

GME: at what cost?
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AT A GLANCE

Current computing methods impede determining the real cost of graduate medical education. However, a more accurate estimate could be obtained if policy makers would allow for the application of basic cost-accounting principles, including consideration of department-level costs, unbundling of joint costs, and other factors.

If a cattle-ranch cost accountant can determine how much of the cost of raising a cow (food, shelter, etc.) is in the steak and how much is in the leather belt, then why can't current hospital cost accounting principles allow hospital cost accountants to determine how much of the cost of a visit to the bedside is in clinical care and how much is in graduate medical education (GME)?

Such has been the concern since August 1999, when the Medicare Payment Advisory Commission (MedPAC) released *Rethinking Medicare's Payment Policies for Graduate Medical Education and Teaching Hospitals*, a report mandated by the Balanced Budget Act of 1997. When MedPAC prepared the report, Medicare's payments for GME totaled \$6.2 billion, divided among \$2.2 billion for direct GME (called DME), \$3.7 billion for indirect GME (or IME), and \$0.3 billion for the training of other health professionals, such as nurses.

Ironically, both DME and IME payments, as defined and computed, bear little relationship to the real cost of graduate medical education. In particular, as MedPAC states, IME payments "reflect the higher costs per case observed in teaching hospitals that cannot be allocated specifically to residency programs." In addition, a variety of definitional and computational problems have created a scenario in which MedPAC, CMS, and most of the teaching hospitals themselves have no idea of the real cost of GME.

Indistinguishable Costs?

At the heart of this problem lies MedPAC's assertion that "[t]he direct and indirect costs associated with training programs are indistinguishable; both represent costs of providing patient care. Therefore, the distinction between these costs is not a valid guide for making payments to hospitals. . . ." This assertion reflects a troubling lack of understanding of some basic cost-accounting principles and, as such, serves to perpetuate the myth that the true cost of an institution's GME program cannot be determined in any reasonable way.

GME costs, such as grand rounds, are purely educational, and can be separated from patient care costs quite easily. Other GME costs—joint and indirect costs—pose more of a challenge, but still should be relatively simple to calculate.

Joint costs. "Joint costs" refer to combined costs for education, patient care, and perhaps some research that occur simultaneously, typically at the bedside. Cost-accounting techniques for distributing joint costs to the resulting products have been in place for decades, and a relatively simple methodology could be developed to unbundle the educational component of a visit to the bedside. To return to the cattle-ranch analogy, as with the cost of feeding and housing the cow, complete precision is not likely. However, by using some fairly basic cost accounting principles, CMS certainly should be able to determine more precisely than at present the direct and indirect costs associated with GME programs.

Indirect costs. The definition of "indirect" poses another problem. By defining IME as it has (i.e., associated with the greater complexity and intensity of the services provided by teaching hospitals), MedPAC has created unneeded confusion. In a normal hospital cost-accounting context, indirect costs are those of various service centers, such as the laundry, dietary, and housekeeping departments. These service centers' costs, are allocated to the hospital's revenue-producing centers, such as medical/surgical, pediatrics, the operating room, and so forth to determine each revenue cen-

ter's full costs. At present, however, even though GME earns revenue, and therefore should be classified as a revenue center, Medicare requires that it be treated as a service center and that its costs therefore be allocated to the hospital's existing revenue centers.

Because of these challenges, it seems clear that CMS, like most hospitals, is unaware of even an *approximate* cost of GME. Yet with a relatively simple application of some basic cost-accounting principles, a hospital could determine the cost of GME with considerable precision. It should not be difficult for both a hospital and CMS to agree on this figure, or at least on the methodology used to compute it.

A Proposed Methodology

To determine the cost of its GME program, a hospital will need to take quite a different approach from the one currently used on its Medicare cost report. In the first place, it would need to recognize that, although the GME payments made to a hospital may not be for medical education per se, the payments nevertheless constitute GME revenue. Thus, the hospital must define its GME program as a revenue-producing center rather than as a service center. This designation reflects the fact that when a cost center is paid for its services, it (appropriately) is treated as a revenue-producing center.

Second, the hospital will need to consider that some GME costs take place at the department level (such as a portion of the salary of a residency program director or the faculty time spent in a morbidity and mortality conference) and some are system-wide (such as a centralized GME office). Most of these costs are unambiguously associated with GME, yet because of restrictions that Medicare has created for preparing its cost report, not all of these costs appear as GME costs.

Finally, the hospital will need to develop methodologies to unbundle joint costs. As indicated above, joint costs occur for faculty who provide instruction at the same time as they are conducting rounds or providing patient care, and for residents who provide patient care at the same time as they are learning. It should be possible to make reasonably accurate estimates for both of these groups.

