

**Variations and Trends in the Coding of Evaluation and Management  
(E&M) Services by Hospital Emergency Departments**

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# Variations and Trends in the Coding of Evaluation and Management (E&M) Services by Hospital Emergency Departments

## Summary

Following implementation of the Medicare Outpatient Prospective Payment System (OPPS), unexpected variances have been observed in the assignment of evaluation and maintenance (E&M) codes on emergency department claims. Hospital OPPS claims were used to define normal Medicare payment levels and distributions of patients among various levels of E&M codes for calendar years 2002-2004. Data for some hospitals indicate that there may be systematic under-coding or over-coding of emergency department encounters. Under-coding can result in lower levels of reimbursement, while over-coding can be a compliance problem requiring immediate intervention and correction. The findings of this study should be useful in helping a hospital to determine whether its E&M coding is within expected ranges.

## Background

Medicare implemented the OPPS for hospital outpatient services in 2000. Under this system a hospital is paid fixed rates for various Ambulatory Payment Classifications (APCs). The procedures detailed on a Medicare patient's bill are grouped into these APCs in order to determine payment. Complete and accurate coding of procedures is therefore essential in ensuring that a hospital receives accurate payment.

This study focuses on the assignment of E&M codes in a hospital emergency department (ED). These codes are frequently used and are sometimes problematic. Coding guidelines for E&M codes have been somewhat ambiguous for hospital use under the OPPS, and incorrect coding can result. This study assesses the potential prevalence of such errors.

## Sources and Limitations of Data

This study is based on Medicare OPPS claims for hospital ED visits during calendar years 2002 through 2004. Data were obtained from the Centers for Medicare and Medicaid Services (CMS) and contain fee-for-service claims data for Medicare hospital outpatient bills. All data obtained from CMS and used in this analysis are consistent with CMS Data Release Policies.

When reviewing this analysis it is important to note that the entire population of Medicare ED patients is not represented.

- Medicare patients who are admitted to a hospital through its Emergency Department are not included in outpatient claims data. (Medicare does not allow hospitals to bill separately for outpatient services provided prior to an admission.) Therefore, admitted patients are not included in this analysis.

- Patients covered by a Medicare managed care plan also are excluded, since the CMS outpatient data include only fee-for-service claims.
- Critical Access hospitals are not included in OPPS claims data.

It should also be noted that some hospitals are consolidated for reporting. A single Medicare provider number may actually represent multiple physical hospitals. This can distort analytics based on hospital size.

### Evaluation and Management Codes

Evaluation and Management services are represented by six CPT<sup>1</sup> codes that group into four APC categories representing a range of resource consumption. Definitions and national payment rates for these APCs are updated annually by CMS.

Table 1 – APC Definitions and Payment Rates

APC	Definition	CPT <sup>1</sup>	2002	2003	2004	2005	2006
610	Low level emergency visits	99281 99282	\$62.61	\$73.78	\$74.70	\$77.18	\$73.79
611	Mid level emergency visits	99283	\$109.95	\$131.89	\$130.77	\$136.34	\$129.18
612	High level emergency visits	99284 99285	\$177.65	\$226.39	\$226.30	\$234.42	\$224.78
620	Critical care	99291	\$427.59	\$519.48	\$491.01	\$516.54	\$477.73

Since E&M codes were originally designed for physician or professional services reporting, the assignment of these codes was originally based on factors such as the detail of patient history, extent of patient examination, complexity of medical decision making, and whether the patient was critically ill or injured.

According to guidance published in the Federal Register, “Coding guidelines for emergency and clinic visits should be based on emergency department or clinic facility resource use, not physician resource use.”<sup>2</sup> In other words, the CPT definitions developed for physician reporting are not appropriate for hospital reporting. Even though the regulations make it clear that physician guidelines should not be used for reporting hospital resource use, they do not provide specific criteria for the assignment of these codes in the hospital setting. Instead of specific criteria there are guidelines presented in the Federal Register that hospitals can follow to develop their own criteria:

- Coding guidelines for emergency and clinic visits should be based on emergency department or clinic facility resource use, not physician resource use.

