Testing for Defensive Medicine Using Legal Immunity of Military Physicians

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One of the most controversial aspects of the U.S. health care system is the impacts of the medical malpractice system on patient treatments and health care costs. Many have labeled the malpractice protections offered by the U.S. legal system as a major source of runaway health care costs in the U.S. through the promotion of "defensive medicine," but existing evidence on the magnitude of these costs varies widely. This is partly due to the pervasive nature of the malpractice system, making it difficult to find a "control group" that is exempt from its influence. An extensive literature has attempted to identify the consequences of medical malpractice pressure by evaluating the outcomes observed following tort reforms, such as those that place caps on malpractice damages awards, with mixed results. By and large, however, these reforms maintain the essential structure of the medical liability system, inducing limited variation in the expected harm associated with liability.

The structure of malpractice protections under the Military Health System (MHS) provides a novel opportunity to develop a richer understanding of how malpractice "pressure" impacts patient treatment. This is because the MHS provides what is missing in previous studies: a true "control group" of patients for whom there is no malpractice pressure. Under federal law, active duty physicians who treat active duty military patients at military facilities cannot be sued for malpractice, while malpractice laws apply to dependents and retirees treated at military facilities, or to active duty military patients treated outside military facilities. By comparing those patients for whom physicians are not subject to "defensive medicine" pressure to other patients (perhaps even treated by the same physician) for which physicians are subject to such pressure, we can identify the impact of defensive medicine pressure on practice patterns, medical costs, and patient outcomes.

Central to our research aims is the availability of perhaps the richest data ever used to address these issues. The MHS has provided us with a complete set of records on medical treatment and outcomes for the entire universe of active duty personnel, dependents, and retirees, over an 11-year period.

We use these data to explore a variety of strategies to identify defensive medicine. Our initial analysis focuses on the inpatient care setting which has been the focus of much previous research. Our basic identification strategy is a difference-in-difference comparison of active duty patients who receive care on the base (where active duty physicians are exempt from malpractice) to those who receive care off the base, relative to non-active duty patients who receive care in both locales. This approach raises a concern, however, that those who choose to receive care on versus off the base may be different along some unobservable dimension. To address this, we use as instruments the proximity of zip code of residence to the base: that is, we compare active duty vs. non-active duty patients as a function of their proximity to the base (relative to the closest civilian hospital). Doing so, we find strong evidence of defensive medicine: our estimates suggest that providers who are exempt from malpractice pressure deliver roughly 15% less care than do those who are subject to malpractice pressures.

We confirm this result by using the natural experiment provided by base closings as a further test for the effects of exemption on defensive medicine. We also use variation in the distribution

of active duty versus non-active duty physicians across bases to show that our effect is stronger when there are more active duty physicians practicing on a base. We use variation in the active/non-active duty patient mix to test for spillovers in patient treatment as a larger share of patients are exempt from malpractice pressures. We examine the various dimensions of treatment along which providers can respond to changes in malpractice pressure. And we conclude with an exploration of the impact of malpractice pressure on patient outcomes, ranging from patient safety indicators to patient mortality.