Twisting the Truth: Tinkering with Patient Decision Aids to Reduce Health Care Expenditures

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In some medical situations, there are clear right answers — the use of beta blockers after a myocardial infarction or glucose monitoring for diabetics, for example [1,2]. In these cases, there are unambiguous data supporting the efficacy of the intervention and virtual unanimity among providers and patients that the benefits outweigh any potential side effects. Other medical situations present significant uncertainty with regard to what physicians and their patients consider optimal therapy. Benign prostatic hyperplasia (BHP†) is the paradigmatic example, as there is generally no medical reason to prefer prostatectomy, medication, or watchful waiting, and patients will select different therapies depending on factors such as their aversion to surgery, tolerance for discomfort, and the importance of an active sex life [3].

The Stacey diagram (Figure 1) depicts the decisions faced by patients and providers by focusing on two dimensions — the provider’s beliefs about the level of certainty regarding the efficacy of therapy (x-axis) and the level of consistency of patient preferences (y-axis) [4]. When there is little agreement between patients about what they value (e.g., reducing pain vs. obtaining a conclusive diagnosis vs. increasing longevity at any cost) and low certainty in the mind of the treating physician about which treatment produces the best outcome, there is “chaos” and little basis for care decisions. In areas of high agreement and high certainty, there is “order” and a clear “right answer.” In between these extremes lies the “zone of complexity.”

When there is order on the Stacey diagram, the problem of inappropriate practice variation is easy to conceptualize. In these situations, there is a clear right answer that cannot be confounded by differences in patient attributes. The goal is, therefore, to bring non-complying physicians up to speed, such that they administer the prevailing standard of care. In all other areas of the Stacey diagram, and especially when there is “chaos,” remedying undesirable practice variation is not so clear-cut. Con-
Conventional wisdom dictates that providers should seek to reduce only “unwarranted variation,” the variation not explained by illness, patient preferences, or the dictates of evidence-based medicine. For a situation in which there is no medical justification for choosing one course of treatment over another (e.g., BPH), physicians would refrain from influencing their patients’ choices, consistently presenting the information in an unbiased and uniform manner. The goal is to reduce the extent to which physicians’ subtle biases toward particular therapies are expressed in patients’ decisions, allowing patients to freely choose according to their unique preferences.

AN ARGUMENT FOR PATIENT DECISION AIDS

Evidence suggests that unwarranted variation in the use of preference-sensitive options can be reduced by providing patients with decision aids. Typically, patient decision aids (PtDAs) contain outcome data for the various options, tailored information about the pros and cons of each choice, and feedback from patients who have chosen each of the options [5]. Although unbiased PtDAs for many preference-sensitive conditions result in lower costs by reducing the invasiveness of the care, resistance from providers has left private payers slow to provide them. Some physicians have voiced concerns about increased time and hassle, but the primary obstacle is the loss of income that accompanies the shift to less invasive treatment [6,7]. In the absence of physician support, logistical problems prevent insurers from getting decision aids to patients early enough to have an impact [5,8].

Given that insurers require the assistance of providers to implement shared decision-making tools that have been proven to reduce unwarranted practice variation, firms would be well advised to share the value created by PtDAs with physicians. As O’Connor and colleagues suggest, payers should consider reimbursing physicians for dispensing PtDAs [5]. Blumenthal raises the question of “whether paying a surgeon or a gastroenterologist to dispense information therapy will adequately compensate for a 25-30 percent decline in their hernia operations or colonoscopies” [7]. The answer to this, however, is simple: If the reimbursement does not sufficiently compensate the surgeon and gastroenterologist, then the health plan is not paying the physicians enough. Payers should increase reimbursement to a level that is sufficiently high to encourage provider support, but low enough so they, too, can reap some of the savings associated with a shift to less invasive therapy. Shared decision-making tools create value; the only issue should be how to divvy up the pie — not whether to bake it.

THE FUNDAMENTAL ATTRIBUTION ERROR: AN ARGUMENT FOR USING DECISION AIDS SKewed TOWARD INEXPENSIVE THERAPY

As discussed above, there is a general consensus that practice variation due to patients’ differing subjective valuations of the same experiences and health outcomes, as well as their different attitudes toward time trade-offs and risk, should not be corrected. In other words, there is no need to reduce “warranted variation,” which is caused by high y-values on the Stacey diagram [9].

