early look at coding trends under MS-DRGs

Changes to the Medicare inpatient prospective payment system (IPPS) for FY08 include new Medicare severity-adjusted diagnosis-related groups (MS-DRGs). The new system completely replaces prior DRG definitions and uses cost-based relative weights. The new MS-DRGs are more clinically complex and variations in relative weights among severity levels are more pronounced.

When the Centers for Medicare & Medicaid Services (CMS) introduced the new system, there was speculation that changes in documentation and coding practices under the new system might artificially inflate case mix and thus reimbursement. (Regulations even include a preemptive rate adjustment of −1.5 percent for FY08-FY09.) In addition, the Office of Inspector General's FY09 work plan includes an examination of coding trends and patterns under the new system to determine whether specific MS-DRGs are vulnerable to potential upcoding.

Changes in the case mix index (CMI) and other statistics can be measured using Medicare Payment Analysis and Review (MedPAR) data for Medicare IPPS discharges during the first three quarters of FY08. The early release of these data enables a preliminary study of the actual effects of FY08 reimbursement changes—using MedPAR data for the first three quarters of FY07 for comparison—before the final FY08 MedPAR file becomes available.

The accompanying table shows base MS-DRGs ranked according to the total number of discharges during the FY08 study period. The top 20 base MS-DRGs represent more than half of total Medicare discharges (52.5 percent). Base MS-DRGs combine all severity levels with net values for CMI, complication rates, and other statistics. (For example, the base for pneumonia includes DRGs 089-090 for FY07 and MS-DRGs 193-194-195 for FY08.)

The CMI for all patients increased from 1.5161 during FY07 to 1.5387 during FY08. Based on the preliminary data for the first three quarters of FY08, this represents a 1.5 percent increase under MS-DRGs.

It is interesting to note that among the top 20 base MS-DRGs, all of those showing a decline in

COMPARISON OF CASE MIX INDEX (CMI) AND

Base DRG/MS-DRG
Heart failure and shock
Simple pneumonia and pleurisy
Chronic obstructive pulmonary disease
Major joint replacement or reattachment of lower extremity
Septicemia without MV 96+ hours
Esophagitis, gastroenteritis, and miscellaneous digestive disorders
Cardiac arrhythmia and conduction disorders
Renal failure
Kidney and urinary tract infections
Nutritional and miscellaneous metabolic disorders
Gastrointestinal hemorrhage
Intracranial hemorrhage or cerebral infarction
Chest pain
Percutaneous cardiovascular procedure with drug-eluting stent
Acute myocardial infarction (AMI), discharged alive
Circulatory disorders except AMI, with cardiac catheterization
Respiratory infections and inflammations
Syncope and collapse
Cellulitis
Hip and femur procedures except major joint
Top 20 Totals
All Patient Totals

CMI were diseases and disorders of the circulatory system, suggesting that the new system creates disadvantages for these services.

The data show no evident increases in the incidence of comorbidity and complication (CC) rates between the two periods that would suggest upcoding. During the first three quarters of FY07, the CC rate is a measure of how often significant complications were coded for those DRG assignments affected by their presence. During the corresponding quarters of FY08, the CC/MCC rate is a measure of how often either CCs or major CCs (MCCs) were coded for those MS-DRGs affected by their presence. (An additional MCC rate is also calculated to indicate how often just major comorbidities and complications were coded for affected MS-DRGs.)

Although the data for FY08 are still preliminary, they give hospitals an early look at actual statistics under MS-DRGs. This perspective should be useful in comparing an individual hospital's experience with those of hospitals nationwide. At this point, it isn't clear whether observed changes in CMI are due to patient mix, the new MS-DRG definitions, transition to cost-based relative weights, variations in coding practices, or a combination of these factors. ●

Data are based on the FY07 MedPAR file and an early release of the FY08 MedPAR file for the nine months ending June 30, 2008. To facilitate comparisons, only the first three quarters of the FY07 data were used. (Actual discharges were 8,832,594 for the first three quarters of FY07 and 8,113,071 for the first three quarters of FY08.) Only short-term acute care hospitals are included, and claims from distinct part units are excluded.

COMPLICATIONS AND COMORBIDITIES (CC) RATES: FIRST THREE QUARTERS OF MS-DRGS

FY07				FY08					
DRGs	Cases	CMI	CC Rate	MS-DRGs	Cases	CMI	CC/MCC Rate	MCC Rate	CMI Change
127	467,098	1.0490		291-292-293	407,948	1.0728	74.7%	38.3%	2.3%
089-090	392,982	1.0114	93.8%	193-194-195	338,946	1.0373	75.1%	26.3%	2.6%
088	294,662	0.8878		190-191-192	325,066	0.9473	63.0%	30.8%	6.7%
544	333,932	1.9878		469-470	316,261	2.0421	8.1%	8.1%	2.7%
576	233,661	1.5996		871-872	245,107	1.6661	77.8%	77.8%	4.2%
182-183	253,543	0.7438	79.4%	391-392	208,830	0.7548	17.5%	17.5%	1.5%
138-139	209,778	0.7633	76.1%	308-309-310	205,703	0.7907	52.1%	20.4%	3.6%
316	196,687	1.2602		682-683-684	187,486	1.2784	87.7%	40.5%	1.4%
320-321	190,893	0.8437	88.8%	689-690	184,033	0.8728	28.1%	28.1%	3.4%
296-297	201,233	0.7885	86.2%	640-641	178,270	0.7941	27.2%	27.2%	0.7%
174-175	196,200	0.9893	91.0%	377-378-379	176,712	1.0588	74.8%	26.1%	7.0%
014	193,676	1.2118		064-065-066	176,030	1.2397	70.7%	27.0%	2.3%
143	161,580	0.5637		313	134,980	0.5489			−2.6%
557-558	174,982	2.3612	41.1%	246-247	126,451	2.2573	16.9%	16.9%	−4.4%
121-122	134,516	1.4514	74.8%	280-281-282	126,406	1.4549	76.3%	47.3%	0.2%
124-125	140,332	1.2552	56.6%	286-287	122,101	1.2324	17.4%	17.4%	−1.8%
079-080	127,441	1.6025	96.7%	177-178-179	121,948	1.6670	88.7%	48.4%	4.0%
141-142	127,474	0.7226	74.9%	312	118,614	0.7197			−0.4%
277-278	113,390	0.8307	80.3%	602-603	105,058	0.8727	18.6%	18.6%	5.1%
210-211	113,372	1.8120	85.2%	480-481-482	104,356	1.8945	73.2%	22.0%	4.6%
	4,257,432	**1.1752**	**80.4%**		**3,910,306**	**1.1996**	**54.4%**	**30.5%**	**2.1%**
	8,832,594	**1.5161**	**75.3%**		**8,113,071**	**1.5387**	**54.4%**	**29.8%**	**1.5%**