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## Administrative changes in DRG-based financing models in Portugal Ana Luisa Cardoso\* and Fernando Miguel Pereira

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#### Introduction

In the last few years, the use of DRG in the model adopted to finance Portuguese hospitals has been subject to an extensive debate. In order to decide on the best method to achieve the desired efficiency goals, players in the healthcare system have carried out a wide debate to identify whether or not efficiency incentives exist in the adopted model. This discussion, in an effort to design a comprehensive analysis, also allows one to integrate both the financing model and performance measurement methods. Important features of the Portuguese financing model are: i) Equivalent Patients, a payment unit for production (i.e., quantity); and ii) Case-mix indexes (CMI), a measure of the complexity of in-patient episodes treated in the hospital in terms of resource consumption (i.e., price). Administrative changes in these variables promote changes in hospital behaviour.

#### **Methods**

In 2007, funding rules suffered two important administrative changes that heavily affected the use of DRG financing. On one side, patients now admitted for in-patient care whose length of stay is higher than the DRG upper limit count as 1 Equivalent Patient; there is no proportional effect of their LOS, as previously occurred. On the other hand, when discussing activities and financing engagements, healthcare authorities impose the use of previous case-mix indexes (which were not updated). This paper analyzes DRG in one of the biggest public hospitals in Portugal in 2007 and compares the effect of the above changes in the rules (with and without this administrative change in the DRG database of 2007). This paper also

uncovers DRG which are the drivers of change, i.e., identifies the "loser" DRG.

#### **Results**

Change of the administrative rules reduces: i) number of financed discharges (equivalent patient); ii) CMI; and iii) overall income. It also induces hospitals to look for alternative sources of financing, instead of focusing just on CMI. The number of DRG responsible for this decrease in financing is small, and most of them have high relative weights.

### **Conclusion**

These changes were designed to: i) reduce financial stress on the Portuguese NHS by decreasing the bill to be paid to hospitals; and ii) generate efficiency incentives – mostly with the first change. Notwithstanding, we note that the pressure for efficiency associated with this financing model, in some cases, produces perverse incentives: i) Quick discharges – "Quicker but sicker" for certain patients needing longer treatments; and ii) Increase of LOS for other patients needing shorter stays.

We also observe that not updating CMI, mainly for the hospitals that had increased it in the last years: i) creates problems of solvability or sustainability; ii) decreases funding for hospitals that treat more complex patients; iii) generates incentives to select patients ("adverse selection"); and iv) hurts equity funding among hospitals. Finally, we conclude that the most important variable of a DRG-based funding model – CMI – has lost the attention

of hospital representatives in external engagement with public authorities.

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