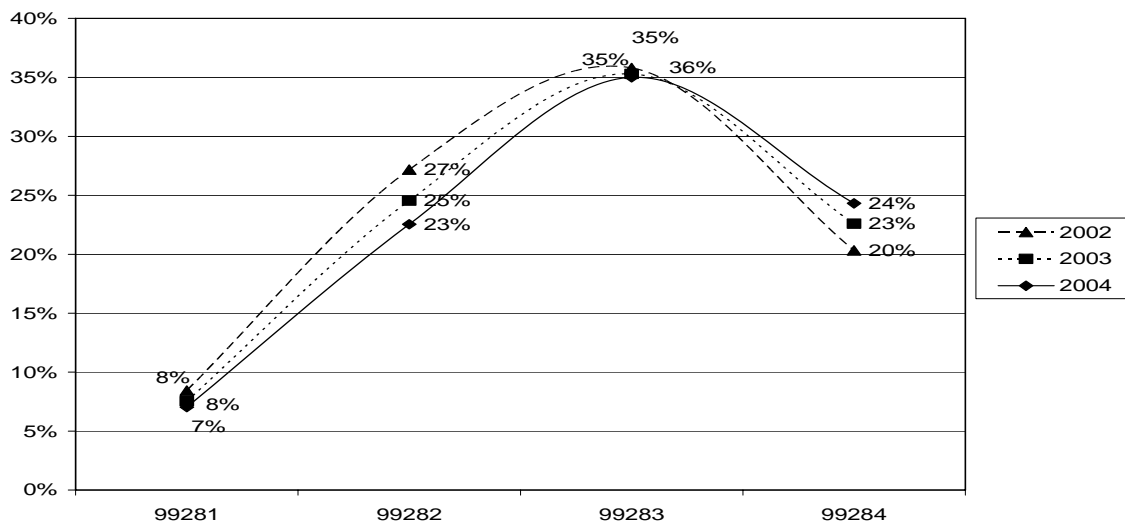
<sup>1</sup> CPT codes copyright 2005 American Medical Association. All Rights Reserved. CPT is a trademark of the AMA. No fee schedules, basic units, relative values or related listings are included in CPT. The AMA assumes no liability for the data contained herein. Applicable FARS/DFARS Restrictions Apply to Government Use.

<sup>2</sup> 42 CFR Part 405, August 9, 2002, page 52131

- Coding guidelines should be clear, facilitate accurate payment, be usable for compliance purposes and audits, and meet HIPAA requirements.
- Coding guidelines should only require documentation that is clinically necessary for patient care. Preferably, coding guidelines should be based on current hospital documentation requirements. (This guideline discourages separate scoring sheets.)
- Coding guidelines should not facilitate up-coding or gaming.
- The distribution of codes should result in a normal curve. Documentation guidelines should support this result.

The “normal” distribution curve was described as, “The distribution of all emergency services is in a bell-shaped curve with a slight left shift because there are more claims for CPT codes 99281 and 99282 than for codes 99284 and 99285.” The graph in Table 2 shows the trend in this curve from 2002 to 2004. Note in 2004, the slight shift of the curve to the right. This indicates that more patients are being classified with higher levels of E&M (99284) and fewer patients in the lower levels. Though some of this shift may reflect acuity, some may also be attributable to changes in documentation and coding practices by the hospital.

Table 2 – Shift in the distribution of CPT codes from 2002 to 2004



The acuity of patients (and their APC mix) may differ across hospital emergency departments according to factors such as:

- the characteristics of the population served
- the range and complexity of services offered
- hospital size and specialties
- referral relationships among hospitals in an area
- regional influences on healthcare

Though there are clearly defined shifts in the aggregate, data show remarkable variability among individual hospitals. In order to better understand this variability hospitals were categorized according to their annual emergency department claims volume in 2004 (i.e. the total number of claims with APCs 610, 611, 612, or 620). Hospitals with fewer than 500 claims during calendar year 2004 were excluded. It was felt that hospitals with fewer than 500 claims had only minor ED operations (i.e. fewer than two Medicare patients on average per day) and did not have sufficient volumes for analysis.

Table 3 – Distribution of Hospitals According to ED Volumes in 2004

Category Based on Annual ED Claims	Number of Hospitals	Total Claims	Average Claims/Hospital
500 - 1,000	225	174,768	777
1,001 - 4,000	2,108	4,995,630	2,370
4,001 - 7,000	769	3,968,442	5,161
7,001 - 10,000	162	1,320,740	8,153
>10,000	54	679,380	12,581
Totals	3,318	11,138,960	3,357

For each volume category, the distribution of claims among the four APCs was examined:

Table 4 – Distribution of APCs According to Hospital Volumes in 2004

Annual ED Claims	APC 610 (low)	APC 611 (mid)	APC 612 (high)	APC 620 (critical)
500-1,000	38.3%	33.5%	26.5%	1.7%
1,001 - 4,000	32.1%	35.5%	31.1%	1.3%
4,001 - 7,000	28.8%	34.4%	35.7%	1.1%
7,001 - 10,000	24.0%	33.7%	41.4%	0.9%
>10,000	26.1%	36.7%	36.6%	0.6%
Averages	29.7%	35.0%	34.3%	1.1%

Smaller emergency departments provide a higher proportion of lower intensity services (i.e. those hospitals with lower numbers of annual ED claims had a higher proportion of patients with APC 610 - the lowest level of emergency visits). Conversely, larger emergency departments provided higher proportions of higher intensity services (i.e. APC 611 and APC 612).

