

Medical Severity Diagnosis–Related Groups, Present on Admission, and Recovery Audit Contract Initiatives: Impact on and Implications for Improving Physician Documentation and Coding

Alan H. Rosenstein, MD, MBA
Michelle O’Daniel, MSG, MHA
Susan White, PhD
Ken Taylor

Medicare has introduced a number of new payment initiatives that will have a profound effect on hospital reimbursement and quality and safety ratings. The new medical severity diagnosis–related group (MS-DRG) payment system adds a number of new DRG categories to more adequately account for patient severity. The new present-on-admission (POA) initiative is designed to withhold additional reimbursement for selected complications that were not recorded as being POA but that occurred during the course of the hospitalization. The recovery audit contract requires hospitals to repay Medicare for services deemed not clinically necessary based on retrospective chart review. Reimbursement and quality rankings for each of these initiatives are based on the extent and thoroughness of physician chart documentation. Physicians must understand the importance of their role and responsibilities in this process and embrace what needs to be done

through appropriate education, coaching, and guidance, which leads to more effective chart documentation. (*Am J Med Qual* XXXX;XX:xx-xx)

Keywords: MS-DRGs; POA safety/quality indicators; hospital payment; physician coding

BACKGROUND

In an effort to promote its value-based purchasing program, the Centers for Medicare and Medicaid Services (CMS) and other payers have introduced a number of new initiatives designed to reward providers who provide best-practice care and penalize those who do not.

The movement actually began more than 20 years ago with the introduction of a variety of different report cards, which payers used to evaluate selected performance outcomes and then selectively contracted or channeled members to “preferred” providers. Not surprisingly, the movement had an effect but met with significant provider resistance.^{1,2} With the introduction of improved data sources and more meaningful measurements, the report card movement continued to make advances. With data readily available for public review, providers found themselves being held more accountable for their performance outcomes.³ Based on these results, a series of different pay-for-performance initiatives were launched that directly linked outcomes to provider reimbursement

AUTHORS’ NOTE: The authors have no conflicts of interest to disclose. Alan H. Rosenstein is vice president/medical director, and Michelle O’Daniel is director of member relations, VHA West Coast, Pleasanton, California. Susan White is vice president, Research and Development, Cleverly and Associates, Worthington, Ohio. Ken Taylor is a senior data analyst, VHA West Coast, Pleasanton, California. *Corresponding author:* Alan H. Rosenstein, VHA West Coast, 4900 Hopyard Road, #320 Pleasanton, CA 94588 (e-mail: arosenst@vha.com).

American Journal of Medical Quality, Vol. XX, No. X, XXXX
DOI: 10.1177/1062860609332511
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Table 1
Adverse Events: Impact on Additional Cost,
Length of Stay, and Mortality

| Complications | LOS | Charges | Mortality |
|--------------------------|------|-----------|-----------|
| Decubitus ulcer | 3.9 | 10 845.00 | 7.23 |
| Foreign bodies | 2.1 | 13 315.00 | 2.14 |
| Pneumothorax | 4.4 | 17 312.00 | 6.7 |
| Postoperative hemorrhage | 3.9 | 21 431.00 | 3.0 |
| Postoperative sepsis | 10.9 | 57 727.00 | 21.9 |
| Wound dehiscence | 9.4 | 40 323.00 | 9.6 |
| Infection | 9.5 | 38 656.00 | 4.3 |
| ADEs | 4.6 | 4685.00 | 2.8 |
| DVT/PE | 5.0 | 15 000.00 | 16.8 |

Abbreviations: LOS, length of stay; ADE, adverse drug event; DVT, deep vein thrombosis; PE, pulmonary embolism.

and/or bonus structures. As an example, the CMS pilot project with premier hospitals provided a 4% swing in Medicare reimbursement for selected diagnoses: Hospitals in the upper 10% tier of best performance outcomes received an additional reimbursement of 2%, and those in the lowest 10% tier had their Medicare reimbursement reduced by 2%. A 4% swing on millions of dollars in Medicare payments has a sizable financial impact on hospital reimbursement.⁴

Now we face a new series of changes that will have the greatest impact on hospital reimbursement since the introduction of diagnosis-related groups (DRGs). The new medical severity DRG (MS-DRG) system adds a number of new DRG levels. Using a classification of MCCs (major complications and comorbidities), CCs (complications and comorbidities), and no MCCs or CCs as a structure designed to better account for patient severity, hospitals will note a significant effect on DRG reimbursement related to these new coding classifications.

