



Costing healthcare in Germany

Report of a meeting between INEK, the HFMA and Monitor

shaping healthcare finance ...

briefing

Contents

Background 2

The collection process in Germany 3

The costing approach in Germany 4

Costing mental health services in Germany 8

Costing software used in German hospitals 9

Costing priorities going forward for INEK 9

HFMA conclusion 9

Background

The Institut für das Entgeltsystem im Krankenhaus – or INEK – is the body that oversees the hospital remuneration system in Germany. It came into operation in 2002, following legislation to introduce a diagnosis-related group (DRG) payment system across the German healthcare system. The organisation has overseen the introduction of a comprehensive pricing system for hospital inpatient activity and is currently developing a parallel system for mental healthcare.

Uniquely, the organisation has responsibility for the whole process involved in setting prices. It maintains the DRG currency, sets the coding rules and licenses the rules for the grouping software that assigns cases to DRGs based on codes (INEK originally produced the grouper software but now software companies can certify grouper software with INEK). It also defines the costing approach, produces costing guidance and oversees hospital activity and patient-level cost data collections, some of which is from all hospitals and some from a sample. With this cost data, it then sets tariff prices that apply for all hospital inpatient activity.

The new pricing and cost collection system was set up rapidly. There was little international experience for Germany to draw upon for creating such a comprehensive system. However, the German system is now widely regarded as a leading example of a large-scale DRG costing/pricing system within international healthcare.

In England, Monitor and NHS England have taken responsibility for currency development and pricing as part of the changes introduced by the Health and Social Care Act 2012. England has been operating a tariff system (originally known as payment by results) for several years. The English system is also currently focused on acute care, although it is broader than the German system, covering inpatient, outpatient and accident and emergency department activity. Currencies include healthcare resource groups (HRGs) – for inpatients, A&E and outpatient procedures – and attendances for outpatients. National currencies have also been developed for mental health (care clusters) and ambulance services, although pricing remains a local activity in these areas.

Monitor is exploring how it might improve the cost data used to inform price-setting. In particular, it is considering how it might use patient-level cost data in this process. There is significant potential for Monitor and NHS England to learn from INEK’s experience, particularly in terms of collecting timely and robust cost data.

INEK is not a government body, but an independent company owned by the insurance industry and the German hospitals association. However, it distributes some £87bn through its payment system. There are four departments within the organisation:

- Economics (collecting the cost data and undertaking the price calculation)
- Medical (coding rules, DRG maintenance)
- IT and statistics (calculation support and assurance/plausibility checks)
- Administration unit.

It is funded by a small charge per patient case, levied on all German hospitals. To fund the institute, INEK charges all hospitals 93 cents for each patient case. In general terms, the funding paid out to hospitals in the costing sample (which have their data accepted) equates to the cost of one accountant.

Participants at the two-day meeting in July: (l-r) Dr Anja Kern (Imperial College Business School); Dr Frank Heimig (INEK); Dr Michael Rabenshlag (INEK); Helen Strain (HFMA); Ahmad Saleem Ullah (Monitor); Scott Hodgson (HFMA); Glen Pearson (Monitor)



The collection process in Germany

Tariffs are set for the period January to December and the cost collection and tariff-setting process runs through the year with key milestones. For example, hospitals can make submissions for innovative practices to be funded, where these are not already covered by the DRG system. Applications may be submitted from August to the end of October. This process – the innovation clause – comes to a head in January, when INEK gives its decision on which innovative technologies will attract reimbursement. There's also a high-cost drugs list, detailing the extra payments in the DRG catalogue. Hospitals do not apply to have these drugs funded; the list is decided by INEK.

The data collection process to inform the following year's tariff also starts in January, when INEK sets out how the process will work, highlighting any changes and how the verification process will work. Data collection starts in March. All hospitals in Germany submit core activity data to INEK – similar to that included in the commissioning data set in England. This includes patient age, sex, admission, length of stay, diagnoses, procedures and comorbidities, as well as what has been billed for these cases.

