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EDITORIAL COMMENT

Price and cost: An unfriendly relationship in the institutions of the National Health Service☆

Preço e custo, uma relação pouco amigável nas instituições do SNS

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In the article published in this issue of the *Journal* entitled ''Do prices reflect the costs of cardiac surgery in the elderly?'',[1] the cardiac surgery group at Hospital de Santa Marta analyze the costs of coronary artery bypass graft surgery (CABG), valve surgery, and combined CABG and valve surgery in patients aged ≥65 years and compare them with the payments made by the state under contract agreements (the price) for each of these surgical interventions, possibly with the unstated aim of generalizing this comparison to other types of intervention.

The first question to ask is what is the use of such studies. The answer is, in fact, none at all for most hospital departments, except for the very few that have been designated Responsibility Centers, whose annual budgets and contract agreements should have legal repercussions. They should, but they do not, because in almost all hospital administrations (Responsibility Centers and all other departments) preparing the budget is a meaningless task. As far as I am aware, most hospitals, including my own, draw up a budget for each department but this is no more than a bureaucratic exercise. It is completely futile. I shall return to this point later.

I believe that most of our colleagues, probably including some heads of department, are unfamiliar with the mechanisms of budget calculation, and so I will examine some of the details. In the case under analysis, that of the cardiac surgery department of Hospital de Santa Marta, the authors (with the assistance of a reputable health economist) set out to cost every expense of each type of surgical intervention, using various accounting tools, some direct (micro-costing) when feasible and some indirect (mean length of stay). They concluded that the sum of these expenses (the final cost) was far more than what was 'paid' to them (although the idea of payment is obviously a euphemism in this situation, given the virtual nature of the contract agreement mentioned above) - more than double for most patients on the authors' accounting.

Unfortunately, the data on which Coelho et al.'s study was based were collected four to five years ago, and are therefore largely outdated. This does not diminish the merit of the study or its relevance. The fact that I may disagree with certain aspects of the methods used to calculate costs does not detract from the quality of the study, which I consider to be good. However, given the considerable organizational and administrative differences, the results of the analysis cannot be extended to other cardiac surgery departments.

The question of prices and payments is a contentious one. Until a few years ago, payments (defined as revenue in accounting terms) were calculated by multiplying the number of specific medical acts by the corresponding figure in the table of diagnosis-related groups (DRGs). This procedure was used both for the department budgets and for

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the annual negotiation of contract agreements between hospitals and the state. DRGs, introduced several decades ago, initially represented the mean cost of a particular medical act, calculated among selected reference institutions. This of course requires constant updating, since the complexity of medical acts can increase or decrease, but this is not in fact done. In Portugal, the prices paid for DRGs used to be raised more or less every year based on the rate of inflation, as if this had anything to do with medical acts. One result is that three-vessel percutaneous coronary intervention in a patient who is treated in an hour in a catheterization laboratory by three or four health professionals and discharged on the same day was paid at almost the same rate as triple CABG in a four-hour operation by a team of a dozen professionals followed by 24-48 hours in the intensive care unit and hospital discharge a week later.

But this is no longer the case, since some years ago the prices attributed to medical acts were drastically reduced, by around half, and the calculations are now more complicated, since they are based on the case-mix index (CMI), a multiplication factor that is a reflection of the complexity of the medical act. The overall mean CMI is 1, and an institution that mainly performs more complex acts will have a CMI of more than 1, while another with simpler cases on average will have a CMI of less than 1. These indices, multiplied by the values in the DRG tables, are used to increase or decrease the prices of individual medical acts.

Clearly, the CMI should differ between the departments in a single institution in the same way as it varies between institutions, with departments performing more or less complex acts having higher or lower CMIs, respectively. Thus, in the case of Hospital de Santa Marta, the administration apparently used (we do not know if this is still the case) the hospital's CMI (2.06 in 2011 and 2.21 in 2012) to draw up the cardiac surgery department's budget, as if the services provided in this department, such as CABG, were of the same complexity as all other medical acts provided by the hospital, such as appendectomy or treatment of uncomplicated pneumonia. The authors calculate that the CMI for their activity should be around three times as high (6.48 in 2011 and 6.26 in 2012), and if that were the case, the payments received would comfortably cover costs.

I know what they are talking about, since I have been through this experience with the administration of my own hospital, but fortunately I managed to ensure that some degree of common sense prevailed.

Calculating the CMI is a complicated task and is highly dependent on the coding of medical acts for each institution. This task, which is based on data supplied by each department on their discharge sheets and is often carried out by junior doctors, is of considerable importance and should be closely monitored by each department head. However, the process can be flawed: an initially 'simple' patient can become complicated, either naturally or through carelessness or error, and thus increase the weighting of the CMI, which has a very delicate relationship with quality.

That said, I return to my initial question: what is the use of such studies? The pure in heart will immediately say for the good of the institution. I do not reject that assumption, but the real world is not run by such sentiments. One of the intended effects of the establishment of Responsibility Centers is that part of their gains will be channeled toward their staff as performance incentives, as was the practice for some time in the few such centers that existed (as well as in some family health units) until around five years ago, when this was discontinued due to state budget constraints and never re-established, despite promises to the contrary. In our experience, this way of incentivizing productivity was clearly highly effective and should be widened rather than restricted.

Finally, the article by Coelho et al. also has the virtue of highlighting the importance of the role of the department head in regulating its activity in order to monitor both quality and cost factors, an extremely difficult balancing act which requires administrative skills that are generally not taught in our medical schools and that, unfortunately, not all department heads have.

In the saying popularized by Abel Salazar, ''the doctor who only knows medicine does not even know medicine.''

Conflicts of interest

The author has no conflicts of interest to declare.

Reference

1. Coelho P, Rodrigues V, Miranda L, et al. Serão preço e custo coincidentes na Cirurgia Cardíaca do idoso? Rev Port Cardiol. 2017;36:35–41.