The second major change in the DRG reimbursement system is the nonpayment for potentially preventable adverse events. In 2008, CMS introduced 8 patient safety criteria for which, if not recorded as being “present on admission” (POA), the hospital would not receive any additional reimbursement if they occurred during the course of the hospitalization. Many states have followed suit and will not pay any additional reimbursement for the costs associated with these adverse events, also referred to as “never events.” These events are associated with significant increases in length of stay (LOS), hospital costs, and patient mortality⁵⁻⁷ (Table 1).

The third component of the new CMS program is the recovery audit contract (RAC). CMS has initiated a 3-state (CA, NY, FL) pilot project under this program, for which they have hired an outside independent company to review charts for medical necessity and appropriateness of care. If care is deemed inappropriate, the hospital must repay Medicare payments received for services rendered. If the audit reveals hospital underpayment, Medicare reimburses the hospital for the additional services. Estimated revenue recovered by Medicare to date is nearly \$400 000 000.⁸

MATERIALS AND METHODS

VHA is a nationwide affiliation of not-for-profit hospitals that represents more than 1600 hospitals across the country. VHA West Coast (VHAWC) is 1 of 16 VHA regions; it represents hospitals from 6 states including California, Washington, Oregon, Arizona, Alaska, and Hawaii. In an effort to assess the effect of the new MS-DRG payment system on hospital reimbursement and quality ratings and the potential impact of nonpayment for the 11 selected POA criteria, VHAWC—in conjunction with HealthCare Consulting Solutions and Cleverly and Associates—developed a data mapping model to assess and project individual hospital and aggregate results. Using 2006 Medicare Provider Analysis and Review (MEDPAR) as the baseline period, the data were directly converted into the new MS-DRG classification to examine the percentage of admissions falling into each of the new MS-DRG classifications and the financial impact from the revised reimbursement structure. An average Medicare reimbursement rate of \$5000 per hospital was used for the sake of comparison. Each hospital could apply its own specific Medicare rate to get a better approximation of the individual financial impact. The model assumes that no changes in DRG coding mechanics were introduced during the measurement period. Each hospital received an individual hospital report, the results of which could be compared with the peer group average and bed size groupings (ranging from 200 beds or less, to 200-350 beds, to bed size above 350). A total of 53 hospitals were included in the study.

Data categories analyzed included the projected conversion to the MS-DRG classification, including percentage of cases falling into each of the MS-DRG categories and the financial impact compared with the 2006 DRG coding period. Medicare projects an

Table 2
Top 10 Medical Severity Diagnosis–Related Group (MS-DRG) Conversion Winners/Losers

