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Not the Last Word

Not the Last Word: Learned Helplessness and Medicare's Bungled Bundled Payment Program

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After years of planning, on April 1, 2016 the Centers for Medicare & Medicaid Services (CMS) rolled out its Comprehensive Care for Joint Replacement (CJR) program. The CJR program is based on a so-called bundled payment system, one that "holds participant hospitals financially accountable for the quality and cost of care … and incentivizes increased coordination of care among hospitals, physicians, and post-acute care providers" [4].

The CJR program establishes a spending target for knee and hip replacements for each participating hospital. At the end of each year, CMS plans to compare the hospital's actual spending to the target and "depending on the participant hospital's quality and episode spending performance, the hospital may receive an additional payment from Medicare or be required to repay Medicare for a portion of the episode spending" [4].

The ultimate effectiveness of the CJR program remains to be seen. I personally doubt that price controls do much to limit spending [3]. Yet at the least, the program rests on an intuitively appealing rationale: Accountability for outcomes and spending. Across the United States, there is at least a two-fold variance in the mean costs for providing joint replacement services, and there is a three-fold variance in the frequency of complications. A bundled payment gives less-efficient hospitals a strong financial incentive—some "skin in the game"—to emulate their more-efficient peers.

Arthroplasty for arthritis is perhaps the most apt procedure to reap benefits from a bundled payment approach. Arthroplasty is a high-cost item for Medicare (about USD 7 billion a year for hospitalizations alone [4]), and it is distinctly open to standardization. But Medicare did not stop at arthroplasty for arthritis. The CJR also includes hip arthroplasty done for fracture as well. This is a bad idea.

Comingling hip arthroplasty done for fracture with arthroplasty for arthritis is unsound on at least two counts. First, few hospitals, if any, perform arthroplasty for fracture in sufficient numbers to master what CMS calls the "coordination of care" issues that can meaningfully decrease costs. Second, unlike patients treated for hip arthritis, whose medical comorbidities can be ameliorated before the patients' elective admission, patients admitted for hip fracture come in urgently, and often in distress.

At one level, Medicare acknowledges that hip fracture patients are not comparable to arthritis patients—the payments for fracture cases are substantially larger. But that is not

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enough. Including hip fractures in the bundle effectively holds hospitals responsible for things that are truly out of their control. The event of a geriatric hip fracture is a marker of fragility. Many of these patients fare poorly despite the best of care; about 25% can be expected to die in the year following their injury [8]. Through no error or lapse, many hip fracture patients will experience complications and undergo costly additional care.

Being held responsible for something out of one's control is an ideal mechanism for inducing despair, or what psychologist Martin Seligman termed "learned helplessness" [10]. In Seligman's experiments, when a dog was given seemingly random and inescapable electric shocks, eventually the dog became passive, whiny, and seemingly depressed. Seligman's work showed that it was not the shock that made the dogs miserable; it was the lack of control.

Of course, only living beings, not institutions, are subject to emotional responses like learned helplessness. Still, because institutions are run by living beings, it may be informative to use this psychological framework when predicting institutional behavior. As such, I don't think I am going far out on a limb to predict that hospitals will act to minimize their exposure to hip fracture bundled payments.

The most obvious step to get out of the bundle is to deny surgery to certain high-risk patients. Of course, offering nonoperative care may be too obvious, as at present, virtually all patients with hip fractures undergo surgery [7]. A more subtle stratagem would be to revert to methods of a half century ago, and treat displaced femoral neck fractures with screw fixation. This tactic evades the CJR, as only arthroplasty, and not fixation, is included in the bundle. Indeed, a new treatment protocol may emerge: Provisional fixation of all femoral neck fractures, with revision to arthroplasty if and when fixation fails. Even then, arthroplasty would be provided only after medical optimization. (Those who doubt that patient management could be affected by financial incentives must be reminded that the CJR itself is predicated on the assumption that patient management can be affected by financial incentives.)

There is, perhaps, a silver lining in the mistake Medicare has made by including hip fractures in the CJR. Specifically, bundled payments for hip fracture surgery may help spur the development of specialized hip fracture centers [2]. These centers may perform enough cases to master the coordination of care better than ordinary hospitals. Further, by simply having a large base across which financial risk can be spread, they may be able to tolerate expensive, random outliers.

I would prefer the best of both worlds: We should have hip fracture centers (because they are good) and we should fix the CJR bundle (because it is broken).

Fixing the broken parts of the CJR will require tinkering in many areas [6], but I hope CMS pays attention to the Executive Order issued by President Obama in September, 2015 [12]. The president observed, correctly, that "a growing body of evidence demonstrates that behavioral science insights—research findings from fields such as behavioral economics and psychology about how people make decisions and act on them—can be used to design government policies." His Executive Order, therefore, demanded that behavioral sciences research should inform policy guidance.

This order may have been issued too late to help the CJR before it was released, but should help updated versions of it. Applied to the CJR, basic concepts of behavioral science—moral hazard, adverse selection, and, of course, learned helplessness—suggest that hip fractures should not be in the arthroplasty bundle.

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Medicare's new bundled payment program responds to a chronic problem in American medicine. Patients are treated in hospitals and sent on their

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way. Even if they receive great care in the hospital, they often receive poorly coordinated, inappropriate, or wasteful care after they are discharged. Most hospitals and physicians have not focused on what happens to patients beyond the walls of their institutions. This has to change because patients, American workers, and taxpayers are paying the price.

