

Research on the Development of Specific Market Baskets for Excluded-Type Hospitals

Office of the Actuary

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I. Executive Summary

As part of revising and rebasing both the Prospective Payment System (PPS) hospital market basket and the exempt or excluded¹ hospital market basket to a base year of 1997, we examined the development of individual market baskets (also 1997-based) for three types of exempt hospitals: rehabilitation, long-term care, and psychiatric. These hospitals constitute 93 percent of facilities that are excluded from the inpatient hospital PPS. Specific market baskets were not developed for cancer and children's hospitals.

Our initial finding from this exercise was that the annual percent changes in the excluded hospital with capital market basket and the preliminary market baskets developed for rehabilitation hospitals, long-term care hospitals, and psychiatric hospitals were similar. Therefore, we feel that the excluded hospital market basket serves as an appropriate measure for updating payments to these different types of hospitals. We plan to continue to monitor the specific-type market baskets with a goal of eventually developing and using market baskets for each of these three kinds of facilities.

II. Methodology

To develop the individual market baskets for the different types of excluded hospitals, we used the same group of hospital cost reports as had been used to develop the excluded hospital market basket. Table 1 shows the number of cost reports available for this analysis.

Table 1. Number of Hospital Cost Reports Used for 1997-Based Market Baskets

	PPS	Exempt	Rehabilitation	Psychiatric	Long-Term Care
Total	4921	1056	198	585	198
Wages	4393	332	153	47	118
Contract labor	3569	8	1	0	4
Drugs	4397	332	153	47	118
Benefits	4334	9	2	0	3
Malpractice	776*	0	0	0	0
Capital	939	87	19	48	17

* based on data obtained from Medicare Cost Reports and a contract with Anasys (CMS Contract 500-98-0005).

¹ Exempt or excluded hospitals are those that are not included in the Inpatient Prospective Payment System (PPS). The exempt or excluded hospitals are rehabilitation, psychiatric, long-term care, children's, and cancer facilities.

The groups of hospitals were edited separately in order to make optimal use of reported data. The goal was to develop the most representative weight for each cost category by using as many reports as were available for that particular category. Accordingly, a different mix of hospitals was used to determine each cost category weight, a technique we have used in the development of other market basket weights.

Since not all cost categories contained in the 1997 cost reports for the individual groups of excluded hospitals were filled out (see Table 1), we limited our analysis to the information available for wages, prescription drugs, and capital costs. We calculated weights for contract labor, benefits, and malpractice costs using ratios of these variables to wages from the PPS hospital market basket. For example, the weight for benefits for rehabilitation hospitals was calculated as follows:

*Weight for benefits in rehabilitation hospitals = ((weight for benefits in PPS hospitals)/(weight for wages in PPS hospitals)) * weight for wages in rehabilitation hospitals.*

This same technique had been used previously in the development of other CMS market baskets, most notably for exempt hospitals. Other cost category weights were determined using the Census Bureau's Business Expenditure Survey (BES) and the 1997 Bureau of Economic Analysis' Annual Input-Output Tables (I-O), using the same type of calculation to determine weights for the nonlabor, non-major cost categories that remained.

III. Results

The cost weights for the preliminary market baskets for rehabilitation, psychiatric, and long-term care hospitals are shown in Table 2. As would be expected, wages and salaries account for the largest share of costs in psychiatric hospitals whereas pharmaceuticals account for a significantly higher share of costs in long-term care facilities.

Table 2. Cost Category Weights for All Excluded Hospitals with Capital Market Basket and Preliminary Market Baskets for Rehabilitation, Psychiatric, and Long-Term Care Hospitals

Cost Category	All Excluded Hospitals	Rehabilitation Hospitals	Psychiatric Hospitals	Long-Term Care Hospitals
Compensation	57.579	62.742	67.389	51.340
Wages & Salaries	47.335	51.580	55.399	42.206
Employee Benefits	10.244	11.163	11.990	9.134
Professional Fees	4.423	3.584	3.566	5.266
Utilities	1.180	1.376	1.478	1.126
Electricity	0.726	0.847	0.910	0.693

