Two Cost Share Models: Calculating an Anesthesia Cost Share Often Lies in Identifying the Correct Variables

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Most stipend arrangements have components in their calculation that deal with physician compensation, which gives rise to one of the major causes of friction among anesthesia practices and facility administrators.

It is first important to address the use of the word "stipend" in relation to "cost share" for the purposes of this paper. The first four synonyms in a word search for stipend are salary, pay, earnings and income. Cost share arrangements are often referred to as stipends because administrators perceive the word to be synonymous with anesthesiologists' pay. In a surprising number of occasions, the actual reason for a stipend has little or nothing to do with anesthesiologists' compensation. For that reason, cost share seems more appropriate, less aversive and is how it will be addressed.

The first step in quantifying a true cost share is to identify the reasons that one is necessary. For the purposes of the models illustrated in this paper, three key variables will be considered: 1) Group employed Certified Registered Nurse Anesthetists (CRNAs), 2) First starts, and 3) Number of opened OR rooms.

The inefficient use of expensive CRNA resources is usually the first stone to turn when calculating an anesthesia cost share. Ideally, the number of anesthesia providers is determined by the number of cases to be done. The American Association of Clinical Directors (AACD) says best practice ORs should average about 900 inpatient OR cases per year, per OR room and 1400 outpatient cases per OR room, per year. Too frequently it is the number of rooms the facility has and elects to open that drives staffing requirements and thus costs. Facility administrators are frequently under tremendous pressure from surgeons to open all operating rooms at the first of each day. This typically creates block times that are inefficiently utilized and sets the stage for decreasing efficiency throughout the rest of the day.

Two Models, Different Variable Solutions

The models for calculating an anesthesia cost share quantify the effects of facility controlled variables, which include the inefficient utilization of CRNAs and/or an abuse of start/block times. The solution is often a cost share calculation unrelated to physician compensation. Below are two models that look at such solutions.

Model One: Cost Share Is The Cost of OR Inefficiency As Determined By Benchmarks and Targets

By using a standard efficiency target from a well accepted source such as the AACD, the target efficiency goal might, for example, be set at 75 to 80 percent with a 15 minute turnover time (T/O). If a rollover room is used, meaning that cases are immediately started in an unutilized, already set-up room, then no real T/O time occurs and those cases would be excluded in T/O computations.

The actual efficiency relating to CRNAs would be illustrated in the following equations:

- Gross available CRNA minutes = full time employee (FTE) CRNAs x 2083 (hrs/fte) x 60 min/hr
- T/O minutes = number of cases x 15 T/O minutes
- Net available CRNA minutes = gross available CRNA minutes - T/O minutes
- Efficiency, expressed as a percentage = actual utilized CRNA minutes from billing date/net available CRNA minutes

For T/O minutes, the first case of every day and the last case of every day have no CRNA T/O time. This can be calculated by subtracting two cases for each operating room day (typically Monday through Friday) in the study period before multiplying. It should be noted that AACD uses T/O time as the time between one patient leaving the OR and the next entering the OR. In anesthesia, T/O time is the time between one patient ending anesthesia time and the next patient beginning anesthesia time.

The percentage by which the actual efficiency misses the target efficiency is the percentage of total costs attributable to inefficient use of CRNA resources. For example, if the actual efficiency is 45 percent with a target of 75 percent, then the facility cost share equals 30 percent of CRNA costs. The cost share would typically be paid in monthly installments to the employing group. One presentation of this concept might illustrate a "disappearing cost share" that zeros out at the target of 75 percent efficiency. Below is an illustration of this concept that assumes 10 FTE CRNAs at $165,000 total cost each:

Total CRNA costs: 10 FTE CRNAs @ $165,000 each = $1,650,000

- 30% inefficiency = $1,650,000 x 30% = $495,000/12 = $41,250 per month
- 25% inefficiency = $1,650,000 x 25% = $412,500/12 = $34,375 per month
- 20% inefficiency = $1,650,000 x 20% = $330,000/12 = $27,500 per month
- 15% inefficiency = $1,650,000 x 15% = $247,500/12 = $20,625 per month
- 10% inefficiency = $1,650,000 x 10% = $165,000/12 = $13,750 per month
- 5% inefficiency = $1,650,000 x 5% = $82,500/12 = $6,875 per month
- 0% inefficiency = $0.00

Model Two: Cost Share Is The Facility Caused Cost of Unproductive CRNA Time

Similar to model one, first determine gross available CRNA minutes, T/O minutes and net available CRNA minutes. The actual utilized CRNA minutes can be determined from existing billing data. By subtracting the used minutes from the available minutes, you get the unbillable, wasted minutes or units of CRNA costs that are due to the hospital's inefficient use of CRNA resources. Below is an illustration of this model that assumes 10 CRNAs @ $165,000 total cost each and 749,880 minutes (49,992 units) used and billable.

Calculation Using Minutes:

- Total CRNA costs: 10 FTE CRNAs @ $165,000 each = $1,650,000
- Available CRNA min = 10 x 2083 hrs x 60 min/hr = 1,249,800 minutes (83,320 units)
- Cost per minute = $1,650,000/1,249,800 = $1.32/min ($19.80/unit)
- Available min = 1,249,800 min - 749,880 used = 499,920
- Unused min x $1.32/min = $659,894 yr/12 = $54,991 per monthly cost share

Calculation Using Units:

- Total CRNA costs: 10 FTE CRNAs @ $165,000 each = $1,650,000
- Available CRNA min = 10 x 2083 hrs x 60 min/hr = 1,249,800 minutes (83,320 units)
- Cost Per unit = $1,650,000/1,249,800 = $1.32/min ($19.80/unit)
- Available units = 83,320 units - 49,992 used = 33,328
- Unused units x $19.80/unit cost = $659,894 yr/12 = $54,991 per monthly cost

There is no doubt other more detailed computations that may further refine the calculations of the costs of inefficiencies. However, there may be virtue in relative simplicity.

The Choice is Yours

Wherever possible, it is sensible to base cost share arrangements on the variable that is most responsible for the need of the cost share and which is best suited to your individual practice. While the preservation of physician compensation is no doubt the goal and purpose of the cost share arrangement, physician compensation is frequently not the cause as the above models illustrate. Keeping the focus away from physician compensation can not only improve the relationship between the physician group and the facility administrators, but can also bring into focus the real cause and cost variables. The facility, controlling inefficient scheduling of cases, can then accurately determine the cause and cost of its inefficient scheduling decisions. The desired end result is a negotiated cost share arrangement that assesses the cost of inefficiencies to the party whose decisions and processes cause the inefficiency.

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About MMP

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