The Value of Shared Decision-Making

“You need surgery.” Mr. Bahdbach had heard this before when his appendix ruptured as a youth and had a belly full of toxins. Ms. Spaenisbaad had previously heard “you need surgery” when she was taken to the emergency department with her femur sticking out of her skin after falling down her stairs.

Elective lumbar spine surgery is an example of preference-sensitive care, where options may exist and patients with similar presentations may decide on different treatments. For example, Mr. Bahdbach and Ms. Spaenisbaad may present with identical MRIs, functional compromise and comorbid conditions. Surgery may be a good option, but it may not be accurate to hear, “you need surgery.” In the absence of definitive guiding evidence, the choice of care depends on these patients’ values regarding their degree of pain and functional impairment, and the tradeoffs between rapidity of improvement and potential risks. Shared decision-making (SDM) is a technique to surface patients’ preferences and include them in the decisions that will affect them. When implemented correctly, SDM allows Mr. Bahdbach to choose surgery and Ms. Spaenisbaad to forego surgery, with both feeling supported by the medical system.

Spine practitioners should be aware of the value of SDM and of the extent to which SDM has been included in health reform policies. Often, much of the care patients receive is based on the ability and readiness of individual clinicians to provide it. In recognition of this fundamental health care market inefficiency, the Salzburg Global Seminar hosted a session in 2010 calling for improvements in health care by informing and involving patients in decisions about their medical care. In the US, SDM has been codified into health care reform as §3506 Shared Decision-Making of the Affordable Care Act. SDM has been championed across medicine, including the spine field. James Weinstein, as editor in Chief of the journal Spine, published several editorials promoting SDM that reflect his work instituting the Center for Shared Decision-Making at Dartmouth-Hitchcock along with the multidisciplinary Spine Center. As providers in a field that is archetypal for its application, spine practitioners should familiarize themselves with SDM fundamentals, such as patient decision aids and patient-centeredness.

According to recent systematic reviews, SDM includes the following essential elements:

- Define and explain the health care problem
- Present options
- Discuss pros and cons (benefits, risks, costs)
- Clarify patient values and preferences
- Discuss patient ability and self-efficacy
- Present what is known and make recommendations
- Check and clarify the patient’s understanding
- Make or explicitly defer a decision
- Arrange follow-up

Shared decision-making will be discussed below in terms of an exchange of information, such as through patient decision aids, and in terms of patient-centeredness, which includes improved communication and respect for patient preference. As summarized
in a 2014 *British Medical Journal* commentary, SDM often involves structural implementations such as decision aids, but may have more to do with communication skills and attitudes than specific tools.\(^7\)

**Decision Aids**

Patient decision aids may include but are not limited to the distribution of printed educational materials, educational meetings, audit and feedback, reminders, education, outreach visits and patient-mediated interventions. Dr. Weinstein\(^4\) lists the essential elements for patient decision aids as:

- Evidence-based information on options and their outcomes (benefits and harms)
- Information on the condition
- Probabilities of benefits and harms
- Methods for clarifying patients’ values about what matters most to the patient
- Balanced stories of others’ experiences
- Guidance/coaching in deliberating and communicating with their health practitioners

The use of decision aids to provide patient education has been shown to have a number of positive effects. As early as 1975, patient education has demonstrated a reduction in postoperative stress, pain and anxiety. More recent research supports that education reduces surgical patients’ pain and postoperative anxiety while reducing postoperative length of hospital stay. Compliance can be improved. Education has been shown to improve patients’ ability and willingness to follow prescribed instructions and recommendations, often in the area of lifestyle changes. For example, patient decision aids have been shown to have a positive impact on well-being, including frequency of exercise and distance walked.\(^8\)

**Patient-Centeredness**

Patient-centeredness, as a separate but less tangible aspect of shared decision-making, has separately been shown to correlate with valuable outcomes. Don Berwick, former administrator of the Centers for Medicare and Medicaid Services, has defined patient-centeredness as “that property of care that welcomes me to assert my humanity and my individuality.”\(^9\) He has collated three maxims that are useful in understanding patient-centeredness:

1. **The needs of the patient come first.**
2. **Nothing about me without me.**
3. **Every patient is the only patient.**


Research suggests that patient-centeredness is associated with better compliance, patient satisfaction, better recovery and health outcomes, augmentation of tolerance for stress and pain levels, reduced readmission rates, better seeking of follow-up care, improved knowledge, better experience of care, decreased use of resources, improved health behavior and improved health status.\(^10\) One systematic review of 55 studies quantified the number of associations noted between patient-centeredness and various outcomes.\(^11\) As **Table 1** shows, the number of studies showing favorable associations greatly outnumbers those showing no such associations. Furthermore, studies specifically evaluating chronic conditions showed a particularly high correlation between patient-centeredness criteria and clinical effectiveness.

