Editor's Spotlight/Take 5

Editor's Spotlight/Take 5: Is There Variation in Procedural Utilization for Lumbar Spine Disorders Between a Fee-for-Service and Salaried Healthcare System?

Seth S. Leopold MD

No one is surprised that individual surgeons vary in the frequency with which they recommend surgery, or that they sometimes use different procedures to treat the same condition. We can attribute some of the differences to gaps in the evidence base; beyond that, practices differ, as do surgeons'

appetites for tackling riskier or more-complicated operations. We also can accept that there might be broader-based differences in surgical utilization. For example, we know that the frequency of hip dysplasia varies widely across geographic locations, both because of genetics and environmental factors (such as swaddling of infants). That being so, it would come as no surprise if the annual usage of interventions to treat dysplasia—whether surgical or nonsurgical—might differ in response to local variations in disease prevalence [6].

Problems arise, though, when there are important differences in utilization of diagnostic [12] and surgical services that we cannot attribute to differences in the frequency of disease, either by

geography [3, 7] or over time [11]. These problems become especially concerning when the choices surgeons make seem not to be driven by evidence [2], or, worse, occur despite good evidence against the choices being made [8, 9, 13]. And the problems are most troubling when those choices appear to be driven by physician remuneration.

Surgeons' incentives matter [5], and those incentives are a regular topic on these pages [4, 10] because the public's perception of our profession—and, more generally, our professional integrity—are directly tied to how we handle our sometimes-conflicting interests. Perhaps the largest of those conflicts is that most surgeons in the United States get paid more when they operate more.

For that reason, the article by Andrew J. Schoenfeld from Harvard Medical School about variation in spine-surgery utilization between a fee-for-service and a salaried healthcare system (both in the United States) in this month's *Clinical Orthopaedics and Related Research*®, is important reading—whether or not you ever

A note from the Editor-In-Chief:

In "Editor's Spotlight," one of our editors provides brief commentary on a paper we believe is especially important and worthy of general interest. Following the explanation of our choice, we present "Take Five," in which the editor goes behind the discovery with a one-on-one interview with an author of the article featured in "Editor's Spotlight." The author certifies that neither he, nor any members of his immediate family, have any commercial associations (such as consultancies, stock ownership, equity interest, patent/licensing arrangements, etc.) that might pose a conflict of interest in connection with the submitted article. All ICMJE Conflict of Interest Forms for authors and *Clinical Orthopaedics and Related Research*® editors and board members are on file with the publication and can be viewed on request.

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This comment refers to the article available at: DOI: [10.1007/s11999-017-5229-5](https://doi.org/10.1007/s11999-017-5229-5).

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operate on the lumbar spine. This study found convincing evidence that surgeons were much more likely to perform major surgery when the care was delivered in a fee-for-service setting than a managed-care system, even when careful adjustments were made for diagnosis, case mix, and geography. These were no mere statistical anomalies; the differences were large. For example, the odds of a patient receiving a spinal fusion in otherwise similar situations more than doubled within the fee-for-service environment. The authors also pointed out that surgeons performed many of these fusions on patients who did not have a generally accepted indication for arthrodesis.

As a profession, we must address studies like these each time they arise. The public will ask important and reasonable questions about studies like this one, both because of costs and because these practice variations seem to expose patients to serious surgical risk without any obvious justification. While these findings do not prove avarice on the part of surgeons, they do add to the already-convincing evidence that incentives to providers in health-care settings strongly influence the decisions those providers make.

Please join me as I go behind the discovery and talk about some possible solutions with Dr. Schoenfeld from the Brigham and Women's Hospital, first

author of this important study, in the Take-5 interview that follows.

Take Five Interview with Andrew J. Schoenfeld MD, MSc, first author of “Is There Variation in Procedural Utilization for Lumbar Spine Disorders Between a Fee-for-Service and Salaried Healthcare System?”

Seth S. Leopold MD: *Congratulations on a fascinating and important study. You comment in the paper that your findings portend “poor performance for surgical practices and hospitals in Accountable Care Organizations (ACOs) and bundled payment programs”; can you go a bit deeper with that line of thought?*

Andrew J. Schoenfeld MD, MSc: Thank you for this opportunity. Both ACOs and bundled payment programs are predicated on a reimbursement model where a fixed amount of money (on a procedural or per-capita basis) is intended to support the care of patients. Organizations and providers that are most efficient in the use of the finite reimbursement in these types of models will be those best situated for success in the future. Procedural inducement often results in additional expenses at the time of the index surgical event, as well as through an increased complication and readmission profile, as the surgeries associated with this phenomenon are often more complex and invasive. Such events

Andrew J. Schoenfeld MD, MSc

would lead to increased expenses that, in ACO and bundled-payment models, are borne by the organization as opposed to the payer.