There are about 1,900 hospitals in Germany, nearly 900 of them acute hospitals. The annual collection starts on 1 March and submissions have to be received by 31 March. There is then a four-week period of resending/re-reporting, so all data submission is finalised by the end of April. Hospitals face financial penalties for cases not accepted due to errors or inaccuracies.

In parallel to this national collection, INEK also runs a cost data collection from a sample of about 250 hospital providers. While the collection window again opens on 1 March, it stays open longer, finally closing on 24 May. It is an iterative process, with hospitals making an average of five submissions – although some make as many as 20 submissions, focusing each submission on a specific section of activity.

Initially INEK contracted out the data collection – a realistic response to such a significant collection of data, with major implications for staffing levels, storage and data security. However, it has subsequently brought the operation in-house, believing that working side by side with the team responsible for undertaking the calculation and setting the costing rules brings additional benefits in terms of feedback from users and development of guidance. It also enables all teams to work together to ensure a more robust checking regime, as any developments in coding or DRGs can be fed through into the cost-checking process.

There is a four-level system of data verification for data submissions:

- The first level takes place within the DRG data centre, while subsequent checks are undertaken within INEK. These initial checks are very basic – for example, have the fields been completed? Run on the server in the data centre, hospitals can use a special tool (provided by INEK) to undertake these basic checks.
- On submission to INEK, an automatic report is generated. This checks that inpatients have costs for all the significant groups, such as nursing and medical staff. It also carries out several plausibility checks. For example, if a DRG for a hip replacement is indicated, the system expects to see appropriate costs for an implant. Or if there is a code to indicate treatment on a stroke unit, the system would expect to see a CT scan.
- A further level of verification is undertaken at hospital level. This is not an automatic process but might involve a check to ensure that total ward costs are compatible with overall staffing levels. These reports are written individually for each hospital.
- A final detailed level of checks – referred to as medico-economic verification – is carried out by experienced staff. This might check if an included drug is appropriate for an indicated diagnosis. These checks sit alongside additional checks on coding.

The HFMA and Monitor hosted a two-day meeting with INEK in July 2014.

This report summarises the issues discussed and the key learning points that the HFMA will take forward into the future development of the clinical costing standards.

“There is a ‘structured dialogue’ with stakeholders about the prices and approach for the following calendar year. This is the opportunity to challenge prices.”

Following the May cut-off date, hospitals can make no further changes to data, although INEK can ask hospitals to confirm data. INEK takes the final decision on whether it wants to accept data or not – usually by the end of July. Even if a hospital followed all the plausibility checks, INEK can choose to not accept the data if it has concerns about its quality and this decision cannot be challenged.

There then follows a ‘structured dialogue’ with stakeholders about the prices and approach for the following calendar year. This is the opportunity to challenge prices. In the first phase of this dialogue, stakeholders can send in their proposals for any changes to the DRG classification. The stakeholders have to fully substantiate their proposals.

During the second phase, INEK reviews these proposals on the basis of the data collected and checks to see whether the DRG classification would be enhanced by adding the proposal to the system. This phase takes place from around June to August. Then in September, INEK presents the results of this process to its two shareholders. They can either agree to the whole package or reject it, but there is no opportunity to change parts of the pricing package.

If the two bodies don't agree then the decision reverts to the national health department. If agreed, INEK publishes all documentation in October. This includes prices, coding rules, billing information and details of extra financing for drugs and expensive therapies.

Hospitals are also informed how many data sets were accepted and they are sent a final report setting out where INEK is targeting improvements for the following year.

The costing approach in Germany

INEK sets strict rules for how costs should be compiled and submitted by hospitals in its sample. The process starts with costs taken from the general ledger, which is built on a chart of accounts prescribed in legislation. Only DRG costs covered by the payment system are covered.

