



Heterogeneity of European DRG systems and potentials for a common EuroDRG system

Comment on “Cholecystectomy and Diagnosis-Related Groups (DRGs): patient classification and hospital reimbursement in 11 European countries”



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Abstract

Diagnosis-Related Group (DRG) systems across Europe are very heterogeneous, in particular because of different classification variables and algorithms as well as costing methodologies. But, given the challenge of increasing patient mobility within Europe, health systems are forced to incorporate a common patient classification language in order to compare and identify similar patients e.g. for reimbursement purposes. Beside the national adoption of DRGs for a wide range of purposes (measuring hospital activity vs. paying hospitals), a common DRG system can serve as an international communication basis among health administrators and can reduce the national development efforts as it is demonstrated by the NordDRG consortium.

Keywords: Diagnosis-Related Groups (DRGs), Hospital Payment, Classification, Europe

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The recent article by Paat-Ahi and colleagues (1) of the EuroDRG team (<http://www.eurodrgeu>) in this journal again confirms the findings of the recent literature (2–6) that European DRG systems are very heterogeneous, in particular because they use different classification variables and algorithms as well as different costing methodologies (7). International experiences and design opportunities of DRG systems can inform countries when developing and optimizing their national systems. In addition, in a context of growing patient mobility facilitated by the European Union (EU) Directive on the Application of Patients’ Rights in Cross-Border Healthcare, an increasingly important issue relates to whether there is scope for harmonization of DRG systems within Europe.

DRGs have been introduced worldwide, and especially in Europe, in a large number of countries with very different health systems. However, effects of DRG systems and DRG-based hospital payment systems – and in particular knowledge about optimal design features of these systems – remain fragmented and often difficult to compare (8). Consequently, there is no agreed consensus on how best to design DRG systems, because the differences between countries’ systems remain poorly understood and systematic but detailed comparisons of the main building blocks of DRG systems are rare. Nevertheless, a thorough understanding of international experiences with DRG systems and DRG-based hospital payment systems is necessary to inform countries when developing and revising their national systems. Moreover, as many health systems in Europe increasingly suffer from financial constraints, it is of major importance to evaluate

whether the (limited) resources available are devoted to different kinds of patients appropriately.

While initially DRGs were introduced for the purpose of measuring hospital activity, they have later become the principal means of hospital payment in most countries. Some countries used DRGs over an extended period of time exclusively just for measuring activity and increasing transparency (for example, up to ten years in England), in order to become acquainted with the DRG grouping logic before they started paying hospitals on the basis of DRGs. Others introduced DRGs after a short period of conversion (for example, in Ireland DRGs were introduced in 1992 and first used for budgetary allocation in 1993) and some countries (e.g. Belgium) struggle with the design of the DRG system or with the optimal introduction process and time (9,10).

A DRG-based hospital payment system consists of several essential building blocks which are differently designed across countries, but can be defined across countries as: 1) a Patient Classification System (PCS) which is used to group patients with similar clinical characteristics and relatively homogeneous resource consumption into DRGs (11); 2) a cost accounting system in order to obtain hospital cost information for the determination of DRG weights – usually at (about) the average treatment costs of patients falling within a specific DRG (7); 3) a mechanism to convert DRG weights into monetary values which may be adjusted for structural (teaching status, region) and/or further resource-consumption variables (length of stay, utilization of high-cost drugs or services); before 4) a reimbursement mechanism ultimately determines the reimbursement level taking into account

e.g. budgetary constraints, quality parameters or results of additional negotiations between providers and payers.

A starting point for a cross-country DRG system is the definition of a common PCS (block 1) as it was done within the framework of NordDRG – a cooperation of seven Nordic countries (Denmark, Estonia, Finland, Iceland, Latvia, Norway and Sweden) with the aim to share the DRG development effort (12). The experience with NordDRGs suggests that a first requirement for a common European DRG system (which could be called the ‘EuroDRG’ system) would be to harmonize the coding of diagnoses and procedures, or – as a second-best option – to develop a mapping system that would allow translation of codes from different coding systems into a common European coding system. The Hospital Data Project as part of the EU’s Health Monitoring Programme has suggested a common – albeit for patient classification purposes, too rudimentary – format for hospital activity data, to improve comparability. For the coding of diagnoses, an agreement on a coding system should be relatively unproblematic, since ICD-10 is already used for cause-of-death statistics in nearly all countries throughout Europe. For procedures, an agreement could be more difficult to reach. This is testified by four decades of work, but the as yet unfinished attempt to develop such an international classification system, initially termed the International Classification of Procedures in Medicine (ICPM), and later the International Classification of Health Interventions (ICHI). European countries may consider not waiting for this development to be finished but to coordinate their efforts based on their own coding and patient classification systems.

A common European DRG system could draw on the best features of national DRG systems, such as the most relevant classification variables, concepts for the definition of severity groups [for example, the Patient Clinical Complexity Levels (PCCLs), as used in AR-DRGs and G-DRGs] or the definition of short-stay groups, as in NordDRGs. However, detailed cost information collected on the basis of a standardized cost-accounting system from a sufficiently large and representative sample of hospitals from all participating countries would be necessary in order to test the ability of such a common European DRG system to define homogeneous groups of patients across different countries.

