



"We Understand Health Care"

June 12, 2006

Mr. Marc Hartstein

Centers for Medicare & Medicaid Services

Department of Health and Human Services

Attention: CMS-1488-P

P.O. Box 8011

<http://www.cms.hhs.gov/eRulemaking>

Baltimore, MD 21244-1850

Re: File code CMS-1488-P.

Dear Mr. Hartstein:

We are a health services research and consulting group specializing in using data to classify patients into categories for policy, management, financing, and quality improvement. Our staff worked on the design, refinement, and implementation of various Diagnosis Related Group (DRG) payment systems at national and state levels since the 1970's. Our comments update those we made in 1994 (when "Severity" DRGs were last proposed) and intervening years.

We comment on several issue areas for the proposed FFY2007 and FFY2008 Medicare Acute Hospital payment rates. We separate each of these issues, and incorporate this page, specific comments, and appropriate attachments for each:

- DRGs: Hip and Knee Replacements
- DRGs: Spinal Fusion
- HSRV Weights
- DRGs: Severity of Illness
- Transparency of Health Care Information
- Value-Based Purchasing

Our staff has hands-on knowledge of both proposed refinements and alternative approaches. We hope that these insights assist your ongoing efforts to implement a payment system that fairly aligns payments with the costs of providing needed patient care to Medicare Beneficiaries. Please contact us for any additional input you need over the next year to address these issues.

Sincerely,

A handwritten signature in black ink that reads "John D. Shaw". The signature is written in a cursive, flowing style.

John D, Shaw
President

Enc.

DRGs: Severity of Illness:

We support the recognition of “Severity of Illness” (“*the extent of physiologic decompensation or organ system loss of function...usually characterized by multiple serious diseases or illnesses*” – i.e. **Co-morbidity Severity**) into the DRGs. Measuring the degree of impact of co-morbid conditions would enhance DRG accuracy. However, we note that the proposal for using All Payor Refined – Consolidated Severity Adjusted (APR/CSA) DRGs expands recognition of co-morbidity severity, while decreasing or eliminating recognition of:

- **Treatment complexity** (“*the relative volume and types of diagnostic, therapeutic, and bed services required for treatment of a particular illness*”), which is the major focus of payment in the current DRG system.
- **Complications** (996xx-“*peculiar to certain specified procedures,*” 997xx-“*affecting body systems not elsewhere classified,*” 998xx-“*of procedures not elsewhere classified,*” and 999xx-“*of medical care not elsewhere classified*”) These patients have higher predicted treatment needs, typically due to care at some time prior to admission. These were eliminated because they “*could create the appearance of incentives for less than optimal quality.*” However, since most exist upon admission, occurred many years ago, occurred at a different hospital, and may not have been avoidable with standards of practice at the time, this argument does not apply to the vast majority of patients. For example, the examples typically given for complications that should NOT be paid for are wrong site surgery and sponges/instruments left in the patient. These and other “never events” may in total represent ½ of 1% of complications that currently exist. Not paying for the other 99.5% of these complications will simply create new perverse incentives to avoid admitting these patients. It is also less likely these diagnoses will be reported.

These issues and concerns can be seen in more detail in the attached case study “***Evaluating the Proposed Consolidated Severity Adjusted DRGs for FFY2008 - Examples from Hip and Knee Joint Replacement.***” On balance, while the APR/CSA DRGs have the potential to significantly improve DRG accuracy, in practice, they do not improve upon the Current Medicare DRGs, rather simply change which cases will be overpaid and underpaid, and create new perverse incentives to replace old ones.

We recommend keeping the current "Base DRGs," and expanding them where appropriate (e.g. separate hip and knee joint replacements as proposed in APR/CSA DRGs and Spine surgery refinements discussed in more detail under the topic DRGs: Spinal Fusion.) In addition, the magnitude of the "major resource driver" (type of diagnosis, type of procedure, major specific procedure (e.g. Bi-lateral joint or two incision anterior/posterior fusion), major combination of severe co-morbid conditions-"severity", complication of prior care now being treated, etc.) should determine how to build into a fair payment system to align payments to cost. For example, a payment adjustment that increases a patient's severity by one severity level (about \$1,500-2,000) is adequate for a typical revision case that also costs about \$1,500-2,000 more, but not for a bi-lateral joint replacement that costs \$5,000-6,000 more.