| DRG | VHA WC: All | VHA WC: <200 Beds | VHA WC: 200-350 Beds | VHA WC: >350 Beds |
|---|--------------|-------------------|----------------------|-------------------|
| Grand totals | 11 926 804 | 2 638 880 | 3 225 634 | 6 062 290 |
| Top 10 DRGs with decreasing payments under MS DRGs | | | | |
| 557: Percutaneous cardiovascular procedure with drug-eluting stent with major CV DX | (11 263 392) | (2 149 059) | (4 350 190) | (4 764 143) |
| 475: Respiratory system diagnosis with ventilator support | (7 134 801) | (2 788 064) | (2 526 924) | (1 819 813) |
| 542: Trach with MV 96 + hours or PDX except face, mouth, and neck DX without major OR | (3 818 336) | (789 768) | (1 253 774) | (1 774 794) |
| 553: Other vascular procedures with CC with major CV DX | (3 742 408) | (702 476) | (1 351 104) | (1 688 828) |
| 551: Permanent cardiac pacemaker implant with major CV DX or AICD lead or gntr | (3 356 783) | (785 813) | (1 196 763) | (1 374 207) |
| 515: Cardiac defibrillator implant without cardiac catheter | (3 148 940) | (583 109) | (1 032 723) | (1 533 108) |
| 541: ECMO or trach with MV 96 + hours or PDX except face, mouth, and neck with major OR | (2 794 627) | (470 076) | (821 341) | (1 503 210) |
| 121: Circulatory disorders with AMI and major complications, D/C alive | (2 741 499) | (1 188 972) | (837 649) | (714 878) |
| 555: Percutaneous cardiovascular procedure with major CV DX | (2 496 886) | (419 931) | (865 361) | (1 211 594) |
| 124: Circulatory disorders except AMI, with cardiac catheter and complex DX | (2 452 435) | (541 066) | (886 601) | (1 024 768) |
| Top 10 DRGs with increasing payments under MS DRGs | | | | |
| 416: Septicemia age >17 | 8 227 249 | 1 551 711 | 2 732 301 | 3 943 238 |
| 544: Major joint replacement or reattachment of lower extremity | 5 071 057 | 1 476 890 | 1 810 007 | 1 784 161 |
| 552: Other permanent cardiac pacemaker implant without major CV DX | 2 942 056 | 638 448 | 1 178 275 | 1 125 333 |
| 415: OR procedure for infectious and parasitic diseases | 2 819 782 | 544 785 | 1 330 711 | 944 286 |
| 498: Spinal fusion except cervical without CC | 2 754 550 | 799 744 | 732 668 | 1 222 138 |
| 554: Other vascular procedures with CC without major CV DX | 2 153 477 | 548 049 | 681 082 | 924 346 |
| 500: Back and neck procedures except spinal fusion without CC | 1 582 815 | 452 797 | 476 741 | 653 277 |
| 149: Major small and large bowel procedures without CC | 1 528 872 | 393 816 | 530 414 | 604 642 |
| 430: Psychoses | 1 515 162 | 329 553 | 345 803 | 839 806 |
| 174: GI hemorrhage with CC | 1 421 875 | 351 493 | 530 345 | 540 037 |

Abbreviations: VHAWC, VHA West Coast; AMI, acute myocardial infarction; CC, complications and comorbidities.

overall increase in reimbursement of about 4%, but actual hospital revenues would depend on their diagnostic mix and coding practices. The report included a table that highlighted each hospital's top 10 MS-DRGs with the greatest negative impact (reduced revenue) and the top 10 with the greatest positive impact (increased revenue) resulting from the MS-DRG conversion.

The POA report analyzed the frequency of occurrence of 12 key patient safety indicators: object left in surgery, air embolism, blood incompatibility, catheter-associated urinary tract infections, pressure ulcers (decubitus ulcers), vascular catheter-associated infections, surgery site infection (mediastinitis after coronary bypass graft surgery), hospital-acquired injuries, ventilator-associated pneumonia, *Staphylococcus aureus* septicemia, deep vein thrombosis, and pulmonary embolism. Hospitals could compare their frequency of occurrence with different comparison groups. At that time, MEDPAR data did not include a field for measuring whether or not the event was recorded as POA. To assess the impact of the POA indicator on charges, LOS, and mortality, a separate analysis was performed that looked at the top diagnoses in which the indicator occurred and compared the results of diagnoses for which the indicator was coded as present with the same diagnosis without the indicator present. The analysis included only those diagnoses for which there were at least 11 cases as per Medicare requirements.

A separate survey was conducted to access the results of RAC repayments across the 3 VHA regions affected by the RAC. These included VHAWC (California hospitals), VHA Southeast (Florida hospitals), and VHA Metro (New York hospitals). A total of 36 hospitals from these regions participated in the survey.