The benefits of greater cooperation would include: 1) avoiding duplication of work, 2) improving knowledge exchange in the refinement of DRG systems, 3) increasing transparency of hospital services across countries, in order to 4) compare cost levels and productivity figures across countries and 5) facilitating cross-border movements of patients and payments. However, similar to the historical emergence of DRG systems as a result of political decisions, a coordination of European DRG systems – and, ultimately, possibly a harmonized DRG system – is likely to emerge only if there is sufficiently strong political will to support the emergence of a common European hospital market, as well as an increasing level of mobility of European patients. While this may be an unrealistic scenario in the short term, the 2011 Directive on the Application of Patients’ Rights in Cross-Border Healthcare demonstrates that now is the right time to start such a discussion by formulating a possible roadmap to a common EuroDRG system, including identification of responsible authorities on European and national level as well as developing a framework

for the mapping process of medical coding and cost accounting.

Ethical issues

Not applicable.

Competing interests

Authors declare that they have no competing interests.

Authors’ contributions

AG developed a first draft which was further refined by WQ and RB for final submission.

References

1. Paat-Ahi G, Aaviksoo A, Świderek M. Cholecystectomy and Diagnosis-Related Groups (DRGs): patient classification and hospital reimbursement in 11 European countries. *Int J Health Policy Manag* 2014; 7: 383-91. doi: [10.15171/ijhpm.2014.121](https://doi.org/10.15171/ijhpm.2014.121)
2. Quentin W, Scheller-Kreinsen D, Geissler A, Busse R. Appendectomy and Diagnosis Related Groups (DRGs): Patient Classification and Hospital Reimbursement in 11 European Countries. *Langenbecks Arch Surg* 2012; 397: 317-26. doi: [10.1007/s00423-011-0877-5](https://doi.org/10.1007/s00423-011-0877-5)
3. Quentin W, Rätto H, Peltola M, Busse R, Häkkinen U. Acute Myocardial Infarction and Diagnosis Related Groups (DRGs): Patient Classification and Hospital Reimbursement in 11 European countries. *Eur Heart J* 2013; 34: 1972-81. doi: [10.1093/eurheartj/ehs482](https://doi.org/10.1093/eurheartj/ehs482)
4. Peltola M, Quentin W. Diagnosis-related groups for stroke in Europe: patient classification and hospital reimbursement in 11 countries. *Cerebrovasc Dis* 2013; 35: 113-23.
5. Scheller-Kreinsen D, Quentin W, Geissler A, Busse R. Breast cancer surgery and Diagnosis Related Groups (DRGs): Patient Classification and Hospital Reimbursement in 11 European countries. *Breast* 2013; 22: 723-32. doi: [10.1016/j.breast.2012.11.001](https://doi.org/10.1016/j.breast.2012.11.001)
6. Serdén L, O’Reilly J. Patient classification and hospital reimbursement for inguinal hernia repair: a comparison across 11 European countries. *Hernia* 2014; 18: 273-81. doi: [10.1007/s10029-013-1158-8](https://doi.org/10.1007/s10029-013-1158-8)
7. Tan SS, Geissler A, Serdén L, Heurgren M, van Ineveld BM, Redekop WK, *et al.* DRG systems in Europe: variations in cost accounting systems among 12 countries. *Eur J Public Health* 2014; 24: 1023-8. doi: [10.1093/eurpub/cku025](https://doi.org/10.1093/eurpub/cku025)
8. Palmer KS, Agoritsas T, Martin D, Scott T, Mulla SM, Miller AP, *et al.* Activity-Based Funding of Hospitals and Its Impact on Mortality, Readmission, Discharge Destination, Severity of Illness, and Volume of Care: A Systematic Review and Meta-Analysis. *PLoS One* 2014; 9: e109975. doi: [10.1371/journal.pone.0109975](https://doi.org/10.1371/journal.pone.0109975)
9. Geissler A, Quentin W, Scheller-Kreinsen D, Busse R. Introduction to DRGs in Europe: common objectives across different hospital systems. In: Busse R, Geissler A, Quentin W, Wiley MM, editors. *Diagnosis Related Groups in Europe: Moving Towards Transparency, Efficiency and Quality in Hospitals?* Maidenhead: Open University Press; 2011.
10. Busse R, Geissler A, Aaviksoo A, Cots F, Häkkinen U, Kobel C, *et al.* Diagnosis related groups in Europe: moving towards transparency, efficiency, and quality in hospitals? *BMJ* 2013; 346: f3197. doi: [10.1136/bmj.f3197](https://doi.org/10.1136/bmj.f3197)
11. Kobel C, Thuillez J, Bellanger MM, Aaviksoo A, Pfeiffer K. Diagnosis related group (DRG) systems and similar Patient Classification Systems in Europe. In: Busse R, Geissler A, Quentin W, Wiley MM, editors. *Diagnosis related groups in Europe: moving towards transparency, efficiency and quality in hospitals?* Maidenhead: Open University Press; 2011.
12. Linna M, Virtanen M. NordDRG: The benefits of coordination. In: Busse R, Geissler A, Quentin W, Wiley MM, editors. *Diagnosis related groups in Europe: moving towards transparency, efficiency and quality in hospitals?* Maidenhead: Open University Press; 2011.