

**Department of Health and Human Services**

**OFFICE OF  
INSPECTOR GENERAL**

**Medicare Payments for DRG 296:**

**Nutritional and Miscellaneous Metabolic  
Disorders**



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# EXECUTIVE SUMMARY

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## PURPOSE

To identify hospitals with atypically high billing patterns for patients with nutritional and miscellaneous metabolic disorders (DRG 296).

## BACKGROUND

Under Medicare's prospective payment system, a hospital's payment amount is determined by taking a hospital's individual base payment rate and multiplying it by the weight of the diagnosis related group (DRG) assigned to the patient stay. A DRG's weight is determined by the intensity of resources, on average, that are needed to treat that kind of case. The higher the relative weight, the greater the reimbursement.

Medicare reimbursed hospitals almost \$900 million for DRG 296 in 1996. DRG 296 is coded for patients with principal diagnoses that include hypovolemia, nutritional marasmus, abnormal weight gain, and anorexia. This code can trigger a higher Medicare reimbursement compared to other codes where patients may exhibit similar symptoms. DRG 182 (Esophagitis, Gastroenteritis, and Miscellaneous Digestive Disorders) is one such code.

The Health Care Financing Administration (HCFA) contracts with two Clinical Data Abstraction Centers to collect clinical data from hospital medical records. The Abstraction Centers are responsible for validating a random sample of claims from all Medicare inpatient hospital discharges. The results of the 1996 validation work showed that 7 percent of DRG 296 discharges sampled should have been coded to a lower-weighted DRG. The HCFA estimated that the total overpayment attributable to incorrect DRG 296 classifications was \$6.7 million.

In several recent Office of Inspector General reports we recommended that HCFA perform routine monitoring and analysis of hospital billing and clinical data to proactively identify aberrant patterns of DRG upcoding.

For this inspection, we analyzed the Medicare Provider Analysis and Review file to identify hospitals with atypically high billings for DRG 296 in fiscal years 1993 to 1996.

## FINDINGS

***Sixty hospitals had atypically high Medicare billings for DRG 296.***

A relatively small number of hospitals (60 of 4,894) had abnormally high DRG 296 discharges compared to national figures. These 60 hospitals were identified based on two criteria: (1) a large proportion of DRG 296 discharges to total discharges in 1996, and (2) a significant increase in the proportion of DRG 296 discharges to total discharges between 1993 and 1996.

For the 60 hospitals, DRG 296 discharges more than doubled from 1,972 in 1993 to 4,471 in 1996. Nationally, DRG 296 discharges nearly stayed unchanged from 233,915 in 1993 to 233,592 in 1996.

Between 1993 and 1996, the proportion of DRG 296 discharges to all discharges for the 60 hospitals nearly doubled from 2.58 percent to 5.08 percent. In contrast, the national proportion decreased 5 percent from 2.10 percent in 1993 to 1.99 percent in 1996.

***The questionable billing of DRG 296 could have a financial impact on the Medicare program.***

For the 60 hospitals, the number of DRG 296 discharges exceeded national norms by 2,316 cases. Earlier DRG validation work performed by the Office of Inspector General (OIG) found an average per discharge difference of \$514 between DRG 296 and the DRG that should have been coded. Based on this amount, we estimate that potential overpayments could be as high as \$1.2 million or 8 percent of the \$14.4 million paid to these hospitals for DRG 296 in 1996.

The true upcoding error rate can only be determined by undertaking a detailed claims review at each hospital. Therefore, the potential overpayments at each hospital would vary according to actual coding error rates.

**NEXT STEPS**

As noted in the background, we previously recommended that HCFA perform routine monitoring and analysis of hospital billing and clinical data to proactively identify aberrant patterns of upcoding. The HCFA agreed with the recommendation and outlined an extensive program to respond to it. We offer the information in this report as insight into another possible problem DRG for HCFA to consider when refining its plan. We recognize that only record reviews by trained professionals will establish if incorrect coding has occurred at the 60 hospitals identified. Meanwhile, we have referred the 60 hospitals to our Office of Investigations. We look forward to continuing collaboration with HCFA on this matter.