RESULTS

Table 2 presents an overview of the top 10 negative and positive DRGs to MS-DRG conversions. Whereas Medicare projects an overall increase in reimbursement of approximately 3% to 4%, each hospital's reimbursement impact will vary depending on their diagnostic mix and coding practices. For the top 10 diagnoses below and above the VHAWC hospital mean, VHAWC hospitals as a group would stand to lose nearly \$10 000 000. When looking at all the diagnoses, the overall

benefit was a positive conversion of nearly \$12 000 000. Figure 1 contains a sample hospital report that shows, by diagnosis, the percentage of cases coded by level of complexity and the projected financial impact compared with the reimbursement received under the old DRG payment system.

Table 3 presents a sample hospital POA indicator frequency and impact report, which compares the hospital results with comparison groups for the overall incidence and impact on LOS, charges, and mortality. The first part of the table compares all diagnoses with the indicator present to all diagnoses without the indicator present. The second part looks at all diagnoses with a minimum of 11 cases (minimum CMS criteria standard for data drill down) and for each diagnosis compares the impact on LOS, charges, and mortality for cases with the indicator present and those without the indicator present. Looking at 3 of the major adverse event categories, the average per case additional charges for all VHAWC hospitals were \$35 591 per case for cases with deep vein thrombosis/pulmonary embolism, \$21 493 per case for cases with a decubitus ulcer, and \$49 119 per case for cases with ventilator-associated pneumonia. The potential risk for not receiving additional payment for these cases is dependent on the number of cases for which the event was not recorded as POA.

Figure 2 presents a summary of the repayments made by the 31 reporting hospitals from the 3 regions that participated in the VHAWC RAC survey. Figure 3 describes the reason for denial by category. Figure 4 describes the top diagnoses selected for review.

DISCUSSION

The results suggest a very significant potential financial impact from the new Medicare MS-DRG, POA, and RAC programs. The impact is further accentuated by the quality-of-care rating implications. The new MS-DRG system was designed to better account for patient severity of illness. Patients with MCCs are more severely ill than patients with CCs, who are more severely ill than patients without either MCCs or CCs, as documented in the medical record. Many of the quality ratings are based on documentation of overall patient severity of illness and comparisons of actual with predicted outcomes of care (eg, mortality,

| | |
|---|-----------|
| MS-DRG 293-Heart failure & shock w/o CC/MCC | Wt: 0.876 |
| MS-DRG 292-Heart failure & shock w CC | Wt: 1.013 |
| MS-DRG 291-Heart failure & shock w MCC | Wt: 1.259 |

