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Meeting abstract

First German-Austrian case-mix comparison with real life data

Michael Wilke*, Klemens Haslinger and Mike Schenker

Address: Werner-Eckertstr. 12, Munich, 81829, Germany

Email: Michael Wilke* - michael.wilke@d-w-g.de

* Corresponding author

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Introduction

Many countries use a case-mix system for funding healthcare. So far, comparisons between the systems have been performed whenever people in a country were thinking about introducing a case-mix system in their respective country. Moreover, there are also other reasons. Especially when countries share borders, it is often the case that citizens also share healthcare services. Germany is directly adjacent to Austria and, therefore, we conducted a study that compares the German G-DRG system with the Austrian LKF system in order to find out where the systems differ and where they are similar.

Methods

We analyzed a sample of 2385 patients who were treated as inpatients in a university hospital in the state of Salzburg, Austria. The initial challenge was to detect structural differences in the underlying data. First of all, we had to perform a matching exercise for the procedure classification. In Austria, where the LKF financing system was set up 1997, there is classification called *Medizinische Einzelleistungen* (MEL) in place. It contains about 3,500 procedures. In Germany we use the *Operations- und Prozedurenschlüssel nach §301* (OPS301) that contains roughly 30,000 codes. For diagnoses, fortunately both countries rely on ICD-10. The German version (ICD-10 GM) does not significantly differ. However, some minor adjustments to the coding had to be performed.

In the next step, we identified other differences in funding. The most significant difference is that the G-DRG System always produces one DRG with a fixed cost-weight that is only affected by outlier adjustments. For payment, sometimes co-payments (e.g., for dialysis, or expensive drug or blood products) apply. In Austria, the funding based on LKF is much more differentiated: every DRG (it is called LDF-group for conservative and MEL-group for surgical cases) consists of various elements that affect the resulting cost-weight.

It consists of the following components:

- Procedure

- Length of stay

- Low outlier

- High outlier

- Intensive care

- Repeated procedure

- Special procedures

After matching the procedures and adjusting the diagnoses, we transformed the intensive-care data into the German corresponding classification, which respects hours of mechanical ventilation (HMV), and sometimes the complexity of treatment that is coded via an OPS-code based on daily TISS and SAPS measuring. Finally, we transformed the Austrian data format, which is a fixed format that contains all values in one file, into the German

so-called §21-format, which is a comma separated value (CSV) format having seven files for case, ICD, OPS, hospital, department, cost and structural information.

After this preparation, we sent the data through the G-DRG Grouper Version 2008.

Having those initial results, we performed an analysis on plausibility and selected about 300 cases where the patient records had to be reviewed directly. We chose intensive care, same-day, newborns and cardiology cases to be reviewed in this sample. For assessment of the payment, we used the regional reimbursement rate in Salzburg and the base rate of a German university hospital in Bavaria, since the original data also emerged from a university hospital in Austria.

Results

Although the final results are not yet ready – we will be happy to show them at the PCSI conference – we found the following, to some extent surprising, results:

- Matching was feasible and reliable; we did not produce Error-DRGs.

- The systems, although they are very different in design (LKF: ca. 850 DRGs and 3,500 procedures; G-DRG: 1,158 DRGs and 33,000 procedures), and in the mechanisms of producing the final cost-weight, match astonishingly well and produce almost consistently close payment rates.

- The biggest differences we found were in the area of intensive care, same-day patients, cardiology and newborns; therefore, we draw a representative sample to further investigate in these cases by peer review which is currently still going on.

Final results will be ready by the end of June 2008.

Conclusion

It is a bit early to draw final conclusions since we are still in the phase of reviewing the patient records. The most surprising results are the good correlation of the payment rates, although system design is heavily different.

Moreover, one finding yet to be proven is the higher payment for intensive care (still under investigation) cases. One structural difference is the higher staff quota on Austrian intensive-care units compared to German ones.