It would seem logical to expect larger emergency departments to also provide higher proportions of critical services (i.e. APC 620). However, the data seem to indicate just the opposite. The most likely reason for this is that critical patients are more often admitted as inpatients in larger hospitals, and therefore do not appear in the outpatient data. On the other hand, critical patients are often transferred from smaller hospitals to larger ones (instead of being admitted to the smaller hospital). Consequently, such transferred patients do appear in the outpatient data for the smaller hospitals.

#### Using Average Reimbursement as an Index of Patient Mix

Medicare pays a fixed rate for each APC according to national payment rates that are updated periodically. Because these rates are based on national median costs, they are a

good proxy for relative intensity of service among APCs. For payment purposes this rate is normally adjusted to account for wage differences among hospitals in different geographic areas. For this study, however, we used unadjusted national rates to calculate and compare average payment among hospitals. This average payment based on national rates serves as an acuity index that reflects the distribution of patients among the various APCs. (National payment rates for each APC appear in Table 1 of this study.)

Table 5 – Average E&M Payment According to Hospital Volumes in 2004 (national payment rates)

<u>Annual ED Claims</u>	<u>Average Payment (national rates)</u>	<u>Avg. Pmt. Range (lowest - highest)</u>
500-1,000	\$141	\$75 - \$246
1,001 - 4,000	\$147	\$77 - \$258
4,001 - 7,000	\$153	\$87 - \$282
7,001 - 10,000	\$160	\$97 - \$219
>10,000	\$153	\$104 - \$199
Total	\$151	\$75 - \$282

Higher volume emergency departments commonly treat higher-acuity patients and would be expected to have the highest average payment. In this analysis, however, the largest ED operations reporting >10,000 outpatient visits did not have the highest average payments. Since such hospitals typically receive *and admit* high acuity Medicare patients, they do not bill the higher paid critical care codes as outpatient. As a consequence their average payment is lower.

A hospital can compute its own index by counting the number of its patients in each APC and multiplying the total in each APC by the national payment rates shown in Table 1. The total of the computed payment amounts for all four APCs divided by the total number of patients gives a case-weighted average payment amount for comparison. If a hospital's computed average is significantly higher or lower than expected, the reason for the variance should be investigated.

#### Variations Among Individual Hospitals

Within each size grouping of emergency departments, the distribution of APC percentages and average payments are approximately normal, with some hospitals considerably higher or lower than average for each measure. Extreme variations can result from erroneous coding practices (e.g. using the same E&M code for most patients regardless of the services actually provided).

There were 10 hospitals with more than 90% of their patients classified to APC 610, the lowest level of evaluation and maintenance. While there could be operational reasons for such a low intensity, a hospital falling outside normal ranges should make certain that valid reasons exist. If patients are being routinely classified to the lowest APC regardless of actual circumstances, a hospital would be under-reimbursed.

Conversely, there were 20 hospitals with fewer than 2% of their patients classified to APC 610. Again, it is important to understand the reasons. If patients are being

erroneously classified to a higher range there could be a compliance problem related to over-reimbursement.

The following table further delineates the ranges for each APC. Hospitals were ranked from low to high in each category with the lowest percentage shown in the table as “min” (i.e. the minimum). The ranked hospitals were then divided into four quartiles with the highest percentage shown for each quartile. This table enables an individual hospital to compare its own experience with national experience. For example, if a hospital with 5,000 annual ED claims has 25% of its total claims in APC 610, it would be in the second quartile.

Table 7 – Quartile Ranges for the Percentages of E&M Claims by APC for 2004

Annual ED Claims	APC 610 (low)					APC 611 (mid)					APC 612 (high)					APC 620 (critical)				
	min	1	2	3	4	min	1	2	3	4	min	1	2	3	4	min	1	2	3	4
500-1,000	0	22	38	54	100	0	23	33	42	76	0	15	24	35	100	0	0	1	2	21
1,001 - 4,000	0	17	31	45	97	0	26	34	43	98	0	18	29	41	97	0	0	1	2	27
4,001 - 7,000	1	14	26	42	91	5	26	33	41	89	1	23	35	48	87	0	0	1	1	34
7,001 - 10,000	0	11	21	36	70	10	25	32	40	64	3	29	41	54	87	0	0	1	1	11
>10,000	1	13	24	38	65	9	29	37	44	56	8	26	36	46	67	0	0	0	1	3
All Hospitals	0	16	30	45	100	0	26	34	43	98	0	19	31	43	100	0	0	1	1	34

### Conclusion

This analysis of Evaluation and Maintenance coding appears to indicate that some hospitals may be over-coding or under-coding emergency department services. Claims data are useful in identifying potential problems, but do not consider operational circumstances that may cause variances. Hospitals should regularly review their own outpatient claims data in relation to the ranges in this study in order to determine whether there are situations that should be investigated. Systemic under-coding can lead to under-reimbursement. Systemic over-coding can be a compliance problem requiring immediate intervention and correction.