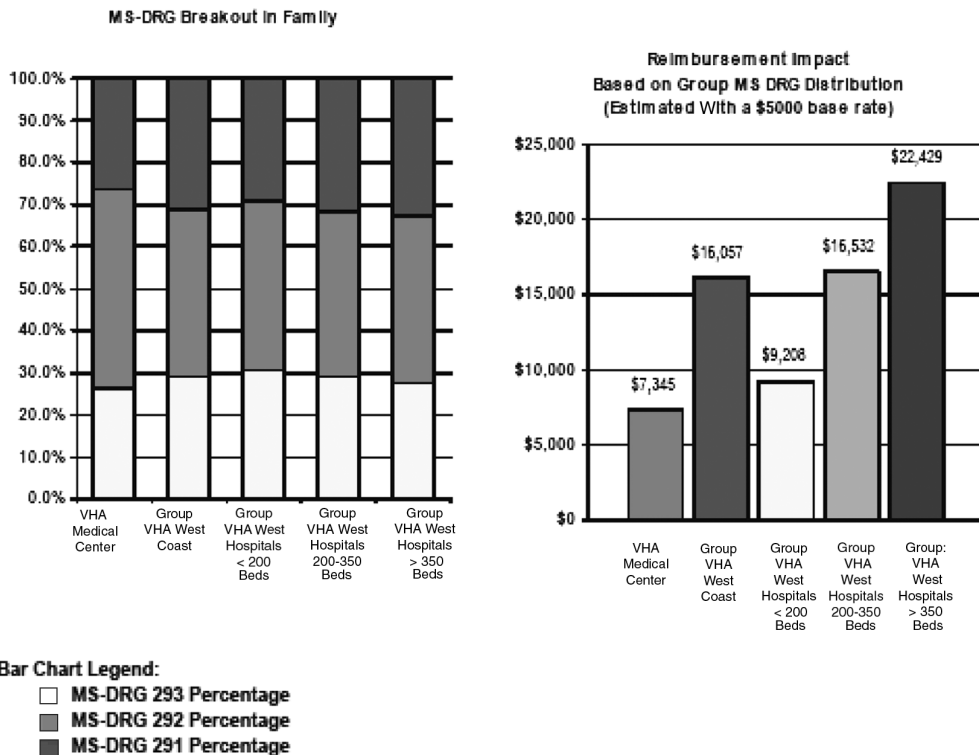


Figure 1. Top 10 medical severity diagnosis-related group conversion report heart failure/acute myocardial infarction.

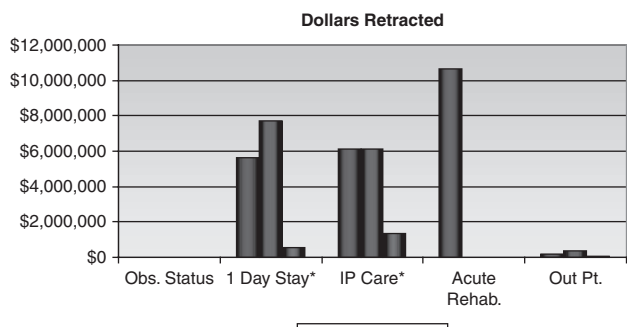


Figure 2. CMS repayment by region/by category.

complications). Hospitals with “better” quality outcomes are directly rewarded through pay-for-performance incentives and are indirectly rewarded

by market share advantages from provider-of-choice selection criteria from both the payer and consumer perspectives. These quality ratings are particularly important for physicians who pride themselves on the quality of their work, their personal reputation, and the reputation of the hospital with which they are associated. Physicians initially will resist change if they either don’t see the necessity of taking the extra time to provide added documentation or don’t believe in the system, but once they realize the impact on their reputation, they usually respond in a positive way. Ultimately, the hospital reimbursement and/or recovery paybacks and quality and safety ratings rely on the extent and thoroughness of physician documentation and coding.