CMS specifically asked for comments regarding alternatives. Attached is a table "***DRG System Pros & Cons***" which outlines features that each of the current major DRG systems provides. Our analysis shows that none of these "off the shelf" Version 23 DRGs systems are the best alternative. Rather, we recommend a hybrid system which would combine the best features of each system. From a technical perspective, we would prefer to modify the proposed APR/CSA

DRGs, since the multiple precise adjustments for determining “severity” mirror a number of the recommendations we made in 1994 when the last “Severity” proposal was made. It has calculation steps to explore a variety of patient level differences that affect patient severity adjustments that are age specific, DRG specific, principal diagnosis specific, number and degree of individual severity predictors, etc. Adding back the current Base DRGs and complications to create a new scale (“resource intensity,” in addition to the current “severity” and “mortality” scales) could achieve this preferred hybrid. One issue that others have raised is the proprietary nature of the APR DRGs that form the basis of the CSA DRGs. It is unclear how open the proposed system is to these recommendations and future annual changes. If the recommended changes to incorporate complexity by restoring base DRGs and incorporate complications cannot be accommodated, other systems could be modified to capture at least some of the desired precision.

Admission Selection and Referral Patterns

One of the driving policy forces for CMS to make the proposed changes in weights and DRGs is admission selection and referral patterns (particularly attributed to MD owned Specialty Hospitals). This essentially means looking at whether there are different admission patterns of simple and difficult cases within a payment category. Attached is “Why Case Mix Refinement is Needed- Example from Minor Back Procedures.” This example shows that there are variable patterns of simple vs. difficult cases within each referral region, but that overall mix between regions is quite similar. This is to be expected due to facility program specialization and regional referral centers for difficult cases. We found the same patterns within New York State, and expect the same within any self contained planning regions.

We recommend that referral patterns for cases with difficult conditions either present or predictable on admission be examined routinely to assess payment equity and assure that regional referral centers are paid appropriately for caring for these difficult cases (and others are not inappropriately rewarded for avoiding treating them.) Referral should occur to best meet the patient's clinical need for care, not to maximize payment - and we believe that the vast majority of referrals are made in the best interest of the patient. Aligning payments with cost will both remove temptation and allay fears for CMS, Congress, etc. about whether admission and referral decisions are appropriately based on the patient's clinical decisions.

Limitations on Numbers of Diagnoses and Procedures Used by CMS

The current Medicare billing system (UB format) only allows submission of 9 diagnoses and 6 procedures. MEDPAR therefore only has 9 Dx and 6 Pr positions (out of the 25/25 that HIPAA requires that hospitals maintain.) This will cause major coding practice shifting as hospitals seek to make sure that the ever growing number of “important codes” are in the first 9/6 positions (full treatment descriptions which frequently requires several sets of procedure codes, diagnoses explaining reason for admission and extended stay, severity, complications, quality indicator numerators and denominator exclusions, risk adjustments, etc.). MEDPAR should expand to 25/25 (the APR DRG grouper accepts 30/30.) Since MEDPAR drives Medicare payment and is the only “national” data source for administrative data, this is also an issue for measuring or risk adjusting for Quality Indicators and Pay-for-Performance, which use MEDPAR data. Expansion will provide more accurate information for both payment and quality. If kept at the current 9/6 - it will encourage gaming and make both payment and quality measurement wildly inaccurate.

D R A F T - Comparison of Current and Potential DRG Classification Systems

Patient Classification System	System Impact Score	Equity, Access, Selection & Referral (Dis)Incentives	Dimension A Severity of Illness		Dimension B Treatment Complexity		Dimension C Complications	
1. Current V23 Medicare DRGs	0	Base for Comparison	0	Base for Comparison	0	Base for Comparison	0	Base for Comparison
2. Proposed 2008 APR-CSA DRGs	0	Still perverse incentives to avoid treating “difficult” patients –just different definition of “difficult.” May be worse, since will know how much <u>used to be paid</u> for these difficult cases.	+3	Recognized at the MDC level (Severity level 4), DRG level (Severity levels 1-3), and specific Dx/Pr, with “re-routing” and age-adjustments	-1	Ignores significant complexity costs by collapsing several procedure specific DRGs into fewer base DRGs, without adequate adjustment.	- 2	Ignores significant complications for payment recognition, including those present on admission. Removed from CC list for levels 2-3-4.
3. V23 AP-DRGs (used in NY non-Medicare payment)	+3	Would reduce some perverse incentives to avoid difficult patients by paying for identified MCCs and base DRGs.	+1	Recognized at MDC level in MCC DRGs	+1	More base DRGs that differentiate patients by type and reason for procedure.	+1	Recognized in base DRGs & at MDC level by DRGs for complications & by refined CC list.
4. V23 APS-DRGs (M/C Base DRGs, split by relative CC resource impact)	+3	Would reduce some perverse incentives to avoid difficult patients by paying for identified CC severity.	+2	Recognized at the DRG level. (using 3 severity levels)	0	Same as Current Medicare DRGS	+1	Recognized at the DRG level.
5. Refine Current DRGs: CC list, New Base DRGs	+3	Would incrementally reduce some perverse incentives to avoid difficult patients.	+1	Refine CC list to reflect current practices	+1	More Base DRGs to separate simple and difficult cases	+1	Refine CC list to reflect current practices
6. Hybrid: Combine “Best “ features of above systems	+6	Eliminates the most perverse incentives for avoiding treating difficult patients by incorporating ALL known major resource drivers.	+3	Use APR-CSA severity logic, but expand base DRGs and incorporate complications.	+2	Add Base DRGs to separate simple and difficult cases: clues from AP, APR, DRG refinement requests.	+1	Set severity levels for BOTH complications and comorbidities, based on resources (costs)
7. Future Modifications to “Best”	+9	Eliminates perverse incentives for avoidable complications. Ongoing updates would eliminate any new ones as clinical practice changes.	+4	Continue to refine to match current practice.	+3	Continue to refine to match current practice.	+2	Eliminate/reduce payment with more data and analysis for “avoidable “ complications at facility & region level