The resulting methodology would include the following elements:

Central GME office costs. These are the direct costs of the central GME office, including all staff, contracted services, supplies, travel, accreditation fees, legal fees, and so forth. These costs do not include residents' salaries and fringe benefits, which are computed separately.

Departmental direct GME costs. These costs, computed for each department, constitute an appropriate portion of the salary and fringe benefits of the department chair, the residency program director, staff support costs for GME, out-of-pocket expenses needed for the GME program (such as honoraria for grand rounds speakers, recruiting activities, and so forth).

Faculty and attending teaching costs. These costs are the portion of faculty salaries and any contracted attending physician fees that are associated with GME. As indicated previously, making this computation will require distinguishing between clinical care and educational activities, which, although a bit tricky, can be accomplished by making some estimates that should yield reasonable accuracy. Since many physicians already are required to keep track of time percentages in conjunction with research grants, for example, they would need to make only a slight modification to include their GME percentages. Similarly, if there are regularly scheduled activities that are GME-related, the amount of time devoted to these activities by attending physicians, faculty, and residents can be computed. In many instances, the computation can occur annually. For example, morning reports occurring five days a week and lasting an hour translate into 250 hours a year for any faculty who attend regularly.

Residents' educational costs. These costs constitute the portion of house staff salaries and fringe benefits, accommodations and meals, lab coats and scrubs, parking, and similar costs related to educational activities, as distinct from patient care activities. This estimate is not too difficult to make – most residents have a very good idea of when they are engaging in educational activities and

when they are simply providing coverage for attendings or delivering clinical care with no learning taking place. In this regard, it is likely that the balance between education and clinical care changes as a resident progresses from year 1 to year 3. A hospital therefore might estimate that the education/ clinical split is 75/25 in year 1, 50/50 in year 2, and 25/75 in year 3. Greater precision, if desired, could be achieved with enhanced record keeping.

Allocated overhead. This is the GME cost center's "fair share" of institutional overhead, using the same allocation bases as for the other revenue-producing cost centers. For example, costs such as administration and general, which frequently are allocated on the basis of salary dollars, would use the educational portion of the salaries computed in determining faculty and attending teaching costs and residents' educational costs as described above. Allocations based on square footage might be a little tricky, but, again, it should be possible to make some reasonable estimates of the square feet devoted to GME.

Table 1 is an example of what a set of computations might look like using the above methodology, including some hypothetical estimates for illustrative purposes. Although incomplete, it shows the general approach that any hospital could use. Note that the total costs in the department of medicine are divided between education and other based on some time surveys. Similar information could be obtained from other departments. Once the amount for each department has been computed, the totals can be summed and added to the central office total, and the overhead allocations can take place.

Table 2 shows the results of such an effort in a medical center with approximately 190 residents. As it indicates, not only were total GME costs almost \$1 million higher under the "micro-costing" effort than under the approach used for the Medicare cost report, but the differences were considerable from one department to the next, both in total and per resident (not shown). Moreover, because of a relatively low response rate from faculty and private attendings to the time-allocation questionnaire, the differences quite likely are even greater than those shown—both in total and across departments.

A Looming Threat

The pressure to contain healthcare costs is intensifying. As the population ages and the Medicare rolls grow, CMS can be expected to begin to seek ways to curtail costs. GME, which has long been a sacred cow, is not likely to be immune. By having a reasonable approximation of its GME costs, a hospital will be in a position to both account for and defend its GME program. Otherwise, it may find itself at the mercy of threatened budgetary reductions that it is unable to address in any concrete or meaningful way.

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Management Control in Non-Profit Organizations, 7th Edition, McGraw-Hill/Irwin, June 2002. (co-author Robert Newton Anthony)

Exhibit 1. Sample Full Cost Computation for GME

	Total FTEs	Salary \$	Fringe \$ at 20%	Other \$	Total \$	GME FTEs	Other FTEs	Division Between		Notes
								Education	Other	
Central GME Office										
Manager	1.00	\$60,000	\$12,000		\$72,000	1.00	0.00	\$72,000		2
Staff	5.00	30,000	6,000		180,000	5.00	0.00	180,000		2
Accreditation fees				\$135,000	135,000			135,000		
Contract services				100,000	100,000			100,000		1
Other (e.g., supplies, travel)				100,000	100,000			100,000		1
Total					<u>\$587,000</u>			<u>\$587,000</u>		
GME Program Costs by Department										
<i>Department of Medicine</i>										
Director	1.00	\$150,000	\$30,000		\$180,000	0.75	0.25	\$135,000	\$45,000	2
Staff	1.50	30,000	6,000		54,000	1.50	0.00	54,000	0	2
Associate directors	2.00	150,000	30,000		360,000	1.00	1.00	180,000	180,000	3
Education Director	1.00	150,000	30,000		180,000	0.25	0.75	45,000	135,000	
Chair	1.00	200,000	40,000		240,000	0.25	0.75	60,000	180,000	4
Attendings	200.00	150,000	30,000		36,000,000	10.00	190.00	1,800,000	34,200,000	5
Chief residents	4.00	50,000	10,000		240,000	2.60	1.40	156,000	84,000	6
Residents										
PGY-1	25.00	36,000	7,200		1,080,000	18.75	6.25	810,000	270,000	
PGY-2	25.00	37,000	7,400		1,110,000	12.50	12.50	555,000	555,000	
PGY-3	25.00	39,000	7,800		1,170,000	6.25	18.75	292,500	877,500	
Honoraria and other educational items				100,000	100,000			100,000	0	1
Other (e.g., supplies, travel)				100,000	100,000			100,000	0	1
Total					<u>\$40,814,000</u>			<u>\$4,287,500</u>	<u>\$36,526,500</u>	