Table 3
Present-on-Admission Indicator Frequency and Impact Report

| POA Category | Indicator Present (Yes/No) | Sample Provider | | | | | | VHA West Coast Hospitals | | | | |
|---|----------------------------|---|------------|-------------|-------------------------|----------------|------------|--------------------------|-------------------------|----------------|--|-------------|
| | | Cases | Percentage | Average LOS | Average Charge Per Case | Mortality Rate | Percentage | Average LOS | Average Charge Per Case | Mortality Rate | | |
| | | | | | | | | | | | | |
| Ventilator-associated pneumonia | No | 16 648 | 98.4% | 6.15 | 45 635 | 1.4% | 99.1% | 5.4 | 47 340 | 1.5% | | |
| Ventilator-associated pneumonia | Yes | 266 | 1.6% | 15.04 | 159 965 | 0.8% | 0.9% | 16.1 | 171 482 | 2.1% | | |
| Decubitus ulcers | No | 16 468 | 97.4% | 6.19 | 46 955 | 1.5% | 97.5% | 5.4 | 47 703 | 1.5% | | |
| Decubitus ulcers | Yes | 446 | 2.6% | 9.90 | 65 089 | 0.4% | 2.5% | 10.0 | 76 833 | 1.8% | | |
| <i>Staphylococcus aureus</i> septicemia | No | 16 898 | 99.9% | 6.28 | 47 348 | 1.4% | 99.9% | 5.5 | 48 313 | 1.5% | | |
| <i>S aureus</i> septicemia | Yes | 16 | 0.1% | 12.63 | 136 876 | 0.0% | 0.1% | 14.6 | 129 215 | 3.3% | | |
| Deep vein thrombosis/Pulmonary embolism | No | 16 672 | 98.6% | 6.22 | 46 838 | 1.4% | 99.0% | 5.5 | 47 976 | 1.5% | | |
| Deep vein thrombosis/Pulmonary embolism | Yes | 242 | 1.4% | 11.22 | 88 404 | 0.8% | 1.0% | 10.4 | 93 070 | 2.6% | | |
| Top DRGs for Sample Hospital | | | | | | | | | | | | |
| POA Category | DRG | Definition | | | | | | | | | | Total Count |
| Decubitus ulcers | 416 | Septicemia age >17 | | | | | | | | | | 46 |
| Decubitus ulcers | 320 | Kidney and urinary tract infections age >17 with CC | | | | | | | | | | 32 |
| Decubitus ulcers | 079 | Respiratory infections and inflammations age >17 with CC | | | | | | | | | | 24 |
| Decubitus ulcers | 316 | Renal failure | | | | | | | | | | 20 |
| Decubitus ulcers | 089 | Simple pneumonia and pleurisy age >17 with CC | | | | | | | | | | 20 |
| Decubitus ulcers | 415 | OR procedure for infectious and parasitic diseases | | | | | | | | | | 18 |
| Decubitus ulcers | 182 | Esophagitis, gastroenteritis, and miscellaneous digestive disorders age >17 with CC | | | | | | | | | | 14 |
| Decubitus ulcers | 296 | Nutritional and miscellaneous metabolic disorders age >17 with CC | | | | | | | | | | 14 |
| Decubitus ulcers | 294 | Diabetes age >35 | | | | | | | | | | 12 |
| Deep vein thrombosis/Pulmonary embolism | 076 | Other respiratory system OR procedures with CC | | | | | | | | | | 22 |
| Deep vein thrombosis/Pulmonary embolism | 553 | Other vascular procedures with CC with major CV DX | | | | | | | | | | 22 |
| Deep vein thrombosis/Pulmonary embolism | 127 | Heart failure and shock | | | | | | | | | | 14 |
| Deep vein thrombosis/Pulmonary embolism | 078 | Pulmonary embolism | | | | | | | | | | 12 |
| Ventilator-associated pneumonia | 416 | Septicemia age >17 | | | | | | | | | | 52 |
| Ventilator-associated pneumonia | 475 | Respiratory system diagnosis with ventilator support | | | | | | | | | | 24 |
| Ventilator-associated pneumonia | 541 | ECMO or trach with MV 96 + hours or PDX except face, mouth, and neck with major OR | | | | | | | | | | 22 |
| Ventilator-associated pneumonia | 079 | Respiratory infections and inflammations age >17 with CC | | | | | | | | | | 16 |
| Ventilator-associated pneumonia | 087 | Pulmonary edema and respiratory failure | | | | | | | | | | 14 |
| Ventilator-associated pneumonia | 489 | HIV with major related condition | | | | | | | | | | 12 |

Abbreviations: POA, present on admission; LOS, length of stay; DRG, diagnosis-related group; CC, complications and comorbidities.