Evaluating the Proposed Consolidated Severity Adjusted DRGs for FFY2008 Examples from Hip and Knee Joint Replacement

The Centers for Medicare and Medicaid Services (CMS) has committed to Congress and MEDPAC to modify the hospital payment system to better align costs and payments. This would reduce current incentives for “crème skimming” (seeking out profitable patients) and at the same time, reduce underpayment to hospitals for treating difficult and complex patients (both referred and complicated readmissions). The proposed changes from current Diagnosis Related Group (DRG) definitions in use through FFY2007 to the proposed Consolidated Severity Adjusted DRGs (CSA-DRGs) fix some of the current cost/payment misalignments, but create new ones that must be corrected before they are implemented. Specifically the proposed CSA-DRGs:

- a. + Adjust better for patient severity
- b. - Adjust less for treatment complexity
- c. - Remove current payment differentials for patients with complications

The proposed CSA-DRGs 414-419 for Hip and Knee Joint Replacements are presented below as examples of how the proposed CSA-DRGs will either fix or make current problems worse:

A. The proposed CSA-DRGS adjust better for patient co-morbidity severity

INITIAL JOINT REPLACEMENTS WITHOUT CO-MORBIDITIES

About 40% of these hip and knee patients are straight forward clinically – initial joint replacement with no complicating or co-morbid conditions to make care more difficult. They currently have payment levels set about \$ 1,000 over their cost (national average – will differ by locality.) The proposed adjustments would modify payments for these cases so that the margin is less than \$200 per case (Table 1.) This will alleviate of the problem of overpaying hospitals that in the past have consciously sought out patients who did not have co-morbid or complicating conditions or require complex treatment.

Table 1 – Initial Joint Replacements without Co-morbidities or Complications

Joint	Est. Cases	% Cases	Est. Cost	FFY07 Est. Pay	FFY07 Est. Margin	FFY08 Est. Pay	FFY08 Est. Margin
Hip	90,677	42%	\$ 9,693	\$ 10,467	\$ 774	\$ 9,815	\$ 122
Knee	106,870	42%	\$ 9,372	\$ 10,467	\$ 1,096	\$ 9,576	\$ 204

INITIAL JOINT REPLACEMENTS WITH MINOR (Level 2) CO-MORBIDITIES

Approximately another 34% of the hip and knee patients are initial joint replacements that have minor co-morbid diagnoses that increase treatment costs slightly, but no complicating conditions. Current DRGs pay both hip and knee patients the same amount; however hip patients cost about \$ 1,000 more than knee patients. Facilities with a typical 45/55 hip/knee mix will break even. Facilities that treat more hip than knee patients are disadvantaged and vice versa. The proposed adjustments split hip and knee patients into their own DRGs, and adjust the severity level for the minor co-morbidities. This improves payments for both hip and knee patients, and narrows the margin gap between them to about \$300 (Table 2.)

Table 2 – Initial Joint Replacements with Only Minor Co-morbidities

Joint	Est. Cases	% Cases	Est. Cost	FFY07 Est. Pay	FFY07 Est. Margin	FFY08 Est. Pay	FFY08 Est. Margin
Hip	66,873	31%	\$ 11,004	\$ 10,467	\$ (537)	\$ 11,282	\$ 278
Knee	93,359	36%	\$ 10,035	\$ 10,467	\$ 433	\$ 10,616	\$ 582

INITIAL JOINT REPLACEMENTS WITH MAJOR OR MULTIPLE (Level 3 or 4) CO-MORBIDITIES OR COMPLICATIONS FROM PRIOR SURGERY

About 13% of the hip and knee patients are the more difficult patients (e.g. 711.xx Pyogenic arthritis) who are typically referred to a regional center due to having either major or multiple co-morbid diagnoses or complicating conditions associated with prior surgery. Under the current DRGs, referral centers that

admit these patients lose \$ 2,500 – 3,500 on each. The proposal reduces the loss for hip referrals to (\$300), and reverses the loss to about a \$ 600 gain for knee referrals (Table 3.) A hospital with a typical 60/40 mix of these patients would almost break-even.