The same computations can be made for all other departments

Allocated Indirect Costs

- Depreciation
- Admin and General
- Operation of Plant
- Laundry and Linen
- Housekeeping
- Dietary
- Nursing Administration
- Central Services and Supply
- Medical Records and Library
- Social Services
- Total indirect

These costs can be allocated to the GME revenue-producing center using the hospital's existing cost allocation methodology combined with the relevant GME statistics (such as payroll dollars, hours of service, square feet, and so forth).

Notes:

1. An assumed number. The actual number would be easy to determine.
2. An assumed salary. The actual salary would be easy to determine, as would the percentage of time devoted to the GME program.
3. Assumes 50% time for each of two associate directors. Actuals would be easy to determine.
4. Assumes the department chair spends 5 hours a week on morning reports, and 10 hours a week on other GME-related matters. Total of 25% time assumes the chair works 60 hours a week.
5. Computed as follows: 3 hours a day, six days a week = 18 hours. Assume a 60 hour work week. Therefore 30% time on GME. 30% time for 1/6 of year (2 months) = 5% per year per attending. Therefore 20 attendings = 1 FTE, and 200 attendings = 10 FTEs.
6. 4 chief residents at 65% time each = 2.6 FTE

**COMPARISON OF GME EXPENSES BY DEPARTMENT
MICROCOSTING PROJECT VERSUS MEDICARE COST REPORT
FISCAL YEAR 2002-2003**

	MicroCosting Project Totals				Medicare Cost Report	
	1	2	3	4=1+2+3	5	6=4-5
	DIRECT COST	SERVICE CENTER O/H	MED ED OFFICE SHARE	FULL COST	FULL COST	DIFFERENCE
Department						
Anesthesia	\$483,837	\$84,378	\$7,112	\$575,328	582,286	(\$6,958)
Child Psychiatry	145,937	33,805	2,145	181,888	233,288	(51,400)
Emergency Medicine	1,162,482	194,719	17,088	1,374,290	1,343,737	30,553
Family Practice	1,816,444	140,631	26,702	1,983,776	970,477	1,013,299
Infectious Disease	281,615	0	4,140	285,755	0	285,755
Medicine-Pediatrics	261,585	114,041	3,845	379,471	786,983	(407,512)
Medicine	3,400,326	666,752	49,985	4,117,063	4,601,184	(484,122)
Nephrology	485,095	32,453	7,131	524,679	223,956	300,723
Ob-Gyn	1,303,950	8,654	19,168	1,331,772	59,721	1,272,051
Pathology	87,134	3,245	1,281	91,660	22,395	69,265
Pediatrics	1,628,737	231,770	23,942	1,884,450	1,599,422	285,028
Psychiatry	492,220	101,416	7,236	600,872	699,863	(98,991)
Pulmonary/Critical Care	221,103	31,371	3,250	255,725	216,491	39,234
Radiology	1,491,289	167,675	21,922	1,680,886	1,157,107	523,779
Sports Medicine	147,604	0	2,170	149,774	0	149,774
Surgery	1,593,016	318,020	23,417	1,934,453	2,194,623	(260,169)
Medical Education Office	220,534	0	(220,534)	0	0	0
Subprovider		54,089	0	54,089	373,260	(319,171)
ACS		71,397	0	71,397	492,704	(421,307)
Research		27,044	0	27,044	186,630	(159,586)
Preceptorship		144,958	0	144,958	1,000,338	(855,380)
Total	\$15,222,908	\$2,426,420	\$0	\$17,649,328	\$16,744,465	\$904,863

FROM MEDICARE COST REPORT	Direct Costs	Service Center O/H			Full Cost
I&R Services—Salary and Fringes	\$11,113,799	\$1,728,279			\$12,842,078
I&R Services—Other Program Costs	3,204,246	698,141			3,902,387
Total	\$14,318,045	\$2,426,420			\$16,744,465