Improvement of cost allocation in gastroenterology by introduction of a novel service catalogue covering the complete spectrum of endoscopic procedures

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Introduction
The German hospital reimbursement system (G-DRG) is incomplete for endoscopic interventions and fails to differentiate between complex and simple procedures. This is caused by outdated methods of personnel-cost allocation.

Methods
To establish an up-to-date service catalogue 50 hospitals made their anonymized expense-budget data available to the German-Society-of-Gastroenterology (DGVS). 2,499,900 patient-datasets (2011-2013) were used to classify operation-and-procedure codes (OPS) into procedure-tiers (e.g. colonoscopy with biopsy/colonoscopy with stent-insertion). An expert panel ranked these tiers according to complexity and assigned estimates of physician time. From June to November 2014 exact time tracking data for a total 38,288 individual procedures were collected in 119 hospitals to validate this service catalogue.

Results
: In this three-step process a catalogue of 96 procedure-tiers was established that covers 99% of endoscopic interventions performed in German hospitals and assigned validated mean personnel-costs using gastroscopy as standard. Previously, diagnostic colonoscopy had a relative personnel-cost value of 1.13 (compared to gastroscopy 1.0) and rose to 2.16, whereas diagnostic ERCP increased from 1.7 to 3.62, more appropriately reflecting complexity. Complex procedures previously not catalogued were now included (e.g. gastric endoscopic submucosal dissection: 16.74).

Conclusions
This novel service catalogue for GI-endoscopy almost completely covers all endoscopic procedures performed in German hospitals and assigns relative personnel-cost values based on actual physician time logs. It is to be included in the national coding recommendation and should replace all prior inventories for cost distribution. The catalogue will contribute to a more objective cost allocation and hospital reimbursement - at least until time tracking for endoscopy becomes mandatory.

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