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# INTRODUCTION

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## PURPOSE

To identify hospitals with atypically high billing patterns for patients with nutritional and miscellaneous metabolic disorders (DRG 296).

## BACKGROUND

In 1996, Medicare reimbursed hospitals almost \$900 million for patients whose cases were categorized as DRG 296, the code for nutritional and miscellaneous metabolic disorders with complications and co-morbidities for patients over 17 years old. Principal diagnosis under DRG 296 include hypovolemia, nutritional marasmus, abnormal weight gain, and anorexia. But, there are a total of 62 diagnosis and procedure codes that can lead to categorizing a case as DRG 296.

### *Hospital Reimbursement for Diagnostic Related Groups*

Diagnostic related groups (DRGs) are categories used to determine Medicare reimbursement for patient stays under the prospective payment system established by Congress in 1983. The actual Medicare payment amount is calculated by multiplying the individual hospital's base payment rate by the weight of the DRG. The weight of a DRG is determined by the intensity of resources, on average, that are needed to treat that kind of case.

When a patient is discharged, the physician summarizes information on a discharge face sheet. This information includes principal diagnosis, additional diagnoses, and procedures performed during the stay. Hospitals use codes from the *International Classification of Diseases, Ninth Edition, Clinical Modification (ICD-9-CM)* to report diagnosis and procedure information. A coder, trained in medical classification, uses all this information to assign the most appropriate ICD-9-CM code. A patient's entire medical record is reviewed as part of the coding process.

A hospital receives payment for treating a Medicare patient by preparing a claim and forwarding it to the Medicare fiscal intermediary. The intermediary processes the claim through a series of automated screens. These screens, called the Medicare Code Editor, identify cases that need further review before being classified into a DRG. Cases are classified by the GROUPER software program into the appropriate DRG. This program classifies each case into a DRG based on diagnosis, procedure code, and demographic information. Hospital reimbursement is then calculated by multiplying the weight of the assigned DRG by the hospital's individual base payment rate.

Reimbursement increases or decreases with the relative weight of the DRG. Sometimes patients exhibit similar symptoms, but their cases are assigned to different DRGs. A mis-classification of a DRG can result in an overpayment. For example, the weight of DRG 296 (Nutritional and Miscellaneous Metabolic Disorders) was 0.9166 in 1996. In the same year, the weight of DRG 182 (Esophagitis, Gastroenteritis, and Miscellaneous Digestive Disorders) was 0.7794. If a case that should have been DRG 182 was incorrectly classified as DRG 296, the overpayment would

be approximately \$500 per case.

***The Health Care Financing Administration's DRG Validation Work***

The Health Care Financing Administration (HCFA) contracts with Medicare Peer Review organizations (PROs) to ensure that care provided to Medicare patients is reasonable, necessary, and provided in the most appropriate setting. The PROs are required to contract out DRG validation efforts to two Clinical Data Abstraction Centers. The Abstraction Centers' validation efforts provide HCFA with an overall assessment of DRG coding, and identifies problematic DRGs.

The 1996 validation effort found that 10 percent of the sample DRG 296 cases were improperly coded. The sample consisted of 20,152 claims from all Medicare inpatient hospital discharges. There were 424 sample discharges for patients with a diagnosis of nutritional and metabolic disorder, and 43 of 424 were improperly coded. Thirty-one of the 43 improperly coded cases resulted in overpayments to hospitals. These 31 cases should have been coded to 11 less expensive DRG codes. For example, 16 of the cases should have been coded DRG 182. A complete listing of the appropriate DRG codes can be found in Appendix A. The total estimated overpayment attributable to DRG 296 discharges in 1996 was \$6,656,128.