Table 3 - Initial Joint Replacements w Major or Multiple Co-Morbid or Complicating Conditions

Joint	Est. Cases	% Cases	Est. Cost	FFY07 Est. Pay	FFY07 Est. Margin	FFY08 Est. Pay	FFY08 Est. Margin
Hip	34,768	16.1%	\$ 13,947	\$ 10,467	\$ (3,480)	\$ 13,652	\$ (295)
Knee	24,230	9.5%	\$ 12,889	\$ 10,467	\$ (2,422)	\$ 13,481	\$ 592

B. The proposed CSA-DRGs adjust less for treatment complexity

REVISIONS

About 9% of the hip and knee patients are more complex because they require a revision to a prior joint replacement. A new DRG was implemented in FFY2006 for these cases. In total, payment rates equalized for hospitals with a typical 55/45 hip/knee mix. However, there is a \$1,200 difference favoring knees in FFY2007. The proposal decreases overall payments for revision patients (averaging \$ 400) by putting the revisions and the initial joint replacements into the same initial hip and knee CSA-DRGs. The severity level of patients undergoing a revision is raised up one level for patients who do not have a significant comorbidity or complicated principal diagnosis – maximum of level 3 for hips but only level 2 for knees. Hip revisions would almost break even, but knee revisions would be underpaid by about \$800 average per case (Table 4.) This reverses the direction of the FFY2007 margin difference – an almost \$ 2,000 swing.

Table 4 – Revisions to Joint Replacements

Joint	Est. Cases	% Cases	Est. Cost	FFY07 Est. Pay	FFY07 Est. Margin	FFY08 Est. Pay	FFY08 Est. Margin
Hip	21,417	9.9%	\$ 13,218	\$ 12,677	\$ (541)	\$ 13,162	\$ (56)
Knee	19,419	7.6%	\$ 11,998	\$ 12,677	\$ 679	\$ 11,228	\$ (770)

BILATERAL OR MULTIPLE JOINT REPLACEMENTS

About 3% of the hip and knee cases undergo bilateral or multiple joint replacements (two hips, two knees, or one of each – during the same patient stay.) Hospital costs are about 50% higher than for a single joint replacement, largely reflecting longer operating room time and the cost of the additional joint implant. When two joints need replacement, physicians and their patients decide clinically whether to replace both joints in a single stay or “stage” them during two separate stays, usually within 6 months. There is a separate DRG through FFY2007 for bilateral cases; however the FFY2008 proposal puts them into the same CSA-DRGs as the initial and single joint replacements. There is only a partial adjustment for a handful of cases (those having BOTH a hip and knee replaced during the same stay), resulting in an average underpayment of (\$ 5,100) per case. These difficult cases are typically treated in a few regional referral centers, which will be severely underpaid by the proposal. Added splits for Complications (without or with) are also meaningful for these cases (Table 4.)

Table 4 – Bilateral or Multiple Joint Replacements with and without Complications

Bilat/Mult Jnt. Repl	Est. Cases	% Cases	Est. Cost	FFY07 Est. Pay	FFY07 Est. Margin	FFY08 Est. Pay	FFY08 Est. Margin
*Hip wo	715	0.3%	\$15,632	\$ 15,934	\$ 302	\$ 11,356	\$ (4,276)
*Hip w	652	0.3%	\$ 26,284	\$ 15,934	\$ (10,350)	\$ 12,655	\$ (13,629)
Knee wo	10,105	3.9%	14,879	\$ 15,934	\$ 1,055	\$ 10,465	\$ (4,414)
Knee w	1,776	0.7%	17,750	\$ 15,934	\$ (1,816)	\$ 11,959	\$ (5,791)