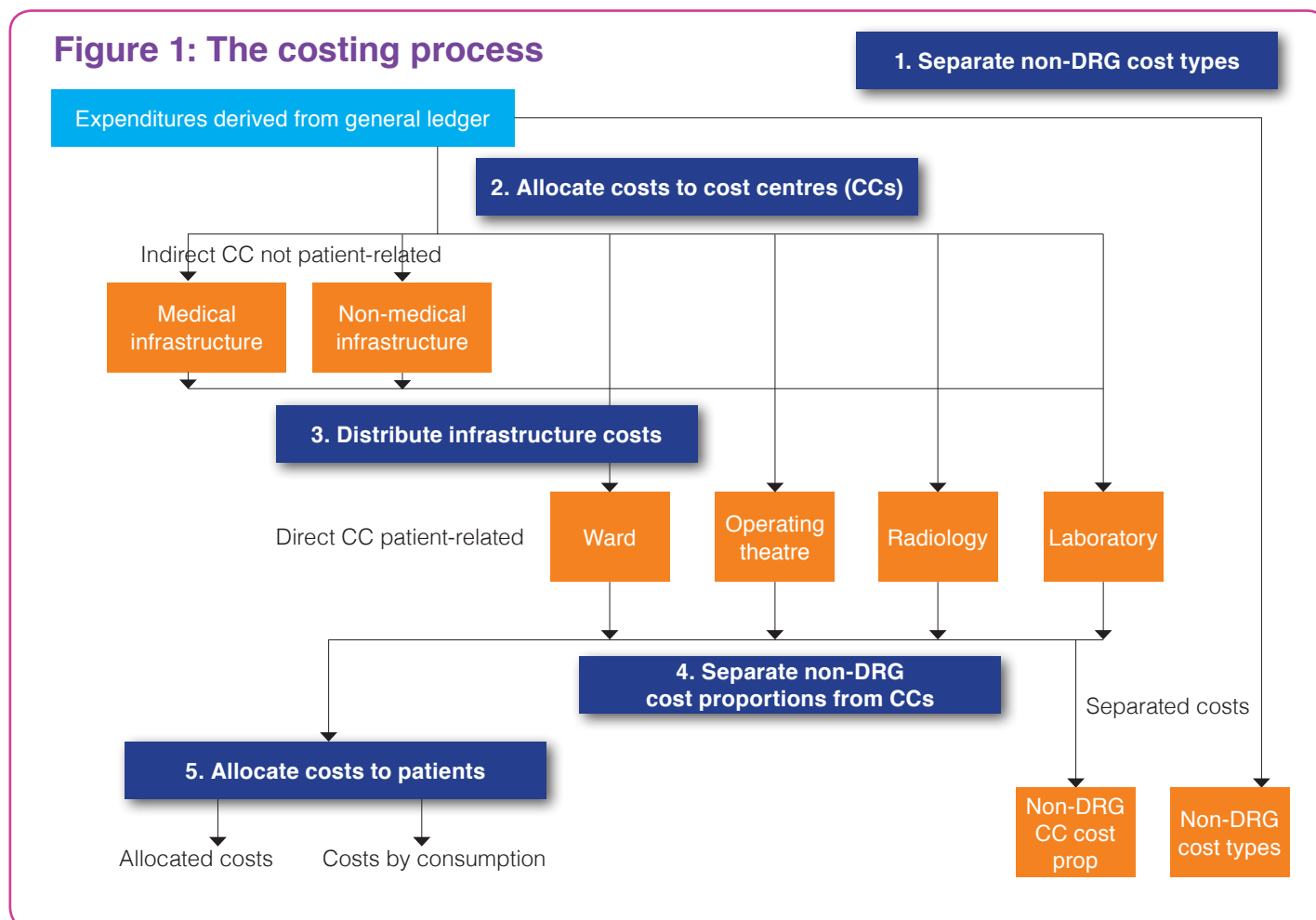
So costs associated with activities other than inpatient services are excluded. (A different hospital structure in Germany means that outpatient services and minor injury services are delivered outside acute hospitals. For many hospitals, DRG funding accounts for around 99% of all activity.)