***The Office of Inspector General's DRG Validation Work***

In a study entitled, *Using Software to Detect Upcoding of Hospitals Bills* (OEI-01-97-00010, August 1998), the Office of Inspector General (OIG) performed DRG validation work on a sample of 2,622 Medicare inpatient hospital discharges. Of the 2,622 discharges, 108 were for patients with a nutritional and metabolic disorder diagnosis. The results of this validation showed that 17 percent of the sample DRG 296 discharges (18 of 108) were improperly coded. Most (14 out of 18) of the erroneously coded discharges resulted in overpayments to the hospitals.

The erroneously coded DRG 296 discharges should have been coded to four less expensive DRGs. Six of the erroneously coded discharges should have been coded to DRG 182 and 4 should have been coded to DRG 297 (Nutritional and Miscellaneous Metabolic Disorders Age > 17 without Complications and Comorbidities). A complete listing of the appropriate DRG codes can be found in Appendix B.

***Other Office of Inspector General DRG Work***

In a follow-up to the Office of Inspector General report just mentioned, the OIG sent an advisory report to HCFA entitled, *Monitoring the Accuracy of Hospital Coding* (OEI-01-98-00420, January 21, 1999). We pointed out that the DRG system was vulnerable to upcoding, particularly within certain DRGs. We recommended that HCFA perform routine monitoring and analysis of hospital billing data and clinical data to identify aberrant patterns of upcoding.

The OIG has also released two reports focusing on hospital coding patterns over time for DRGs 475 and 416. *Medicare Payments for DRG 475: Respiratory System Diagnosis with Ventilator Support* (OEI-03-98-00560, January 1999), and *Medicare Payments for Septicemia* (OEI-03-98-00370, March 1999) found a relatively small number of hospitals with atypically high billings for

DRGs 475 and 416. The methodology in these reports demonstrated a technique that could be used to focus HCFA's limited resources in identifying potential cases of DRG upcoding. This report on nutritional and metabolic disorders provides another example of how this technique could be used.

## METHODOLOGY

We extracted data from the Medicare Provider Analysis and Review (MedPAR) file for fiscal years 1993 to 1996. The MedPAR file contains Medicare DRG discharge information for all hospitals. For each hospital that had at least one DRG 296 discharge (4,894 hospitals), we determined the number of DRG 296 discharges and the total overall number of discharges by year.

We calculated the proportion of DRG 296 discharges to total discharges for each hospital in 1996. We found that DRG 296 discharges accounted for more than 3.5 percent of all discharges in just 15 percent of hospitals. We then determined the proportion of DRG 296 discharges to total discharges for 1993 and compared it to the proportion calculated for 1996. Between 1993 and 1996, the proportion had increased by more than 50 percent in 15 percent of the hospitals.

To identify hospitals with atypically high DRG 296 billing patterns, we selected hospitals with the following criteria: (1) DRG 296 discharges accounted for more than 3.5 percent of all discharges in 1996, **and** (2) the proportion of DRG 296 discharges to total discharges had increased by more than 50 percent between 1993 and 1996. We excluded hospitals with less than 45 DRG 296 discharges in 1996, hospitals currently under investigation by the OIG, and hospitals in the State of Maryland (Maryland hospitals are not currently reimbursed under the Prospective Payment System).

For the hospitals with atypical billing patterns, we determined a potential overpayment amount for 1996. We first calculated a per discharge overpayment amount. We based this calculation on the recent DRG validation work done by the OIG. We determined the difference between the DRG 296 payment that was inappropriately billed and the payment for the DRG code that should have been billed. For the hospitals identified, we then determined the number of DRG 296 discharges that exceeded the national average for all hospitals. We multiplied these discharges by the estimated per discharge overpayment to determine the potential financial impact to the Medicare program.

This inspection was conducted in accordance with the *Quality Standards for Inspections* issued by the President's Council on Integrity and Efficiency.