**Includes patients with both hip and knee replaced during the same stay.*

C. The proposed CSA-DRGs remove current payment differentials for patients with complications

INFECTED JOINTS WITH DEBRIDEMENT

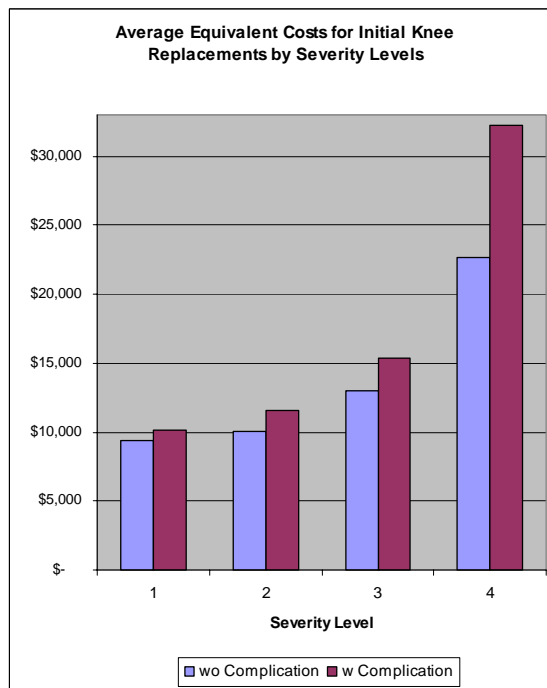
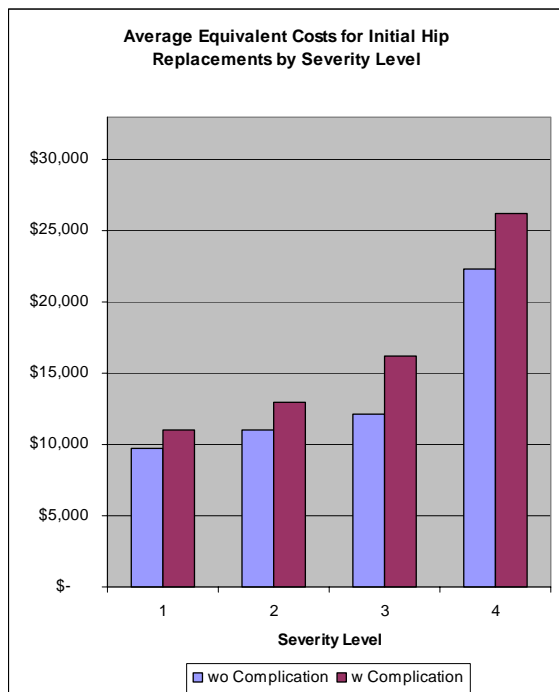
The rest of the cases currently fall into DRG 217 – Debridement. These are some of the most difficult and complex orthopedic patients to treat. Many have deep orthopedic infections not responsive to normal antibiotic treatment. Many have multiple complicating conditions, and on average stay more than twice as long as typical patients. The current DRG 217 is in effect a consolidated “complexity” DRG, consisting of patients who require wound debridement and may or may not have other orthopedic procedures and treatments during the same stay. This is similar conceptually to the level 4 “Severe” CSA-DRGs proposed for co-morbid diagnoses across a Major Diagnostic Category. The proposal eliminates this complexity DRG, and re-assigns patients to other DRGs reflecting their other (not debridement) procedures. The hip and knee patients with wound debridements are underpaid almost (\$ 11,000) each (Table 5), which has a serious disproportionate financial impact on the referral hospitals admitting these difficult cases from other hospitals around the region.

Table 5 – Joint Replacements with Wound Debridements

Joint	Est. Cases	% Cases	Est. Cost	FFY07 Est. Pay	FFY07 Est. Margin	FFY08 Est. Pay	FFY08 Est. Margin
Hip	581	0.3%	\$ 25,156	\$ 24,857	\$ (300)	\$ 14,327	\$ (10,829)
Knee	395	0.2%	\$ 24,355	\$ 24,857	\$ 502	\$ 13,527	\$ (10,828)

INITIAL JOINTS – WITH AND WITHOUT COMPLICATING CONDITIONS

As can be seen in the following charts, patients with complicating conditions have more resource needs (costs) than patients without these conditions **for every co-morbidity severity level**.



As a consequence, proposed payment rates set at the average at each severity level will introduce a bias to systematically overpay patients without complications and systematically underpay patients with complications. This new systematic bias will result in unnecessary patient referrals to regional centers for complications that could safely be treated locally. This places an unfair burden on these regional referral centers. They must shoulder the costs of this uncompensated care since they cannot deny access. Most of these complications are present on admission, and are therefore “unavoidable” to the admitting hospital.

These charts and (Table 6) below illustrate that facilities can avoid an extra \$ 2,000 in non-reimbursed cost per patient by avoiding admission of difficult patients with complicating conditions.

Table 6 – Cost Difference – Admitting a Patient with and without a Complication (Payment=Same)

	Level 1	Level 2	Level 3	Level 4	Weighted Average
Initial Hip – wo vs. w Complication	\$ 1,328	\$ 2,012	\$ 4,063	\$ 3,852	\$ 2,152
Initial Knee – wo vs. w Complication	\$ 791	\$ 1,571	\$ 2,383	\$ 9,589	\$ 1,809

Specific Hip/Knee Recommendations

- Implement “Base DRGs” for both Bilateral Hip Replacement and Bilateral Knee Replacement.
- Retain current DRG 217 across orthopedic cases to capture “severe complications”.
- Differentiate major complications within initial hips/knees (\$2,000/\$1,500 higher) and bilateral hips/knees (\$8,200/\$1,200 higher), either by splitting each by presence of a major complication or incorporate into determination of “resource intensity levels.”
- These high resource need patients average out with less intensive cases nationally and across a large region, but specific referral centers admit a disproportionate number of these difficult patients. Initial payment is appropriate to provide equity to the hospitals willing to admit the difficult patient and to avoid perverse “crème skimming” incentives.

