Study shows removing liability concerns slightly increases C-section procedures during childbirth

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Doctors face tough choices during difficult childbirths—often involving the decision of whether to perform a cesarean section operation. And in

the background lies a question: To what extent are these medical decisions motivated by the desire to avoid liability lawsuits?

When doctors' actions are driven by a desire to avoid legal entanglements, it is known as "defensive medicine." When it comes to childbirth, one common perception holds that doctors, at uncertain moments in the delivery process, would be more likely to intervene surgically to avoid other potential problems. Now, a unique study co-authored by an MIT economist sheds light on the practice of defensive medicine, with a surprising result.

The research, based on evidence from the U.S. Military Health System, finds that when doctors have immunity from liability lawsuits, they actually perform slightly more C-section operations, compared to when they are legally liable for those operations—about 4 percent more, over a 10-year period.

"When you're worried about errors of commission, defensive medicine can lead to [less] treatment of patients," says economist Jonathan Gruber, co-author of a new paper detailing the study's findings.

The paper, "Defensive Medicine and Obstetric Practices: Evidence from the Military Health System," is published this month in the *Journal of Empirical Legal Studies*. The authors are Gruber, who is the Ford Professor of Economics in the MIT Department of Economics, and Michael Frakes '01 Ph.D. '09, a professor of law and economics at the Duke University School of Law.

"Natural experiment" with military data

The finding adds new information to an area of medicine where legal liability issues loom large. As the scholars note in the paper, 74 percent of obstetricians and gynecologists face malpractice claims by age 45,

compared to 55 percent of physicians in the area of internal medicine.

To conduct the study, Gruber and Frakes used Military Health System data to conduct what economists call a "natural experiment," in which two otherwise similar groups of people are divided by one circumstance—often a policy change or social program.

In this case, the study examines the effects of the Feres Doctrine, stemming from a 1950 legal ruling, that active-duty members of the military receiving treatment from military facilities do not have recourse in case they suffer from negligent care. A significant portion of active-duty personnel receive medical treatment under these circumstances.

However, military personnel can also opt to receive private care outside of military bases. For this reason, military medical policy generates two pools of otherwise similar people, divided by their two care options—one with no liability for doctors, and one with liability. The idea for doing a study based on this comparison occurred to Gruber while he was working with the Military Health Service on other health care delivery issues.

"For decades, health economists have been searching to find the holy grail of a natural experiment to tell us what would happen if people couldn't sue for malpractice," Gruber notes.

The study examines Military Health System data on 1,016,606 births in military families, from 2003 to 2013. About 44 percent of the deliveries occurred at military health facilities and 56 percent at civilian hospitals. Ultimately, as the study shows, C-sections are about 4 percent more common during the deliveries at military hospitals, compared to the times when mothers in the Military Health System deliver at civilian hospitals.

As Gruber notes, that finding will seem unexpected to those who associate defensive medicine with an increase in operations, treatment, and interventions.

"We tend to think of defensive medicine as ... doctors doing extra testing because they're afraid of getting sued," he says. But this finding indicates that, in childbirth settings, doctors practice defensive medicine by intervening slightly less.

In each specialty, the right balance

The current finding also adds nuance to an earlier paper by Gruber and Frakes, based on inpatient care generally, which found that across medical areas, doctors who cannot be sued tended to spend 5 percent less on the treatment of patients. Doctors who could be sued, then, were spending more on tests and treatments.

Among other things, Gruber observes, that earlier paper suggests that overall, defensive medicine leads doctors to spend more, although "it's not the main driver of U.S. health care spending."

However, as Gruber also notes, what is true of medicine generally need not be true of particular medical specialties.

"This [new] paper is sort of the flip side of the first paper," Gruber notes. Indeed, he notes, the findings of the new paper may suggest that doctors' practices are reasonably optimal, in subtle ways. Because doctors effectively receive more compensation for performing C-sections, they have a financial incentive to perform more of them. And yet, if the application of defensive medicine leads doctors to perform slightly fewer C-sections, that might appropriately adjust the overall rate of interventions.

In any event, across medical specialties, the effects of defensive medicine may vary, and may push doctors toward more or less treatment on aggregate. Continued empirical studies of medical decisions will be necessary to shed more light on the matter.

"The point is, there's a balance," Gruber says, adding: "We think of defensive medicine as playing a negative role, but it can also play a positive role."

More information: Michael Frakes et al. Defensive Medicine and Obstetric Practices: Evidence from the Military Health System, *Journal of Empirical Legal Studies* (2020). DOI: 10.1111/jels.12241

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