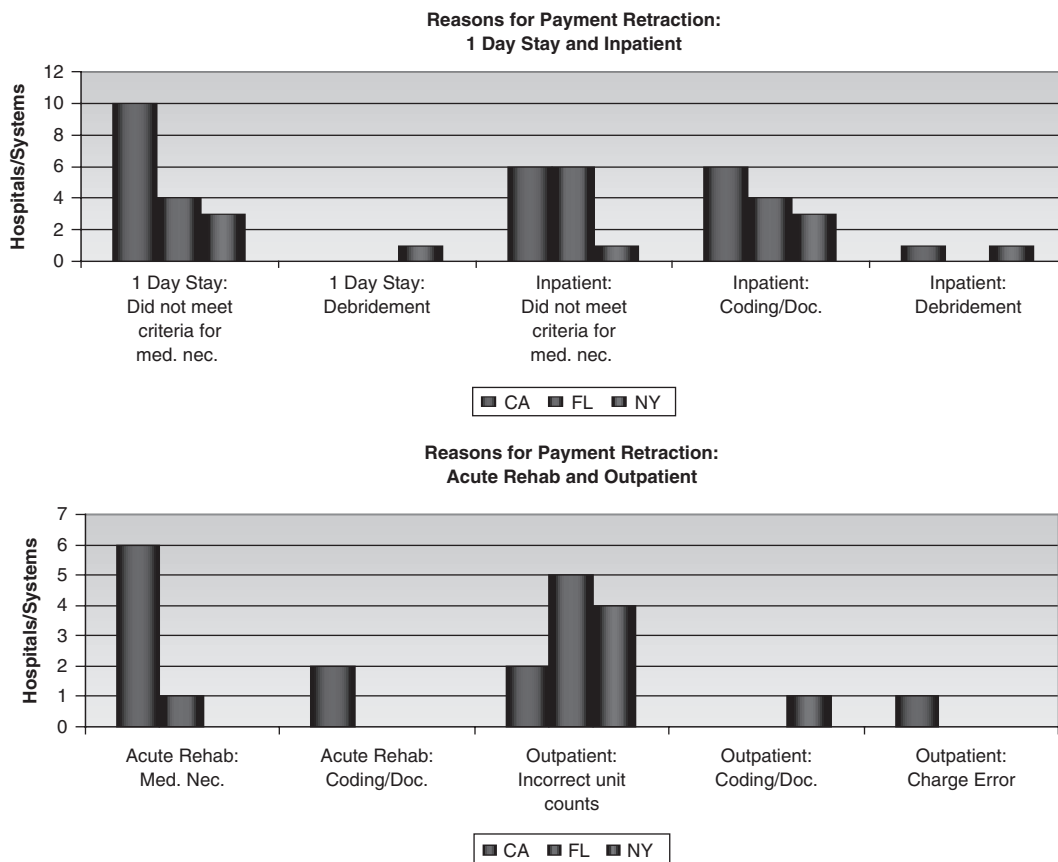


Figure 3. CMS repayment by reason.

| DRG | Description | Region |
|--------|---|---------------------|
| 76 | Other Respiratory System O.R. Procedures with CC | Empire -Metro |
| 120120 | Oth Ci l t s t O R P dOther Circulatory System O.R. Procedures | E i MtEmpire -Metro |
| 263 | Skin Graft and/or Debridement for Skin Ulcer or Cellulitis with CC | Empire -Metro |
| 468 | Extensive OR procedure unrelated to principal diagnosis | Empire Metro |
| 475 | Respiratory System diagnosis with ventilator support | Empire Metro |
| 143 | Chest Pain | Southeast |
| 416 | Septicemia age > 17 | Southeast |
| 468 | Extensive OR procedure unrelated to principal diagnosis | Southeast |
| 79 | Respiratory Infections and Inflammations, Age Greater than 17 with CC with CC | West Coast |
| 217 | Wound debridement & skin graft except hand, for musclet & connective tissue disorders | West Coast |
| 416 | Septicemia age > 17 | West Coast |
| 468 | Extensive OR procedure unrelated to principal diagnosis | West Coast |
| 475 | Respiratory System diagnosis with ventilator support | West Coast |

Figure 4. Top diagnosis-related groups selected for review.

The good news regarding POA is that the data draw further attention to the incidence and impact of potentially preventable adverse events. The data highlight opportunities to improve patient assessment and provide early intervention to either prevent or reduce the morbidity associated with the complications.

The data modeling example presented is only the first part of the solution. The data will help identify targeted opportunities for further investigation, but the real results come from implementing strategies that improve awareness, recognition, and responsibility, and actions that enhance both clinical documentation and best-practice care applications.