For example, the costs related to the teaching of undergraduate medical trainees are stripped out of the cost quantum, as these costs are not refunded through the DRG system. However, the DRG payment is intended to cover the costs of on-the-job training of junior doctors, so these costs are included in the return.

Costs are then allocated to cost centres, including direct and indirect cost centres. These are prescribed, although hospitals may use additional cost centres as long as they can map to those set out in guidance. Indirect cost centres are divided between those relating to medical infrastructure (such as the costs of the coding department) and non-medical infrastructure (such as finance department and secretarial functions).

A second step sees these indirect cost distributed to 11 direct cost centres. The allocation methods are prescribed. For example, cleaning costs are allocated on the basis of floor area and the intensity of cleaning.

Some flexibility is given. So, for instance, while the preference is for energy costs to be allocated to wards and departments based on actual measured consumption, a ‘next best’ option is also allowed – in this case allocating on the basis of patient days. INEK aims to drive costing standards higher by adjusting the prescribed allocation methods each year.

Figure 1: The costing process

The 11 direct cost centres (or, more strictly, cost centre groups, because they may bring together a number of direct cost centres) are:

- Wards
- Intensive care
- Dialysis
- Operating rooms
- Anaesthesia
- Delivery ward
- Cardiac diagnostics/therapy
- Endoscopic diagnostics/therapy
- Radiology
- Laboratories
- Further diagnostics/therapy

“In theatres, the collection of time data is now mandatory and hospitals record preparation time, knife to skin time and the number of people in theatre and for how long. These times are used to allocate costs of the doctors and nurses, basic consumables and infrastructure.”

There is a further step at this point for non-DRG related costs that could not be separated upfront. Costs from the direct cost centres are then allocated down to patients. Different allocation methods are prescribed for different cost category groups. The cost category groups are as follows:

Labour

- Physicians
- Nursing
- Medical/technical staff

Material costs

- Drugs general
- Drugs individual
- Implants and grafts
- Material
- Material individual

Infrastructure costs

- Medical
- Non-medical

The allocation process can be viewed as a matrix (see Figure 2 overleaf), with allocation methodologies or keys set for each area. In some areas (such as wards, operating theatres and intensive care), hospitals have no choice as to how costs should be allocated. However, there are a few areas, such as endoscopy and cardiology, where there is a choice.

Nursing costs are allocated using weighted minutes. INEK requires the use of a nursing acuity assessment system to derive the weights. The system to date has used a nine-level assessment based on a judgement about a patient’s requirements for general care and special care. Again this can be viewed as a matrix:

	S1	S2	S3
A1			
A2			
A3			

The general care assessment would consider factors such as whether a patient needs support for activities including eating or washing, while the special care rating covers issues such as wound care. So, patients could be assessed A1S1 through to A3S3. More recently, the matrix has been expanded to include a fourth level in general care.

In theatres, the collection of time data is now mandatory and hospitals record preparation time, knife to skin time and the number of people in theatre and for how long. These times are used to allocate costs of the doctors and nurses, basic consumables and infrastructure. Actual use of high-cost drugs (both the drugs used and the dosage), materials and implants are recorded at the patient level.