Dr. Leopold: *What do you see as the major implications of your work vis-à-vis healthcare reform in the United States? Specifically, if you were a policymaker, and someone shared the findings of this study with you, what would your next moves be?*

Dr. Schoenfeld: As stated in the manuscript, our main goal was to investigate the phenomenon of provider inducement in a context that would allow its meaningful detection. We chose to use the use of fusion-based procedures for lumbar-spine disorders as the environment in which to study this for the reasons elaborated in text.

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Now that we have seen tangible evidence of this phenomenon, further research is needed to devise best practices and interventions that can curtail its occurrence. This type of research is necessary before any policy-based initiatives could be advocated. As we point out in the study, provider inducement is allowed to flourish in environments where there is an absence of consensus on appropriate clinical practice. Procedural inducement, in this case, is a particular manifestation of practice-based variation, which has been shown to exist from rates of appendectomies and tonsillectomies to elective Cesarean sections over the last 30 years. In this context, as a policymaker, I might actually look to invest in more research support for clinicians and scientists to develop the best available evidence capable of informing practice, thus minimizing the potential for procedural inducement. One such example is the research support being made available for health services research through the Military Data Repository and the Military Health System, two factors directly involved in the conduct of this study.

Dr. Leopold: *To what degree—if at all—can your findings be used to substantiate a shift towards an entirely different healthcare model, whether that might be a single-payer system, or*

any of the other approaches currently being debated in the United States?

Dr. Schoenfeld: I realize there are some who might want to interpret our findings this way. My colleagues and I do not believe that these findings can rightfully be used to support a shift to any type of payment model or insurance program. While our findings do point to the presence of procedural inducement on the part of providers, we must recognize that this was shown in one particular clinical context. At this time, the results of this paper are probably ideally viewed as a call to our colleagues in the medical and surgical community to recognize the phenomenon and realize that in the current healthcare environment, with the proliferation of narrow insurance networks and risk-based reimbursement models, procedural inducement could have a demonstrably negative impact on healthcare providers and organizations.

Dr. Leopold: *We often think of conflicts of interest as pertaining to outside relationships, such as with drug companies or device manufacturers. Your work suggests the much-larger conflict of interest may simply be how surgeons get paid for the operations they perform. The American Academy of Orthopaedic Surgeons' standards of professionalism state in relevant part:*

"The practice of medicine inherently presents potential conflicts of interest. When a conflict of interest arises, it must be resolved in the best interest of the patient" [1]. How can we reconcile your findings with appropriate standards of professionalism?

Dr. Schoenfeld: I would really caution against such a conclusion. As we point out in the paper, the level of clinical specificity in claims-based data is not sufficient to support determinations regarding the appropriateness of the interventions performed in either the salaried or fee-for-service healthcare system. I am uncomfortable with the correlation of these results with professionalism in any sense. On the one hand, it may be possible that fusion-based procedures are overutilized in fee-for-service and underutilized by salaried surgeons. Although our finding of no significant difference in the use of fusion-based procedures in the less preference-sensitive setting of spondylolisthesis point against such a notion, the fact of the matter is that more research is needed to truly unpack the etiologies behind procedural inducement. As we carefully point out in the manuscript, other than documenting differences in procedural selection between fee-for-service and salaried surgeons, there is no means to truly elucidate the underlying

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motivations responsible for these choices.

Dr. Leopold: *In your paper, you stated: “The phenomenon of provider inducement stems from a lack of consensus regarding optimal indications for procedure selection.” While complete agreement on indications may never be achieved, you also pointed out that, “In many instances, these procedures were performed on patients who did not have a generally accepted indication” for spinal fusion. To what degree are your findings a function of insufficiently robust clinical practice (or appropriate use) guidelines, and to what degree are things as they appear—a simple function of financial incentives?*

Dr. Schoenfeld: While differences in reimbursement remain an attractive explanation in a number of respects, it is important to realize that other factors can and do influence surgical decision making including training, personal philosophy as pertains to the ideal approach to patient care, and clinical experience in both the near- and long-term. As we emphasize in the paper, while our findings support the presence of procedural inducement in the use of fusion-based procedures for lumbar spinal disorders, we are unable to speak to the motivations of the providers, be they surgeons or hospitals. Whatever the underlying etiology, which truth-

fully is unlikely to be ascertained in any meaningful sense, a holistic means of getting to the root of the problem—the lack of consensus with respect to optimal approaches to care in certain clinical contexts—would be scientifically rigorous research that supports that development of best-practice guidelines. In the paper, my colleagues and I formulate several different approaches that are immediately supported by this work at the individual, organizational, and societal level.

The individual provider (whether a hospital or surgeon) might engage in external benchmarking regarding the use of fusion-based procedures and the clinical rationale for doing so. Specialty groups might see these findings as motivation to support higher-quality research and develop appropriate-use guidelines to help resolve the areas of clinical uncertainty. Society, including third-party payers and the government, could find ways to actively discourage procedural inducement through the use of peer-based comparisons and similar assessments. At the same time, as emphasized in the paper, the current risk-based reimbursement environment (including ACOs, bundled payments, and narrowed insurer networks) of US healthcare may already be putting those organizations most inclined to procedural inducement at some degree of risk.

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