On a price-standardized basis, Medicare pays 27% more on average for a 90-day joint replacement episode (DRG 470) in Tampa, FL, USA than it does in Phoenix, AZ, USA, and 39% more in Las Vegas, NV, USA than in Boise, ID, USA [5]. The spending variation is much wider at the hospital level and it is mostly because of differences in postacute facility use and avoidable readmissions. Bundled payment creates a new imperative for surgeons and hospitals to establish care pathways and processes that ensure patients receive optimal care throughout their recovery.

I concur with much of Dr. Bernstein's essay, although I would not associate "helplessness" (learned or otherwise) with orthopaedic surgeons. Medicare's CJR program has some rough edges, but it isn't cause for despair. CMS started implementing alternative payment models in 2012 and bundled payments that extend beyond a hospital stay in 2014. The agency is still learning, and the CMS staff wants to do the right thing. I expect that CMS will refine the CJR model in time. The CJR limits participants' downside risk during the first 2 years, which provides some financial protection while the rough spots are worked out.

The biggest challenge for providers in Medicare bundled payment is the random variation in average spending per episode that occurs because of random variation in case complexity [9]. This is especially problematic for hospitals with low-case volume. A hospital with 50 joint replacement episodes that happened to treat three extra patients with hip fracture in a given year would see a large jump in spending above its historical average compared with a hospital with 500 patients annually.

CJR sets separate prices for procedures with and without complications (DRG 469 and DRG 470) and for procedures with and without hip fractures. Beyond that it does not vary episode payments based on patient severity. Developing and implementing a valid and effective risk adjustment model should be a priority for the CJR program, The Association of Bone and Joint Surgeons® and other orthopaedic societies. In the absence of risk adjustment, removing high-cost, low-volume, nondiscre tionary procedures like hip fracture repairs from the joint replacement bundles would reduce random variation. Alternatively, CMS could limit both gains and losses for hip fracture episodes to 5% for the duration of the program, rather than allowing them to rise to 20%.

The bottom line is that bundled payments are here to stay. CMS will likely continue to implement mandatory bundled payment for other conditions. In addition to delivering efficient, high-quality acute care, doctors and hospitals need to make sure that their patients also receive efficient, high-quality postacute care. At the same time, CMS has a responsibility to continue refining bundled payment models to ensure that that providers' financial risk is based on their clinical performance rather than patient factors beyond their control.

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The initial swing at the bundled payment program for hip and knee replacement taken by the CMS missed the mark by including prosthetic replacement performed for hip fracture, as noted by Dr. Bernstein. Happily, with the help of efforts from organized orthopaedics and the strength of an evidence-based

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argument, prosthetic replacement for hip fracture codes will now be stratified thoughtfully within the CJR bundle program under DRGs 469 (major joint replacement with major comorbidities) and 470 (major joint replacement without major comorbidities) as of the Fall of 2016 [1, 4]. Thankfully, little harm was done by this false start and we should be grateful for the rational dialogue that ensued and was responsible for this change of heart. Unfortunately, not all ramifications of such initial missteps of the CJR program will be so easily corrected by a swift reversal of policy.

The principle at the core of this discussion rests on an appreciation of "quality", as articulated in the rationale of the CJR program. The intent of the program is to "hold participant hospitals financially accountable for the quality and cost of care …" [4]. While there has been a proactive emphasis on cost, sadly the matter of quality is left to be addressed retrospectively. The hip-fracture situation is an obvious and extreme example of the need for risk stratification as a prerequisite to any discussion of quality outcomes after surgery. As Dr. Bernstein pointed out, a hip fracture is widely recognized as a bellwether of generally declining health, rather than an isolated skeletal injury, and hip fractures are associated with 30% mortality in the first year after injury. But all examples of comorbid conditions that adversely affect clinical outcomes are not so readily apparent and defy such simple categorization.

Among patients undergoing elective total joint replacement, there is a broad spectrum of underlying illness and comorbid conditions that arguably contribute more to the profile of complications than the operation itself. Consider, for example, this elective operative list of three joint replacements in a typical day at a university hospital: One patient has avascular necrosis of the hip from steroids given after her liver transplant, the second has systemic lupus erythematosis treated with immunosuppressive agents that have been held preoperatively to mitigate effects on wound healing, and the third has sickle cell disease and was admitted the day prior for preoperative transfusions. Such is not an unusual day in the OR at some tertiary care centers; it was my exact list a few months ago. It should be readily apparent that the surgical procedure tells only part of the story in explaining perioperative complications. Rather, an evidence-based system of risk stratification is needed to credibly predict the postoperative course of patients after joint replacement and accurately attribute outcomes to the quality of care administered rather than the severity of the patient's underlying disease upon admission to the hospital. Fixed pricing and financial penalties in the absence of risk stratification in such patients are neither fair nor rational, and only threaten to limit patient access to hospitals seeking to improve their financial outcomes in the CJR bundle program rather than those of the patient.

Ultimately, I am confident that we will stumble upon the right course and incorporate valid risk stratification into payment-reform programs. But until that time, the present CJR program feels more like "fire, aim, ready" rather than "ready, aim, fire". In the haste of implementing something, we risk harming our patients through perverse incentives that may ultimately compromise patient access to quality care for those who need it most. As often paraphrased from Winston Churchill, "Americans can always be counted on to do the right thing … after they have exhausted all other possibilities" [11].

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