Apply Concepts above to other Orthopedic DRGs and other Major Diagnostic Categories

- DRG intensity adjustments should occur along the dimension that is the most significant resource driver: procedure, medical diagnosis, complicating conditions, co-morbidities. For example:
 - Level 4 co-morbidities are 100%+ more than average for the specific procedure
 - Complex patients in DRG 217 are 100% more costly than the average joint replacement
 - Complex Bilateral joint costs are 50% higher than single initial joint replacements
 - Complex Revision joint costs are 20% higher than initial joint replacements
 - Severity levels 1-2 and 2-3 are 11-27% apart from each other in terms of average cost
 - Complication levels are 15-20% higher for initial joints, 10-50% for Bilateral, in addition to co-morbidity severity levels

Figure 1 – Hip Replacements by Severity Level

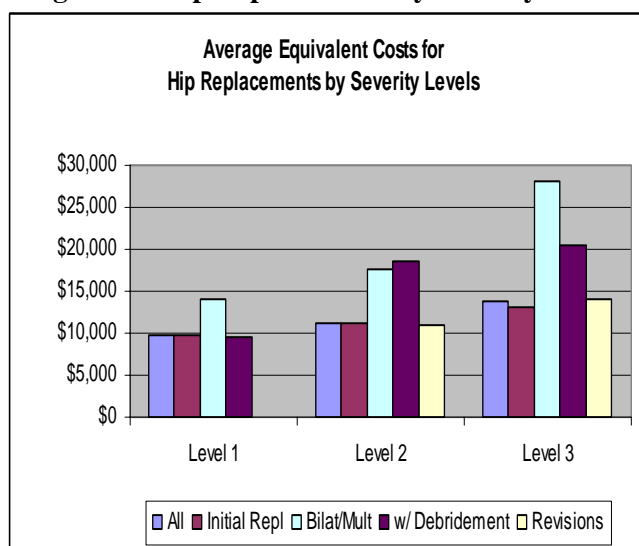
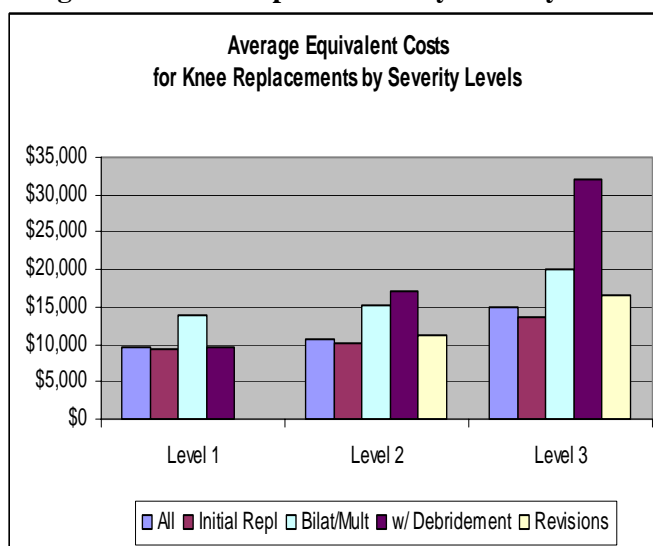


Figure 2 – Knee Replacements by Severity Level



Level 4 cases are not shown here. All level 4 cases collected into a combined CSA-DRG for Level 4 Surgical Orthopedic cases. Levels 1,2, & 3 each have their own CSA-DRGs. The chart above shows how each joint replacement scenario compares in average cost to the total average for each severity level.

