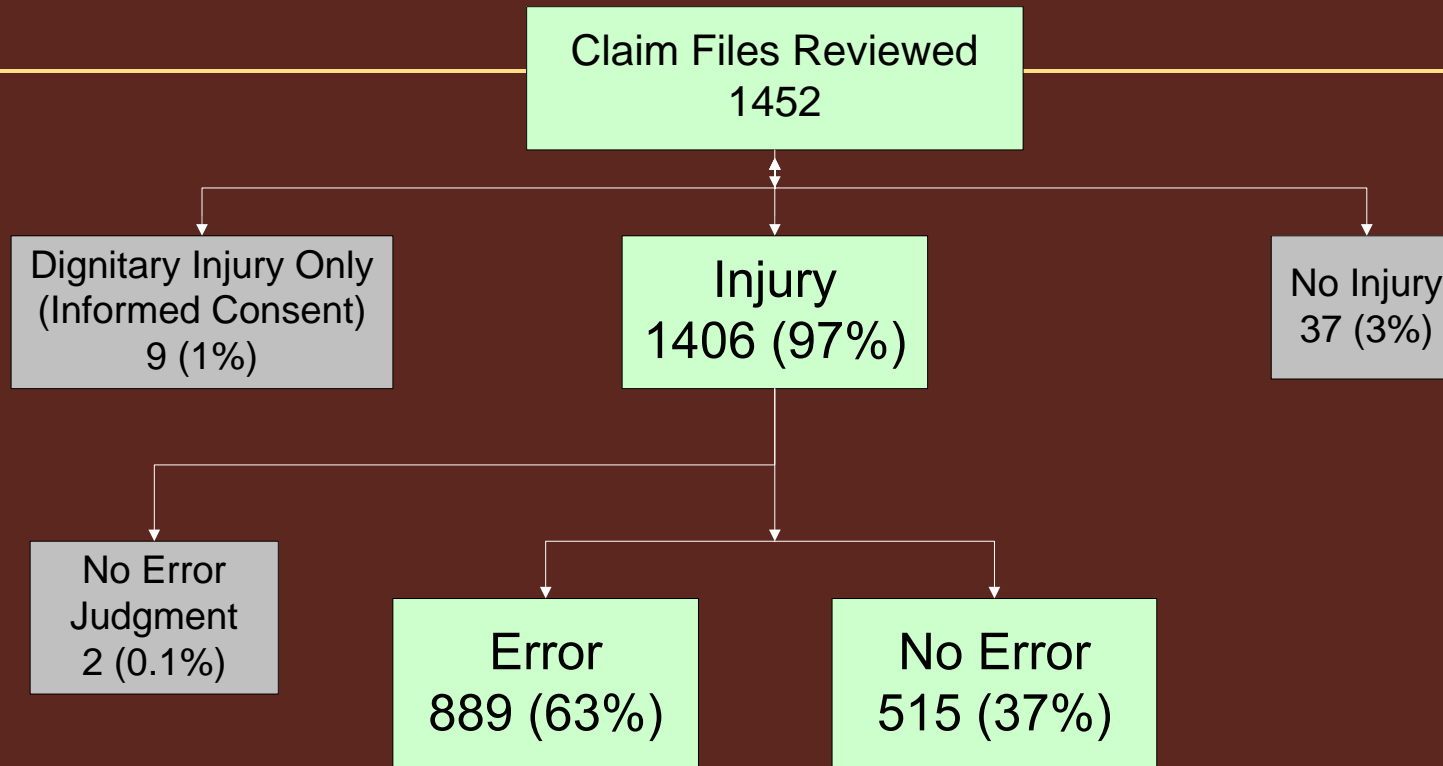
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Outcomes	Mean
Proportion with indemnity payment	56%
Resolved out-of-court	85%
Trial	15%
Defense verdict	81%
Plaintiff verdict	19%

# Payment levels

Outcomes	Mean	
Proportion with indemnity payment	56%	<b>Payments</b> Mean (median) \$2003
Resolved out-of-court	85%	\$472,378 (\$200,625)
Trial	15%	\$452,597 (\$193,250)
Defense verdict	81%	
Plaintiff verdict	19%	\$854,170 (\$303,000)