In England, assigning costs to specific patients can mean a separate matching

Figure 2: Cost allocation matrix

Cost matrix		Labour costs			Material costs							
Cost category groups	Physicians	Nursing	Medical/technical staff	Drugs general	Drugs individual	Implants and grafts	Material	Material individual	Medical	Non-medical		
Cost centre groups												
Ward	Care days	Weighted minutes	Care days	Weighted minutes	Actual usage/unit costs	-	Weighted minutes	Actual usage/unit costs	Care days			
Intensive care	Weighted hours					Actual usage/unit costs	Weighted hours			Weighted hours		
Dialysis	Weighted dialysis					-	Weighted dialysis			Weighted dialysis		
Operating rooms	Surgery/setup times	-	Surgery/setup times				Actual usage/unit costs		Surgery/setup times		Surgery/setup times	
Anaesthesia	Anaes times		Anaesthesia times						Anaes times		Anaesthesia times	
Delivery ward	Time in delivery ward		Time in delivery ward						Time in delivery ward		Time in delivery ward	
Cardiac diagnosis/therapy	Point system/duration		Point system/duration						Point system/duration		Point system/duration	
Endoscopic diagnosis/therapy		Point system/duration					Point system/duration			Point system/duration		
Radiology	Point system	Point system				Actual usage/unit costs			Point system		Point system	
Laboratories		Point system							Point system		Point system	
Further diagnostics/therapy	Point system/duration						Point system/duration		Point system/duration			

process. For example, a pathology test may need to be matched with a specific patient episode using the test date and date of admission/appointment.

Matching success and accuracy can depend on how wide the matching window is set. But no such process is needed in Germany thanks to three separate levels of patient identification. Patients are given a different case number every time they are admitted. Two admissions for a patient means two case identification numbers.

There is also a hospital-level patient identifier, tracking all interactions between a

“If hospitals are unable to calculate the full costs for patients whose stay straddles a calendar year, they are required to flag up the costs for these patients and provide the costs that they can calculate. INEK then reviews these patients individually.”

specific patient and a provider unit. Finally there is a national patient number, enabling a patient to be tracked across the whole system. These different numbers mean that tests, imaging and other resources can easily be allocated to the relevant patient for the relevant episode.

One area of costing that is currently being reviewed is the use of relative value units in endoscopy. For this service, many hospitals do not collate the minutes of procedure time and the people present performing the procedure. There is, therefore, a second allocation key, which is to use a catalogue of standard weightings for each procedure. This catalogue is currently problematic because it is more than 10 years old. It is therefore being updated with input from the relevant clinical bodies to ensure that the changes in clinical practice over this period are reflected in the ‘catalogue’.

For inpatient services, hospitals are required to cost all patients discharged in a calendar year. This means that the costs of patients admitted in a previous year, but discharged in the current year, need to have costs included from the previous year’s cost calculation.

As in England, this can be technically difficult for hospitals to calculate. If hospitals are unable to calculate the full costs for patients whose stay straddles a calendar year, they are required to flag up the costs for these patients and provide the costs that they can calculate. INEK then reviews these patients individually to assess whether they should be included within the average DRG calculation or not.

INEK therefore recognises the impact that work in progress has on the costing and pricing data. It also recognises that it can potentially distort DRG costs, particularly in low-volume, high-cost DRGs, which could be left inadequately funded if work in progress is not properly treated.

Each individual case with ‘missing costs’ (or work in progress) is assessed to decide whether to include it in the costing sample or not. Some cases are taken into the sample because the missing costs do not affect the relative weights, and therefore will not distort the average price calculation. However, there may be other cases that are not included in this calculation.

Costing mental health services in Germany

While the German DRG system, backed by comprehensive patient-level cost collection, has been up and running for more than a decade, its mental health service has lagged behind. In common with other health systems, including the English NHS, there was little history of detailed costing within mental health organisations – in part a reflection of less robust activity data. Legislation in 2007 triggered the introduction of a more detailed cost collection and pricing system for mental health services, with hospitals paid a per day rate adjusted by the characteristics of the service users. It required the rules for the system to be agreed by December 2009 and to have a first real cost calculation in 2012.

In preparation for this requirement, codes, classification and costing guidance needed to be developed by INEK.

A costing manual was developed by INEK in line with the timetable and was shared with 12 hospitals in a pre-test exercise held between February and August 2010. This involved workshops to present the manual and a trial data collection based on a quarter of the year with meetings to discuss the results. The point of the pre-test was not to seek views on how alternative approaches could be introduced, but to understand what challenges hospitals might have in meeting the proposed system.