Fuel Oil, Coal, etc.	0.248	0.289	0.310	0.236
Water & Sewerage	0.206	0.240	0.258	0.197
Professional Liability Insurance	0.733	0.559	0.581	0.971
All Other	27.117	20.010	20.879	32.416
All Other Products	17.914	12.430	13.304	21.541
Pharmaceuticals	6.318	3.069	3.965	7.632
Food: Direct Purchase	1.122	0.909	0.905	1.336
Food: Contract Service	1.043	0.845	0.841	1.242
Chemicals	2.133	1.728	1.719	2.539
Blood & Blood Products	0.748	0.570	0.592	0.991
Medical Instruments	1.795	1.455	1.447	2.138
Photographic Supplies	0.167	0.135	0.135	0.199
Rubber & Plastics	1.366	1.107	1.102	1.627
Paper Products	1.110	0.899	0.895	1.321
Apparel	0.478	0.387	0.385	0.569
Machinery & equipment	0.852	0.690	0.687	1.015
Miscellaneous Products	0.783	0.634	0.631	0.932
All other services	9.203	7.580	7.575	10.876
Telephone	0.348	0.405	0.435	0.332
Postage	0.702	0.569	0.566	0.835
All Other: Labor intensive	4.453	3.608	3.590	5.302
All Other: Nonlabor	3.700	2.998	2.983	4.406
Capital	8.968	11.728	6.107	8.880
Depreciation	5.586	7.565	2.846	5.611
Fixed Assets	3.503	5.250	2.221	3.723
Movable Assets	2.083	2.315	0.626	1.889
Interest	2.682	3.263	2.577	2.496
Govt & Non Profit hospitals	2.280	2.773	2.190	2.122
For Profit hospitals	0.402	0.489	0.387	0.374
Other Capital Costs	0.699	0.900	0.684	0.772
Total	100.000	100.000	100.000	100.000

Note: Totals may not add to 100 because of rounding.

Given some of the cost distribution differences in the various preliminary market baskets, it might be expected that the resultant percent changes in the indexes would be quite variable as well. However, as shown in Table 3, over the 1990-2001 period each of the three preliminary market baskets moves within 0.1 percentage point on average each year of the excluded hospital with capital market basket. This occurs mostly because the price proxies for the various cost categories, even if their weights are very different, tend not to move at significantly different rates.

Table 3. Percent Changes for the Preliminary Hospital-Type Market Baskets, 1990-2001

Time Period	All Excluded Hospitals with Capital Market Basket	Preliminary Rehabilitation Hospitals Market Basket	Preliminary Psychiatric Hospitals Market Basket	Preliminary Long-Term Care Hospitals Market Basket
1990	5.3	5.2	5.4	5.2
1991	4.9	4.8	5.0	4.8
1992	3.6	3.6	3.7	3.6
1993	3.1	3.1	3.2	3.1
1994	2.6	2.5	2.6	2.5
1995	2.6	2.6	2.6	2.7
1996	2.3	2.2	2.3	2.3
1997	1.6	1.5	1.5	1.6
1998	2.7	2.3	2.6	2.8
1999	2.7	2.5	2.6	2.8
2000	3.1	3.1	3.2	3.0
2001	4.0	4.1	4.3	3.9
Average FY 1990-FY 1995	3.7	3.6	3.8	3.7
Average FY 1995-FY 2001	2.7	2.6	2.7	2.7
Average FY 1990-FY 2001	3.2	3.1	3.3	3.2

Because psychiatric hospitals have the largest compensation weight, the recent rapid increases in hospital wages, which were due in part to the supply crisis for nurses, have caused this market basket to rise slightly faster in 2001 than the aggregate index, the excluded hospital with capital market basket. On the other hand, rehabilitation hospitals have the largest capital and interest costs weights, which have been increasing slowly and even declining over the past few years. Thus, the average annual percent change in the preliminary rehabilitation hospital market basket was slightly less than that for the aggregate index. In addition, the larger weight for prescription drugs in long-term care hospitals has a smaller relative impact on the overall market basket percent change because the weight is still small relative to overall compensation. Therefore, the preliminary long-term care hospital market basket grows at an average annual rate that is identical to the excluded hospital with capital market basket over the 1990-2001 period.

IV. Implications

Based on this analysis we did not pursue further development of the specific-type market baskets at this time, but instead used the exempt hospital with capital market basket for each of the specific-type hospital prospective payment systems. Our decision was detailed in the final rules for long-term care and inpatient rehabilitation hospitals.²

The major reasons for not using specific-type market baskets were as follows:

- Only wages, drugs, and capital weights were derived from the cost reports of each kind of excluded hospital. The ratios used to determine other cost category weights came from all hospitals, not just exempt or specific-type facilities.
- The small sample size for the three specific-type market baskets reduces the robustness of the estimates of cost category weights.
- The additional resources required to maintain, update, revise, and rebase the four market baskets would not provide noticeable improvement in their respective updates.

We recognize that it would be optimal to develop specific-type market baskets that would better reflect the specific distribution of weights and the labor-related share for each type of hospital. At this time, however, the data necessary to adequately perform this task are not available. We plan to monitor the adequacy of the data as the respective payment systems become more fully developed.

² 68 FR 45688 and 68 FR 34136-34137.