Editorial Commentary: The Ever-changing Landscape of Health Care Economics—"The Future Ain't What It Used to Be"

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Abstract: Payment models for orthopaedic services are constantly changing. Rather than have changes dictated to us, it is our responsibility as experts in arthroscopic surgery to advocate for patients and offer our unique insight to governmental agencies and payers. Before we can begin to understand this complex landscape, we need to start at the beginning and master the fundamentals of health care economics: cost-effectiveness analysis, cost minimization, cost benefit, and the like. Failure to do so will mean being left out of a conversation that will ultimately affect our ability to care for patients.

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The pundits keep beating the same drum: Health care is changing, they say.[1,2] As surgeons today, we increasingly must justify our clever operations to the people paying for these things.[3] Terms like "cost-effectiveness analysis," "value-based care," "utilization review," and "Merit Based Incentive Payment System" (affectionately known as "MIPS") may make your eyes glaze over. But payers are changing the entire currency of health care. We aren't talking dollars anymore; we are chasing this shapeless ghost of value. As the great Yogi Berra said, "The future ain't what it used to be." We must accept this change or be tilled under by it. We need to understand and speak the language if we are to have any say in shaping health care over the next few decades.

It was with great excitement, then, that I read the article "Factors Affecting the Cost and Profitability of Arthroscopic Rotator Cuff Repair" by Sabesan, Shahriar, Chatha, Malone, Sherwood, Peaguda, and Whaley.[4] One word in the title stirred particular interest for me: "profitability." That word has never (according to a quick PubMed search) been used in an article title in the history of *Arthroscopy*. Profitability is at the heart of business meetings everywhere, and health care is, after all, a business. But it has scarcely been mentioned in scholarly medical research. I praise the authors for breaking the ice.

The problem is that many of us look at financial reports a bit like we might look under the hoods of our cars (apologies to any *Arthroscopy*-reader car gurus[5]): with a furrowed brow and some well-placed "hmmm's" but really no idea what we're looking at. We have to do better than that. We must review articles about economics just as critically as we do articles about orthobiologics. But this is fresh territory for most of us.

It is critical for the reader to understand what the article by Sabesan et al.[4] is, and what it is not. The authors sought to prove that a surgeon's choices could affect the profitability of rotator cuff repair (RCR) for a hospital. They compared financial data from 2 hospitals in the same health care system: 1 large urban tertiary referral center and 1 community hospital. The authors chose to measure profitability using a specific metric called the "contribution margin," defined as the surgeon-controlled profit (or loss) from each RCR. It is calculated as total revenue (from the insurance carrier) minus the direct costs associated with the procedure (items surgeons have some control over, such as drapes, implants, operating room time, and equipment). This is different than "net income" for the procedure, which is defined as the total revenue minus the sum of the direct and indirect costs (which includes global hospital costs such as staffing, sterilization, and administrative costs).

Amazingly, although perhaps not surprisingly, Sabesan et al.[4] found that 1 RCR at the large tertiary center resulted in a net income loss of almost $800 per case

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(we'll let that institution's chief financial officer deal with that). More important to the practicing surgeon, however, is the contribution margin for RCR at the large hospital: $1,912.70. This means that before general hospital costs ate into the profits, each RCR was actually moderately profitable.

What about at the community hospital? It fared far better. The contribution margin was $3,128.64 per case, a difference of over $1,200 compared with the large center. This means either the community hospital was being paid more for each case (unlikely—both were from the same health care system and had the same payer mix and payment contracts) or its direct costs were much lower. Sabesan et al.[4] concluded, rightfully in my opinion, that surgeon-controlled variables were the primary driver behind the increased profitability at the smaller hospital.

Perhaps most important for surgeons, however, was the effect proper coding had on profitability. When cases were coded with a single Current Procedural Terminology code (29827), the average contribution margin was $465 across both hospitals. When a second code was added, however (such as subacromial decompression [29826] or debridement [29823]), this figure jumped to $2,147, a 4.5-fold increase. It's easy to see why. Adding a second code doesn't add much to the direct costs (perhaps a burr for a subacromial decompression or distal clavicle excision), but it adds significantly to the revenue. These were "all gravy" as the financial analysts say.

My excitement waned, though, as I reached the end of the article with some important questions still unanswered. What was the actual revenue at each hospital? Could that account for some of the difference in profitability? Given that both hospitals were in the same hospital system, it seems unlikely, but the data would have been easy to include. Also, there was no correlation between implant costs and contribution margin. This makes me wonder whether the authors' analysis techniques are sensitive to the real trends going on here. Intuitively, one would expect implant costs to make a large difference in the bottom line (as anyone who has set price schedules at a hospital or surgery center can well attest). In addition, Sabesan et al.[4] stated that their study adds to the body of literature on the cost-effectiveness of RCR. I must be a stickler with the precise use of language here. To measure cost-effectiveness, cost must be measured along with some clinical outcome. This was not done in this study. In addition, the authors stated in their conclusion, "…improvement in the profitability of arthroscopic RCR for hospital systems is possible." I do not doubt this is true, but no longitudinal data were provided to support this claim. Finally, calculating indirect costs on a per-case basis is tricky and fraught with estimates and assumptions. Although indirect costs weren't critical to the most important findings of this study, the authors don't show exactly how indirect costs were calculated or list this as a potential study weakness.

So what do these data mean for the practicing orthopaedist? This type of profitability analysis is only directly applicable to surgeons working in that particular health care system. The results in your region may be wildly different. I think the real contribution of this study is showing, quite clearly, what is possible with this type of analysis and how important it is for all of us to look under the hood at home.

More broadly, even though this was not a true cost-effectiveness analysis, it is hoped that this article illustrates the unique set of skills needed to critically review economic research. I suspect articles like this will make up a greater percentage of our literature in the future, and their findings may be as practice changing as groundbreaking primary research articles. For those who want to learn more, there are multiple online resources from primers to more in-depth education.[6-8]

Whether you are hospital employed (and presumably want your employer to stay solvent), in private practice, and/or part owner in a surgery center, we all have a vested interest in avoiding waste and maintaining profitability. In the end, it's about preserving our ability to care for patients. The authors of this study should be commended for giving us a few tools to help us do just that.

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