

**A roadmap to improve the DRG system in Portugal**José Ferrão^{1, 2}, Mónica D. Oliveira¹¹ Centro de Estudos de Gestão, Instituto Superior Técnico, Lisboa, Lisboa, PORTUGAL² Healthcare Sector, Siemens, SA, Amadora, Lisboa, PORTUGALContact: jose.ferrao@ist.utl.pt

Objectivos (Objectives): The Portuguese National Health Service (NHS) was once in the front-row of the use of Diagnosis Related Groups (DRGs), adopting it right after its inception in the USA. However, the initial momentum seems to have been progressively lost, as no major improvements (apart from the introduction of ambulatory DRGs) were made to the original system. In the past two decades, DRG technology has experienced significant advancements and its implementation has been spread to many other countries that adopted and developed further existing systems. In light of these advancements, of the experience of using DRGs in Portugal and of strategic developments in the Portuguese health care system, this study aims to identify which DRG developments may contribute to bring value to the Portuguese health system.

Metodologia (Methodology): Firstly, a review on international trends regarding the adoption and development of DRG systems was carried out. Secondly, a review analyzing the operational problems associated with the current use of DRGs in Portugal was gathered. Thirdly, analysis and reflection on the key challenges of the Portuguese health care system in general, and of the use of DRGs by health care providers in particular, were developed. Finally, a roadmap for improving the Portuguese DRG system (informed by international trends and experiences) was built, integrating lines for developing the current system at both the operational and strategic levels.

Resultados (Results): The first preliminary results indicate that in the context of the Portuguese NHS: i) it is imperative to improve fundamental issues, such as the direct import of eventually unsuitable American features (e.g. relative weights). For example, the UK has acknowledged the inadequacy of directly importing key features of the technology and developed a weight distribution, and Sweden and Denmark followed. For this purpose, it would be necessary to implement a mechanism for assessing total cost-per-case treated, which has for long been claimed to be crucial. ii) although the use of American technology entails the obligation to follow the USA's agenda, otherwise leaving the Portuguese system outdated, some key features might generate gains in terms of efficiency and quality of care and in management of health organizations in the Portuguese health care system, such as the transition to ICD-10 and the development of severity and risk assessment models. These are required to accommodate evolutions in diagnoses and procedures according to revisions from the World Health Organization and to refine patient classification and enable the use of DRGs in a system for hospital funding, respectively; iii) for enhancing the usefulness of DRGs in health care provision, there should be attempts to bridge the DRG system with other Health Information Systems of health organizations; iv) there is scope for developing the existing systems and databases containing large amounts of information generated by the DRG system to build population health profiles and to monitor behavior of healthcare providers, among other uses. v) depending on political choices of the hospital financial system in Portugal, DRG adjustments for teaching and research activities might be considered.

Conclusões (Conclusions): The analysis indicates that there is scope and need for improving the DRG technology currently in use in Portugal. This might include adopting new features, as well as adapting and modifying the current system to respond to the current challenges. In particular, the development of the DRG system in Portugal might enable significant gains to the whole health system by making use of the DRG infrastructures and information with potential to be exploited.