# Prevalence of error among injury claims

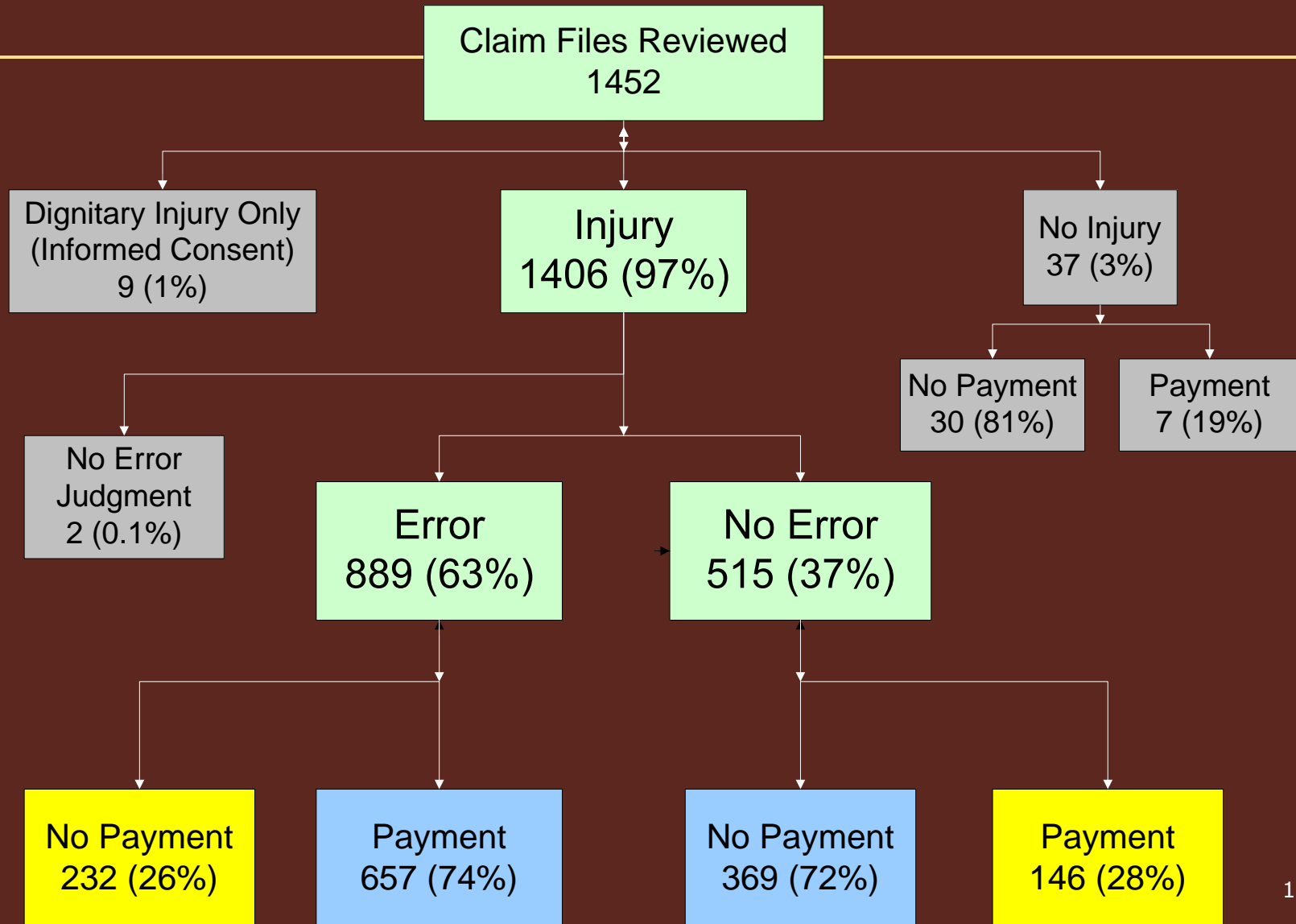


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# The claims-error-compensation relationship



# Multivariate predictors of payment in the absence of error

Predictor	Odds Ratio
Infant	2.3
Emotional injury *	0.1
Trial verdict	0.2
Reviewer confidence *	
Close call	2.4
High	0.3

\* Compared to significant injury and moderate confidence

# Multivariate predictors of nonpayment despite error

Predictor	Odds Ratio
Trial verdict	4.5
Reviewer confidence *	
Close call	1.7
High	0.5

\* Compared to moderate confidence

# Conclusions

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1. Most claims involve error ( $\frac{2}{3}$ ), and most error claims receive payment ( $\frac{3}{4}$ )
2. Relatively few non-error claims receive compensation ( $\frac{1}{4}$ ); these tend to involve infants and be “close calls”
3. As a proportion of all claims, unpaid errors are 60% more common than paid non-errors

# Conclusions

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4. Plaintiffs fare badly in trials, even when they have meritorious cases
  - *Should tort reform opponents defend jury trials so strongly?*
5. Defendants and the insurers avoid putting claims involving infant plaintiffs before juries
  - *Sympathy factor?*
6. "Closeness" of the liability question affects potential for "wrong" outcomes
  - *Also underlines a selection effect with trials*

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# Finding 1: Medical error causation is multifactorial and complex

Contributing factors	% of all error-related injuries
<b>Individual factors</b>	<b>96%</b>
Error in judgment	70%
Failure of vigilance/memory	57%
Lack of technical competence/knowledge	48%
<b>System factors</b>	<b>56%</b>
Teamwork/communication	40%
Other	20%
<b>Patient-related factors</b>	<b>39%</b>

# Finding 1: Medical error causation is multifactorial and complex

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## Number of contributing factors:

Mean (median)	3.14 (3)
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≥4	35%
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≥5	19%
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## Number of involved clinicians:

Mean (median)	1.96 (2)
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≥3	25%
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≥4	7%
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# Challenges for the tort system

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- Newtonian model of causation doesn't fit well
  - More of a causal "web"
- The "but for", "substantial factor", and "proximate causation" tests of tort causation are too crude

## Finding 2: It is difficult to isolate individual failures from “systems”

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- ❑ Individual failures contribute to most errors, but they are precipitated or amplified by systems failures.
- ❑ Injury severity was higher among claims with individual+system factors vs. individual factors only (7.3 vs. 6.8,  $p < 0.01$ )

# Challenges for the tort system

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- ❑ Disproportionately focuses on individual failures
  - Institutional defendants only pay in 1/4 of cases
  - Doctrinal barriers
- ❑ Doesn't distinguish well between cases with and without system factors
  - Institutions no less likely to pay in cases without vs. with system factors

## Finding 3: The best opportunities to avoid injuries are at the system level

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- Focus on individual liability misdirects the deterrent signal to individuals who may be relatively powerless to effect the needed changes
- Can we simultaneously pursue the 2 key components of efficient deterrence: *liability follows causation*, and *liability rests on the least-cost avoider*?

# Implications for the tort system

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- Need greater possibilities for enterprise liability
  - Exclusive corporate liability model
  - Joint liability model

# Summary

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- ❑ Conventional stories about the accuracy of the tort system and the causes of medical error are too simplistic.
- ❑ Complexity exists along multiple dimensions in error causation.
- ❑ Tort doctrine does not handle it well.

# Further reading

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- Studdert DM, Mello MM, Gawande AA, Gandhi TK, Kachalia A, Yoon C, Puopolo AL, Brennan TA. Accuracy of the medical malpractice system: relationship between claims, errors, and outcomes of litigation. *N Engl J Med* 2006;354:2024-33.
- Studdert DM, Mello MM. When tort resolutions are "wrong": predictors of discordant outcomes in medical malpractice litigation. *J Leg Stud* 2007 (in press).
- Mello MM, Studdert DM. Deconstructing negligence: the role of individual and system factors in causing medical injuries. *Georgetown Law J* 2007 (in press).
- All papers from the project are listed at <http://www.hsph.harvard.edu/faculty/michelle-mello/current-projects/>



# Clinical Category Definitions

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<b>Operative</b>	A claim that involves an operation, care related to an operation, or an allegation of a failure to provide a timely and appropriate operation.
<b>Obstetric</b>	A claim that involves a mother or infant (fetus/newborn) and occurs during the prenatal, intrapartum or post partum period
<b>Diagnosis</b>	A claim that originates from medical management in the <u>outpatient setting</u> (including the emergency room) and results from (1) an alleged error in diagnosis or testing that causes a delay in appropriate or needed treatment, or (2) an alleged failure to act or follow-up on diagnostic test results
<b>Medication</b>	A claim that pertains to a medication process, including alleged errors in prescribing, transcribing, dispensing, administering, or monitoring of a medication. It may also include an alleged omission or failure to order a medication on a protocol or guideline.

# MIMEPS Study Definitions

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**Adverse Outcome** – Any negative outcome complained of, including an alteration in the management of the patient, a hospital admission, a prolonged hospital stay, physical or emotional disability, breach of informed consent, death.

**Error** – The failure of a planned action to be completed as intended (i.e. error of execution) or the use of a wrong plan to achieve an aim (i.e. error of planning).

# Closure Dates

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<b>1984 – 1989</b>	<b>57</b>	<b>4%</b>
<b>1990 – 1994</b>	<b>190</b>	<b>13%</b>
<b>1995 – 1999</b>	<b>542</b>	<b>37%</b>
<b>2000 – 2003</b>	<b>663</b>	<b>46%</b>

# Injury Types

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No injury	3%
Breach of informed consent	<1%
Psychological / emotional	4%
Minor physical	13%
Significant physical	39%
Major / grave physical	15%
Death	26%

# Proportion of Claims Judged to Involve Injuries Due to Error

<b>Error</b>	<b>889</b>	<b>63%</b>
<b>No Error</b>	<b>515</b>	<b>37%</b>

<b>Virtually certain evidence</b>	<b>39%</b>
<b>Moderate / strong evidence</b>	<b>33%</b>
<b>More than likely; &gt; 50-50, but a close call</b>	<b>29%</b>

<b>Not quite likely; &lt; 50-50, but a close call</b>	<b>17%</b>
<b>Slight / modest evidence</b>	<b>27%</b>
<b>Little or no evidence</b>	<b>57%</b>

# Administrative Costs by Method of Disposition

Outcomes	Mean
Proportion with indemnity payment	56%
Resolved out-of-court	85%
Trial	15%
Defense verdict	81%
Plaintiff verdict	19%

**Administrative Expenses**  
 Mean (median)  
 \$2004

\$42,015  
 (\$22,994)

\$112,968  
 (\$89,484)