A ‘test’ calculation took place in 2011 involving 40 mental health providers. A first full-scale calculation was run in 2012, but INEK decided not to publish the results

to ensure the results were not used inappropriately in contract negotiations. First publication was the following year, 2013, with the second publication (based on 2013 cost data) in 2014.

The starting point for mental health was completely different than for the acute sector. There had been minimal preparation, limited recording of detailed data, limited coding and no libraries of definitions. This all needed to be built up quickly and with an arguably more ambitious level of costing – a cost per day for different categories of service user.

While the currency is clearly different, INEK was keen to ensure the mental health and acute systems had the same basic building blocks. This ensured a consistency and equity in approach but also recognised that some organisations were providers of both acute and mental health services.

Key issues have included agreeing definitions for key activities such as therapy. But patient acuity is an important issue for mental health – just as it is in the acute sector – in terms of the use of nursing resources. An acuity assessment has been developed for mental health services for those hospitals participating in the costing sample, that uses a different approach to the one for acute services. The assessment has been designed to operate in three mental health settings: acute adult, children and the elderly. It awards points (50 in total as a maximum) across five different areas: coherence; autoaggression; compliance; tendency to wander; and orientation. The aim is to measure both time spent and intensity of care.

Costing software used in German hospitals

INEK does not prescribe a particular costing system. There are currently three main costing systems in use in German hospitals: Combo CC, 3M and Solidares. Some hospitals use just the software to produce the cost calculation, others use consultancy services as well to assist in the cost collection exercise for INEK.

Costing priorities going forward for INEK

The INEK costing and pricing system is stable and merely refined year on year. But there are three key strategic developments being planned for the coming year.

- To develop how capital costs are captured and included in the cost collection process. Capital costs are separately recorded on hospital ledgers. DRG prices just reimburse the cost of treatment; the states (or *Länder* in German) reimburse capital costs. With increasing pressure on state budgets, there is a danger that capital costs are not adequately reimbursed, particularly as hospital estate is growing older and technological developments are advancing. In particular, INEK is looking at the variation in capital costs by service and by DRG, because of the huge capital cost of equipment such as MRI scanners or linear accelerator machines.
- INEK is looking to further develop costing for mental health services.
- The costing sample is being reviewed. New legislation has been put in place to allow INEK to increase the size of the sample. This will allow INEK to request that specific hospitals participate in the sample to ensure it is statistically representative of all services covered by the DRG payment system.

“While the currency is clearly different, INEK was keen to ensure the mental health and acute systems had the same basic building blocks... recognising that some organisations were providers of both acute and mental health services.”

HFMA conclusion

There are many learning points that the English NHS can take from discussions with INEK and learning more about the system and guidance in place for costing in Germany. At present there is no formal information exchange for costing internationally. However, as our discussions have shown, we face many common issues, particularly in costing mental health services.

We will continue discussions with INEK and will look to widen these discussions to incorporate other countries, so that the HFMA and Monitor continue to learn from best practice internationally and also to share our experiences of developing costing in the English NHS with international partners.



Published by the Healthcare Financial Management Association (HFMA)

1 Temple Way, Bristol BS2 0BU

Telephone: 0117 929 4789

Email: info@hfma.org.uk

Web: www.hfma.org.uk

This report was written and edited by Steve Brown and Helen Strain.

While every care has been taken in the preparation of this publication, the publishers and authors cannot in any circumstances accept responsibility for error or omissions, and are not responsible for any loss occasioned to any person or organisation acting or refraining from action as a result of any material within it

© Healthcare Financial Management Association 2015. All rights reserved

The copyright of this material and any related press material featuring on the website is owned by Healthcare Financial Management Association (HFMA). No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopy, recording or otherwise without the permission of the publishers. Enquiries about reproduction outside of these terms should be sent to the publishers at info@hfma.org.uk or posted to the above address. Published February 2015