In an effort to better prepare for these new programs, we recommend a multidisciplinary, multidimensional approach to coding assessment and education. From a multidisciplinary perspective, we strongly recommend that physicians, coders, case managers, quality managers, nursing, and finance are brought together. We have been conducting these types of programs on-site at our hospitals for years, and it never ceases to amaze us how different team members have different perspectives on roles and responsibilities, assumptions and misassumptions, and what needs to be done to more effectively describe and document the patient's condition.

From a multidimensional perspective, we suggest starting with a basic educational program that describes some of the background information that has led to the current situation and its relevance to the organization and its staff. The business case is not only the financial impact but also the quality impact. This is particularly important for those physicians who pride themselves on the quality of their work, their personal reputation, and their hospital's reputation; they need to understand how much chart documentation contributes to these rankings. We suggest that the hospital share physician-specific performance and coding data so physicians can compare their results with that of their peers. Nothing stimulates physician action more than wanting to be regarded as the best that they can be. A follow-up step would be to provide a comprehensive in-house documentation and coding mechanics program that identifies problem areas and provides focused education on targeted opportunities for improvement and tips to make it happen.

The overall goal of physician engagement is to raise awareness, to clearly make the case for why

Table 4
Physician Strategies

| |
|---|
| Education |
| Guidelines/Order sets/Pathways |
| Case management |
| Clinical champions |
| Queries |
| Computerized physician order entry (CPOE) |
| Data |
| Accountability |
| Incentives |

documentation is important, and to make it easy for them to comply with recommended procedures.

Table 4 outlines a series of strategies designed to increase physician involvement and engagement. The first step is education, a process that includes multiple components. This involves, first, a presentation of the current market forces, implications, and ramifications to help raise awareness and sensitivity to the issue. More in-depth educational sessions on the detailed principles and coding mechanics will help reinforce appropriate coding applications.

Real-time prompts are the strategy of choice. Physicians do not intentionally plan to be poor documenters, but during the course of business, they are preoccupied with more pressing patient care issues. Reminding the physician about what must be done works best when the physician is actively assessing and managing the patient. Reinforcing best-practice priorities through written guidelines, standard procedures, and other prompts, alerts, or reminders will help coax physicians to do the right thing. Being able to enter orders using computerized physician order entry is even better. Better yet is person-to-person intervention with the case managers, nurses, clinical champions, or coders who are actually on the medical floor, who can make suggestions while the physician is currently accessing the medical chart.

Having physicians review their own data profiles is key. Every physician thinks he or she is the best until they are provided with data that prove otherwise. Sharing data with physicians in a nonpunitive, confidential manner will often stimulate change because of their inherent competitive nature, peer pressure, and reactions to public accountability and impact on their reputation. With data increasingly being made publicly available, physicians need to know what is out there, how

the data are being used, and what they can do to make things better.

Positive rewards such as peer recognition and pay-for-performance incentives will also work. True quality-of-care issues are dealt with most effectively through the credentialing process.

CONCLUSION

Value-based purchasing is a present-day reality. Providers should be rewarded for providing top-quality care. Similarly, payments should be withheld for inappropriate care or preventable adverse outcomes of care. Although it is unfortunate that we need to provide a financial incentive to entice best-practice care, the advantage is that the chief financial officers and chief operating officers will better appreciate the financial impact of quality care and provide additional resources toward that goal.

The key question that arises is to what extent the quality performance indicator results are reflective of the quality of care rendered versus the way in which the patient's condition and treatment outcomes are documented in the medical record? Our experience tells us that chart documentation is often more of an issue than the actual quality of care delivered. Physicians must recognize and react to the importance of detailed comprehensive

chart documentation and how it affects both reimbursement and quality ratings. They need to understand the rules of the game and, rather than resist or wait for the rules to change, embrace what needs to be done through appropriate education, coaching, and implementation.

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