Figure 1. The Stacey Diagram

Source: RMJ Bohmer, K Sepucha, and LR Feldman, “Shared Decision Making,” Harvard Business School Case #9-604-001 (Rev. January 25, 2005).
This logic, however, rests on the erroneous presumptions that patients possess a set of relatively permanent internal preferences and that these preferences are guiding patients’ selection of treatment. The field of social psychology has long recognized people’s tendency to attribute human behavior to disposition (internal preferences) when powerful situational forces are, in fact, far more controlling [10,11]. Dr. Lee Ross coined the term “fundamental attribution error” to describe this common bias [12].

The seminal demonstrations of the fundamental attribution error were independently conducted a decade earlier by Stanley Milgram at Yale University, and then Edward E. Jones at Duke University. In Stanley Milgram’s series of experiments, volunteer subjects were falsely led to believe that they would be administering shocks to another volunteer when that person answered a question incorrectly. The “other volunteer,” however, was an actor. The subject was led to believe that the shocks he administered were painful and their intensity would increase with each wrong answer — from 15 volts all the way up to 450 volts, which was labeled “Danger! XXX!” on the shock box. In the basic design of the experiment, Milgram stood next to the volunteer with a white coat and a clipboard, sternly asking him to continue shocking the actor with each wrong answer, but never using threats or physical force to coerce the volunteer. In this experimental setup, 100 percent of the subjects shocked up to 350 volts and 65 percent shocked all the way to the 450 volt maximum. Before conducting the experiment, Milgram and his assistants predicted that only 1 in 1,000 volunteers — “the sadists” — would go that far. They fell subject to the fundamental attribution error, failing to appreciate the powerful, yet unseen, situational forces controlling the volunteers’ actions. Milgram was able to further demonstrate the power of situational influences on behavior. By varying the proximity of either the volunteer to the actor or the experimenter to the volunteer, or by moving the location of the experiment from Yale to Bridgeport, Connecticut, Milgram discovered he could increase or decrease the intensity of shock that volunteer subjects would be willing to administer [13,14,15].

In experiments conducted by Edward E. Jones and Victor Harris, the two psychologists hypothesized that subjects would attribute the free-choice behavior of others to internal preferences and forced behavior to the situation. Subjects were asked to read essays in support of and against Fidel Castro. Subjects were then asked to rate how positive the author’s attitude was likely to be toward Castro. When the subjects were told that the authors freely chose the position of their essays, they rated authors who wrote in favor of Castro as significantly more likely to have a positive attitude toward him. While this result was expected, Jones and Harris were surprised to find that subjects, who were told that the authors were assigned a position based on a coin toss, still rated authors who wrote in favor of Castro as significantly more likely to have a positive attitude toward him. The subjects were unable to see the tremendous effect that the situation (i.e., being forced to write an essay favoring a particular politician) had on the authors [16].

These experiments are powerful examples of two related points. First, the situation is tremendously influential insofar as exogenous environmental factors can influence humans to perform incredible actions. Second, people tend to attribute human action to disposition, overlooking the incredibly powerful role of situation. This suggests that patients do not select treatment options on the basis of permanent, internal preferences. Rather than unearthing deeply held beliefs, the employment of PtDAs reveals the result of powerful situational forces that, because of the fundamental attribution error, are difficult to see. If an individual chooses watchful waiting over surgery, it is likely due to conscious or subconscious exogenous influences (perhaps a TV show in which the surgical patient expired after post-operative complications), rather than a stable propensity toward risk-aversion. This revelation has profound consequences for payers interested in reducing practice variation and
health care costs. It suggests not only that patients’ values are malleable, but also that purposefully leading a patient to elect less invasive therapy may be completely ethical (assuming, of course, that there is no clinical reason — besides a patient’s values — to choose one therapy over another). Since internal preferences carry little weight in the decision-making process (and may, in fact, be entirely illusory), it is reasonable to believe that the reduction in health care costs associated with a shift to less invasive therapy might outweigh the decline in utility experienced by patients who make a decision counter to their “values.” I qualify my statements with the italicized words “may” and “might” to indicate that this point should be subjected to empirical analysis. It may be the case that preferences play a less important role in choice than situational factors but are not illusory and the decline in utility associated with making decisions contrary to one’s preferences outweighs any decrease in health care costs associated with a shift to less invasive therapy. If this were indeed the case, then it would be unethical to purposefully alter a patient’s decision.