# FINDINGS

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## **SIXTY HOSPITALS HAD ATYPICALLY HIGH MEDICARE BILLINGS FOR DRG 296.**

Compared to national figures, a relatively small number of hospitals had abnormally high discharges for patients with a nutritional and metabolic disorder. For 60 hospitals, total DRG 296 discharges more than doubled, from 1,972 in 1993 to 4,471 in 1996. This represents an average increase of 32 percent a year. Nationally, DRG 296 discharges nearly stayed unchanged from 233,915 in 1993 to 233,592 in 1996.

Some of the 60 hospitals exhibited unusually high increases in DRG 296 discharges from 1993 to 1996. For instance, one hospital's DRG 296 discharges tripled from 39 (out of 3,298 total discharges) in 1993 to 121 (out of 3,384 total discharges) in 1996. Another hospital's DRG 296 discharges increased from 8 (out of 418 total discharges) in 1994 to 40 (out of 573 total discharges) in 1995 -- a five-fold increase.

These 60 hospitals also had atypically high proportions of DRG 296 discharges to total discharges as compared to the national average. As illustrated in the chart below, for the 60 hospitals, the proportion of DRG 296 discharges to total discharges nearly doubled from 2.58 percent in 1993 to 5.08 percent in 1996. For all hospitals, this same proportion decreased from 2.10 percent in 1993 to 1.99 percent in 1996, with an average decrease of 2 percent a year.

Between 1993 and 1996, the proportion of DRG 296 discharges to total discharges for the 60 hospitals increased between 2 and 9 times. For 15 percent of the hospitals (9 of 60), the proportion increased by a factor of 3 or more.

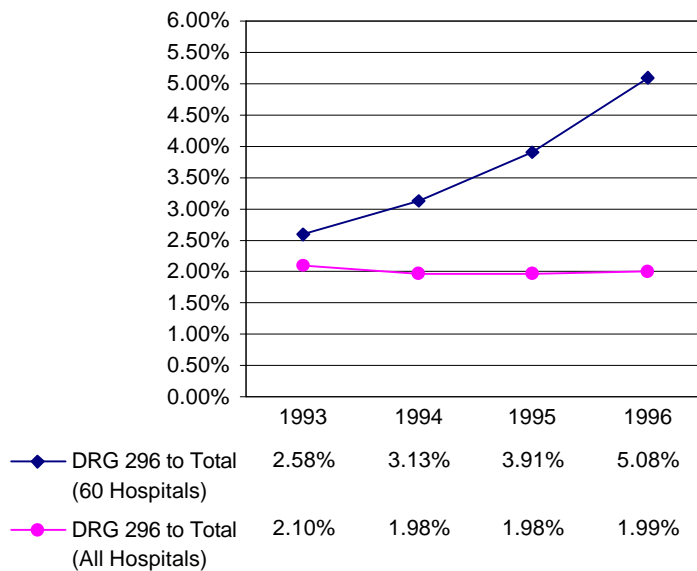
The 60 hospitals were located in 24 States. Twenty-six of the hospitals were concentrated in just 5 States. Six hospitals were in Texas and Kentucky, five in Alabama and Oklahoma, and Louisiana had four. The remaining States had between one and three hospitals.

**THE QUESTIONABLE BILLING OF DRG 296 COULD HAVE A FINANCIAL IMPACT ON THE MEDICARE PROGRAM.**

For the 60 hospitals, the number of discharges for patients with a nutritional and metabolic disorder diagnosis exceeded national norms by 2,316 cases. Using previous Office of Inspector General validation efforts, we calculated a difference of \$514 between the DRG 296 payment that was inappropriately billed and the payment for the DRG code that should have been billed. Therefore, we estimate that potential overpayments could be as high as \$1.2 million in 1996. This \$1.2 million overpayment represents 8 percent of the \$14.4 million paid to these hospitals for DRG 296 in 1996.

The true upcoding error rate can only be determined by undertaking a detailed claims review at each hospital. Therefore, the potential overpayments at each hospital would vary depending on actual coding error rates.