**Shared Decision-Making in Spine**

The evidence of SDM specific to spine is consistent with the positive findings across medicine described above. Iversen\(^12\)

<table>
<thead>
<tr>
<th>Number of studies showing positive associations</th>
<th>Objective health outcomes</th>
<th>Self-reported health and well-being</th>
<th>Adherence to treatment (including medication)</th>
<th>Preventive care</th>
<th>Health care resource use</th>
<th>Adverse events</th>
<th>Technical quality of care</th>
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performed a prospective cohort to examine the prognostic value of preoperative expectations of lumbar spinal stenosis surgery on postsurgical outcomes at six months. He found that, while more ambitious expectations of physical function correlated with more satisfaction and better postoperative physical functioning, higher expectations for pain relief corresponded to less satisfaction with pain postoperatively. This finding seems to be unique to spine care, as such a negative correlation between pain expectations and outcome was not seen in a similar study investigating joint arthroplasty patients. As part of the Spine Patients Outcome Research Trial (SPORT), Lurie et al. investigated the ability of a video decision aid produced by the Informed Medical Decisions Foundation (IMDF) to influence patients’ treatment preferences. Subjects who watched the video as part of the informed consent process were more likely to shift their treatment preference than those who did not, although there was no consistent trend in preferences either toward or away from surgery. The video helped those who were uncertain at baseline to form a preference and to strengthen the preference of those patients who did start with an initial preference.

This same video resource has been shown to correct important misconceptions in patients’ understanding of their spine conditions and management options. A patient knowledge test used in Phelan’s randomized trial showed that, “More than 70% of all patients at baseline believed incorrectly that the following statements were true: computed tomographic (CT) or magnetic resonance imaging (MRI) findings are more important than the physician’s examination in deciding whether surgery can help back pain and leg symptoms, the findings of a herniated disc by imaging studies proves this is the cause of the pain, and surgery cures pain from back problems 98% of the time.”

In this study, the addition of the IMDF video program improved knowledge to a greater extent than written material alone. Lastly, this same video program has been shown to reduce the rate of surgery for herniated discs by 32% when patients were educated about the natural history of their condition, details of the procedure, and the spectrum of possible outcomes. Conversely, rates for stenosis surgery tended upward as subjects learned more about the option of surgery.

While too few studies are available to conclusively determine the effects of shared decision-making on health care costs, the evidence that does exist is encouraging. A 2002 randomized controlled trial studying patients with menorrhagia in the UK National Health Service showed that the lowest mean costs per episode from a health care perspective ($1,566) were achieved with the use of decision aids and nurse coaching compared to $2,026 for the use of decision aids alone and $2,751 with usual care. A Dutch randomized controlled study from a health care perspective in 2010 revealed a mean total saving of €169.75 per couple when using a protocol to share decision-making about the number of embryos to transfer during in vitro fertilization. A Cochrane review concludes that “although there may be additional costs of delivering decision aids, it is likely to be small relative to the benefit to patients in terms of improved decision quality when effective decision aids are used.”

Conclusion

In conclusion, there is an abundance of evidence supporting the value of shared decision-making for health care in general and spine care. Policy makers have taken notice. For example, the National Committee for Quality Assurance authored a performance metric titled, “Back Pain: Shared Decision Making.” To qualify for stage 1 meaningful use of electronic health records, patient-specific education resources must be provided with the eventual goal of having patients participate in SDM. The proposed rules for the MACRA bill published May 2016 mentions “shared decision” 19 times throughout the document. SDM is highlighted in three out of four performance categories comprising the merit-based incentive program (MIPS): quality, clinical practice improvement activities and advancing care information.

Because of the potential value to care and because of its ubiquitous presence in health policy, spine providers should have an understanding of SDM. Leaders in spine care helped champion the movement. To thrive in the post-reform health care environment, all spine care providers will need to understand the concepts involved in SDM including the role of patient decision aids and patient-centeredness in value-based care. Practice paradigms may need to be changed as policies incentivizing SDM become increasingly pervasive. In his book, Your Medical Mind, Jerome Groopman offers a rubric for categorizing patients into naturalists versus technophiles, minimalists versus maximalists and believers versus doubters. Perhaps a good spine provider should have the ability to provide unbiased information while at the same time honoring these preferences of their individual patients. Whatever model is used, spine care providers are well-advised to appreciate the value of SDM and the influence SDM is having on the post-reform practice of medicine.

References


**Author Disclosure**


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**Disclosure Key**

**Direct or indirect remuneration:** royalties, stock ownership, private investments, consulting, speaking and/or teaching arrangements, trips/travel.

**Position held in a company:** board of directors, scientific advisory board, other office.

**Support from sponsors:** endowments, research–investigator salary, research–staff and/or materials, grants, fellowship support.

**Other**

**Degree of support:**

- **Level A.** $100 to $1000
- **Level B.** $1,001 to $10,000
- **Level C.** $10,001 to $25,000
- **Level D.** $25,001 to $50,000
- **Level E.** $50,001 to $100,000
- **Level F.** $100,001 to $500,000
- **Level G.** $500,001 to $1M
- **Level H.** $1,000,001 to $2.5M
- **Level I.** greater than $2.5M