From the standpoint of payers, warranted variation is equally as problematic as unwarranted variation; both increase health care costs. If empirical research demonstrates that the reduction in health care costs associated with convincing patients (via situational pressure) to undergo less invasive therapy outweighs any diminution in patient utility, payers should consider designing PtDAs that exploit the malleability of human preferences. PtDAs could still present patients with the benefits and drawbacks of all therapeutic options, but might do so in a way that makes the choice seem obvious. For instance, survival statistics (i.e., percentage of people who live) could be used to describe the probable outcome of the least invasive options, while mortality statistics (percentage of people who die) are used for the most invasive options [17]. By capitalizing on humans’ natural cognitive biases and heuristics (e.g., our implicit, automatic tendency to favor survival statistics over mortality statistics), biased decision aids may be able to bring down the cost of care without sacrificing objective quality or patients’ subjective valuations of treatment. While we must be careful about damaging the trust that is fundamental to the physician-patient relationship, it seems plausible that loaded PtDAs would yield more good than harm. Indeed, given the problems of access created by rising insurance premiums, twisting the truth may be the only morally correct action.

REFERENCES
1. Antman EM, Anbe DT, Armstrong PW, et al. ACC/AHA guidelines for the management of patients with ST-elevation myocardial infarction — executive summary: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the 1999 Guidelines for the Management of Patients With Acute Myocardial Infarction). Circulation. 2004;110(5):588-636.
2. The Diabetic Control and Complications Trial Research Group. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. N Engl J Med. 1993;329:977-86.
3. Barry MJ, Mulley AG, Fowler FJ, et al. Watchful waiting versus immediate transurethral resection for symptomatic prostatism. JAMA. 1998;259(20):3018-22.
4. Bohmer RMJ, Sepucha K, Feldman LR. Shared Decision Making. Harvard Business School Case #9-604-001 (Rev: January 25, 2005).
5. O’Connor AM, Llewellyn-Thomas HA, Flood AB. Modifying unwarranted variations in health care: shared decision making using patient decision aids [Internet]. Health Affairs. 7 October 2004. Available from: http://content.healthaffairs.org.
6. Wennberg JE. Practice variations and health care reform: connecting the dots [Internet]. Health Affairs. 7 October 2004. Available from: http://content.healthaffairs.org.
7. Blumenthal D. Decisions, decisions: why the quality of medical decisions matters [Internet]. Health Affairs. 7 October 2004. Available from: http://content.healthaffairs.org.
8. Billings J. Promoting the dissemination of decision aids: an odyssey in a dysfunctional health care financing system [Internet]. Health Affairs. 7 October 2004. Available from: http://content.healthaffairs.org.
9. Mullan F. Wrestling with variation: an interview with Jack Wennberg [Internet]. Health Affairs. 7 October 2004. Available from: http://content.healthaffairs.org.
10. Hanson J, Yosifon D. The situational character: a critical realist perspective on the human animal. Georgetown Law Journal. 2004;93(1):1-179.

11. Hanson J, Yosifon D. The situation: an introduction to the situational character, critical realism, power economics, and deep capture. University of Pennsylvania Law Review. 2003;152(1):129-346.

12. Ross L. The intuitive psychologist and his shortcomings: Distortions in the attribution process. In: Berkowitz L, editor. Advances in experimental social psychology. Vol. 10. New York: Academic Press; 1997. pp. 174–220.

13. Milgram S. Obedience to Authority. New York: HarperCollins; 1974.

14. Milgram S. Some conditions of obedience and disobedience to authority. Hum. Rel. 1965;18:57-76.

15. Milgram S. Behavioral study of obedience. J Abnormal & Soc. Psychol. 1963;67:371-8.

16. Jones EE, Harris VA. The attribution of attitudes. Journal of Experimental Social Psychology. 1967;3:1–24

17. Redelmeier DA, Rozin P, Kahneman D. Understanding patients’ decisions. JAMA. 1993;270:72-6.