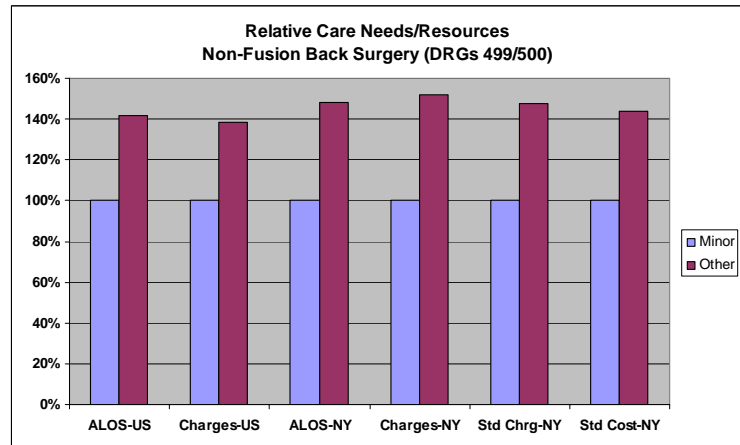
- HOW complexity is integrated into the APR/CSA-DRG structure depends on the degree that the complexity affects relative resources and risk for quality indicators and mortality
 - In the example above and as shown in Figures 1 & 2, revisions increase resources approximately the same amount as each severity level, and also increase relative risk, so incorporating them into the determination of severity level is valid.
 - The impact on relative resources for bilateral or multiple joint replacement patients is significantly higher at all severity levels, and therefore require a new “base DRGs” to accommodate them in the APR-CSA structure
- Current DRGs use **both** complications and co-morbidities to determine resource intensity for payment (cc). **Both** must also be incorporated into any new DRGs for payment equity and to avoid perverse incentives for admission/referral selection.
- Most major complications are present on admission. “Avoidability” of these complications should be reviewed retrospectively as part of Pay for Performance initiatives – both at the hospital level and across a region where many occur.
- “No measure of case mix complexity can be equally effective for all the different aspects of case mix complexity.”¹ The current structure for APR-CSA DRGs incorporates co-morbidity severity but not complications and only some complexity, and may be appropriate for severity adjusting quality indicators and mortality – their primary use over the past few years. New weights for relative resources for payment appear necessary to include complications and complexity without adversely impacting risk adjustment use. DRG hierarchy changes would only be necessary if the materiality requires it (like DRG 217 in the example above.) These could be collapsed back when using for risk adjustment for quality and mortality.
- While constructing this case study, we noted several severity adjustments that had been implemented for Hip replacements that the data indicates should also be applied to Knee replacements (TKA). These include:
 - A severity adjustment for obesity (and all diagnosis codes for BMI \geq 30), the same as done for Hip replacement (APR-DRG “Step 5”)
 - Give knee revisions an add-on severity adjustment up to level 3, the same as is done for hip revisions (APR-DRG “Step 13”).
- In review of the complicated principal diagnoses (APR-DRG “Step 10”) for Hip and Knee replacements, we noted that several other principal diagnoses are predictive of difficult cases and should be included:
 - Pyogenic Arthritis (71105, 71106, 71107)
 - Acute Osteomyelitis (73005, 73006, 73007)
 - Pathological Fractures (73314, 73315, 73316)

¹ Averill RF, et. al. “All Patient Refined Diagnosis Related Groups (APR DRGs) Methodology Overview,” 3M Health Information Systems, Wallingford, CT, March, 2006.

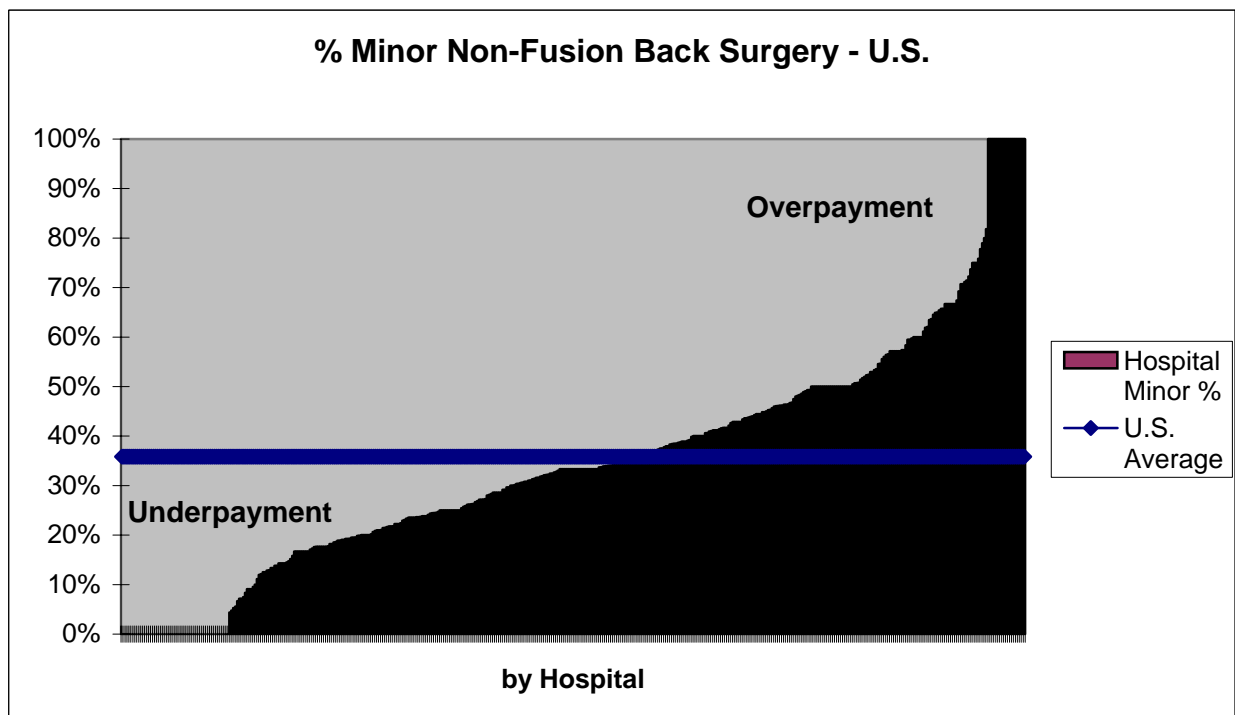
Why Case Mix Refinement is Needed for Non-Fusion Back Surgery (DRGs 499/500)