**Proportion of DRG 296 Discharges to Total Discharges  
1993 to 1996**



## NEXT STEPS

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As noted in the background, we previously recommended that the Health Care Financing Administration perform routine monitoring and analysis of hospital billing and clinical data to proactively identify aberrant patterns of upcoding. The HCFA agreed with the recommendation and outlined an extensive program to respond to it. We offer the information in this report as insight into another possible problem DRG for HCFA to consider when refining its plan. We recognize that only record reviews by trained professionals will establish if incorrect coding has occurred at the 60 hospitals identified. Meanwhile, we have referred the 60 hospitals to our Office of Investigations. We look forward to continuing collaboration with HCFA on this matter.

# APPENDIX A

## CLINICAL DATA ABSTRACTION CENTERS' 1996 VALIDATION WORK FOR DRG 296

This table shows the results of the 1996 Clinical Data Abstraction Centers' validation effort for DRG 296 (Nutritional & Miscellaneous Metabolic Disorders Age > 17 with Complications and Comorbidities). Column one contains the appropriate DRGs for the 31 upcoded DRG 296 discharges identified in the validation work.

DRG Codes	DRG Weights	DRG Definitions <sup>1</sup>	Number of Times DRG was Upcoded	Percent of Total Times DRGs were Upcoded
182	0.7794	Esophagitis, Gastroenteritis & Miscellaneous Digestive Disorders Age > 17 with Complications and Comorbidities	16	52%
449	0.7886	Poisoning and Toxic Effects of Drugs Age > 17 with Complications and Comorbidities	3	10%
294	0.7579	Diabetes Age > 35	2	6%
297	0.5353	Nutritional & Miscellaneous Metabolic Disorders Age > 17 without Complications and Comorbidities	2	6%
463	0.7416	Signs & Symptoms with Complications and Comorbidities	2	6%
125	0.8767	Circulatory Disorders Except Acute Myocardial Infarction, with Cardiac Catheterization without Complex Diagnosis	1	3%
132	0.6861	Atherosclerosis with Complications and Comorbidities	1	3%
141	0.7149	Syncope & Collapse with Complications and Comorbidities	1	3%
243	0.7248	Medical Back Problems	1	3%
321	0.6104	Kidney & Urinary Tract Infections Age > 17 without Complications and Comorbidities	1	3%
434	0.7373	Alcohol/Drug Abuse or Dependence, Detoxification or Other Symptomatic Treatment with Complications and Comorbidities	1	3%
<b>Total</b>			31	98% <sup>2</sup>

<sup>1</sup> These definitions were taken from the *Diagnosis Related Groups Definitions Manual*, version 15.0, as compiled by the company, 3M Health Information Systems.

<sup>2</sup> The total for this column does not equal 100 percent due to rounding.

## APPENDIX B

### OFFICE OF INSPECTOR GENERAL'S VALIDATION WORK FOR DRG 296

This table shows the results of the Office of Inspector General's (OIG) validation work for DRG 296 (Nutritional & Miscellaneous Metabolic Disorders Age > 17). Column one contains the appropriate DRGs for the 14 upcoded DRG 296 discharges found in the validation work.

DRG Codes	DRG Weights	DRG Definitions <sup>1</sup>	Number of times DRG was Upcoded	Percent of Total Times DRGs were upcoded
182	0.7794	Esophagitis, Gastroenteritis & Miscellaneous Digestive Disorders Age > 17 with Complications and Comorbidities	6	43%
297	0.5353	Nutritional & Miscellaneous Metabolic Disorders Age > 17 without Complications and Comorbidities	4	29%
294	0.7579	Diabetes Age > 35	3	21%
096	0.8390	Bronchitis & Asthma Age > 17 with Complications and Comorbidities	1	7%
<b>Total</b>			14	100%

<sup>1</sup> These descriptions were taken from the *Diagnosis Related Groups Definitions Manual*, version 15.0, as compiled by the company, 3M Health Information Systems.