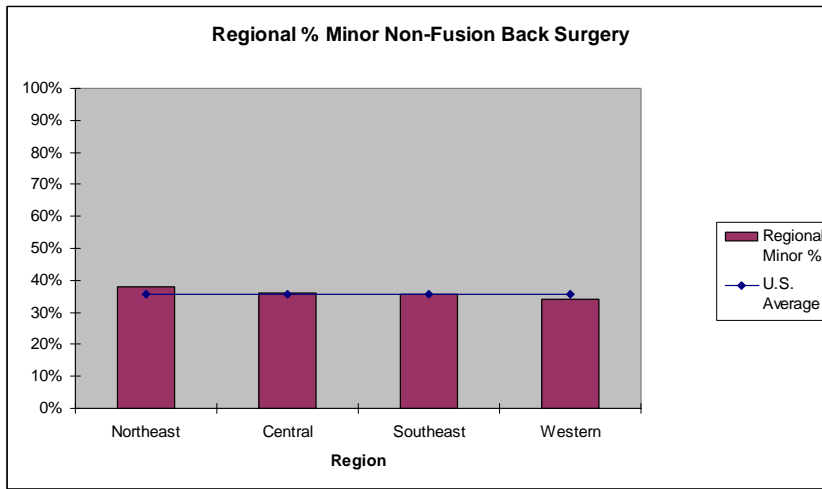
Approximately 35-40% of Medicare cases admitted to a hospital for Non-Fusion Back Surgery (DRGs 499/500) had either a single (herniated) disk removed/destroyed OR a portion of a single vertebrae excised to decompress a narrowed spinal canal (i.e. spinal stenosis). Both relatively minor back procedures relieve pressure on the spinal nerve root and alleviate the pain it causes.

Other cases that group to these DRGs have surgery at multiple levels, vertebral fracture repair, implantation or removal of devices (neural stimulators, artificial disk replacement, etc), repair of degenerative changes in the spinal joints (spondylosis), removal of adhesions or implants from a previous back surgery, etc. These cases have care needs 40-50% higher than the minor back procedures described above. (U.S. and NYS data)



“Averaging” DRG payments for the lower resource minor back procedures with the higher resource needs of the other back surgery patients leads to underpayment of any hospital that does a greater than average number of more difficult cases and to overpayment for hospitals that do more of the minor back procedures. Because difficult cases are routinely referred to regional Centers of Excellence, while at least some hospitals seek out the minor cases that have generous payments (e.g. an accusation leveled at some MD-owned Orthopedic Specialty Hospitals in some states), actual variation in referral and admission patterns drive underpayment/overpayment, e.g.:





Further analysis shows that the percentage of Non-Fusion Back Surgery cases that are Minor (i.e. Removal/ Destruction of a Single Disk OR a Single Decompression) is consistent ACROSS broad geographic areas, reflecting similar patient care needs overall across regions (Source: 2003 Medicare Cases in National Inpatient Sample- NIS)

This illustrates that “Averaging” can work - when the mix between high resource and low resource patients are aggregated to a broad level (or when driven solely by random chance.)

Perverse incentives will occur - where conscious referral and/or selection affects admission patterns and the resulting mix of high resource and low resource patients (as it naturally does in each region - see below). Regional Centers of Excellence are penalized by underpayment for admitting the complex “train wreck” patient they were designed and encouraged to care for. Overpayments to other hospitals are at worst removed from patient care as profits, and at best used to “cross-subsidize” other underpaid health care services (thereby confusing everyone and making true system improvements more difficult to design and implement.) Severity adjusting these DRGs to split out minor back procedures will help reduce these perverse incentives.

