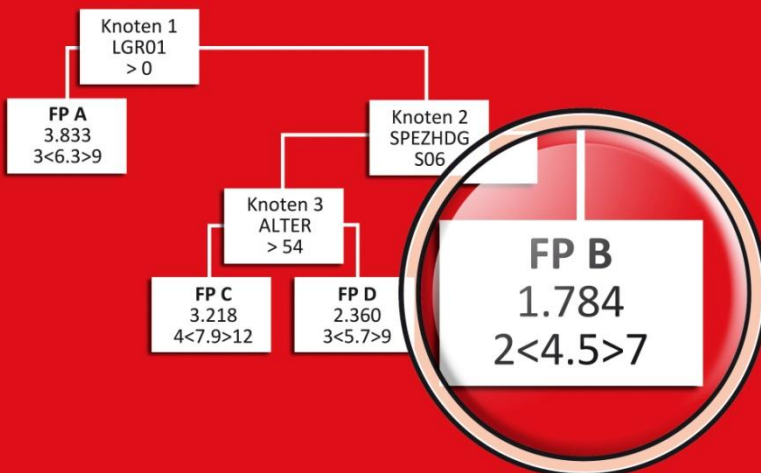




The Austrian DRG system



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Author:

Dr. Edgar Hagenbichler (based on the brochure “Die Funktionsweise des österreichischen LKF-Systems” (How the Austrian DRG system functions) from 2004 by DI Erwin Olensky)

Editorial staff:

Dr. Peter Brosch, BMG (Federal Ministry of Health) – I/B/10

Dr. Andreas Egger, BMG – DRG hotline

Mag. Gerhard Embacher, BMG – I/B

Karl Figl, BMG – I/B

Mag. Gerhard Gretzl, SOLVE – DRG Team BMG

DI Bernhard Pesec, dothealth – DRG Team BMG

Mag. Walter Sebek, BMG – I/B/10 (including editing and layout)

Printing: BMG copying office, Radetzkystrasse 2, A-1030 Wien

To order:

Tel: +43 (0)810 818164

E-Mail: broschuerenservice@bmg.gv.at

Internet: <http://www.bmg.gv.at>

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Foreword



After comprehensive preliminary work, the introduction of the system of “procedure-oriented hospital financing” on the basis of diagnosis-related groups (DRG) in 1997 saw a system established with the capacity to reflect appropriately the actual procedures carried out in Austrian hospitals and to serve as a basis for hospital financing. The move from a flat-rate daily rate reimbursement to a financing system based essentially on the procedure carried out and the diagnosis was a crucial paradigm shift at the time.

The Austrian DRG system has proven effects that can be derived from the transparency of the procedures performed and has contributed to a reduction in the annual rates of increase in hospital costs. Since the introduction of the DRG system, care has been taken to take appropriate account in the DRG model of medical progress and other developments of importance in replicating the procedures carried out. To this end, not only is annual maintenance work performed but adjustments are made periodically to the whole system.

This publication offers an overview of the framework conditions, objectives and functioning of the DRG system, of the instruments applied and, additionally, more detailed information on selected issues. I hope that you will find it interesting reading.

A handwritten signature in black ink, appearing to read 'Alois Stöger'.

Alois Stöger
Federal Minister for Health

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1. Framework conditions of hospital financing

1.1. Basic information about the Austrian healthcare system

In Austria, some 130 hospitals financed by provincial health funds, with about 48,600 beds and costs of about EUR 10.4 billion, along with 44 hospitals financed via the private hospitals financing fund (PRIKRAF – “Privatkrankenanstalten-Finanzierungsfonds” in German), with about 4,000 beds, are largely funded using the Austrian DRG system, in German “Leistungsorientierte Krankenanstaltenfinanzierung” – LKF (“Procedure-oriented [Diagnosis-Related Group] Hospital Financing”). Ninety-seven hospitals with about 11,600 beds are not funded using the DRG system (e.g. rehabilitation centres, accident hospitals). The hospitals provide for the care of 8.4 million head of population and many foreign tourists. Demographic developments and increasing patient mobility mean that health institutions can expect to be faced with increasing levels of demand.

A total of EUR 29.5 billion was spent on healthcare in Austria in 2008. The very well-developed and predominantly (76%) publicly financed healthcare system plays a fundamental part in the high life expectancy and low infant mortality rate in Austria. These figures also correspond to the benchmarks in other highly developed industrial nations.

| Data from 2008 | | Austria | EU |
|---------------------------------------|-------|----------------|------------|
| Life expectancy at birth | Women | 83.4 years | 82.3 years |
| | Men | 77.9 years | 76.3 years |
| Infant mortality per 1000 live births | | 3.69 | 4.44 |

Source: WHO – HFA-database (as at May 2010)

1.2. Basic information about the Austrian hospital system

The Austrian constitution places responsibility for the hospital system with both the national government (federation) and the nine provincial governments. The national government is responsible for framework legislation while the provinces handle the legislation governing implementation as well as execution of the legislation. The provincial governments have to provide for medical care of the population by hospitals. In this context, the provinces are accorded planning competence for the public hospitals providing care. The Austrian Healthcare Structure Plan (“Österreichischer Strukturplan Gesundheit” – ÖSG in German), agreed at national level, contains the framework prerequisites for hospital planning. The organisation and financing of the healthcare system are governed by intra-state agreements between the national and provincial governments in accordance with Article 15a B-VG (Austrian Constitutional Law). These agreements are always concluded for a fixed period of several years at a time.

1.3. Aspects of hospital financing

The term financing has at least two aspects: firstly with respect to the provision of resources as a response to the question “Who pays how much?”, and, on the other hand, financing may also be seen as a response to the question “How is the money distributed?”, in other words the process of distribution of resources.

1.4. Organisation of the provision of resources

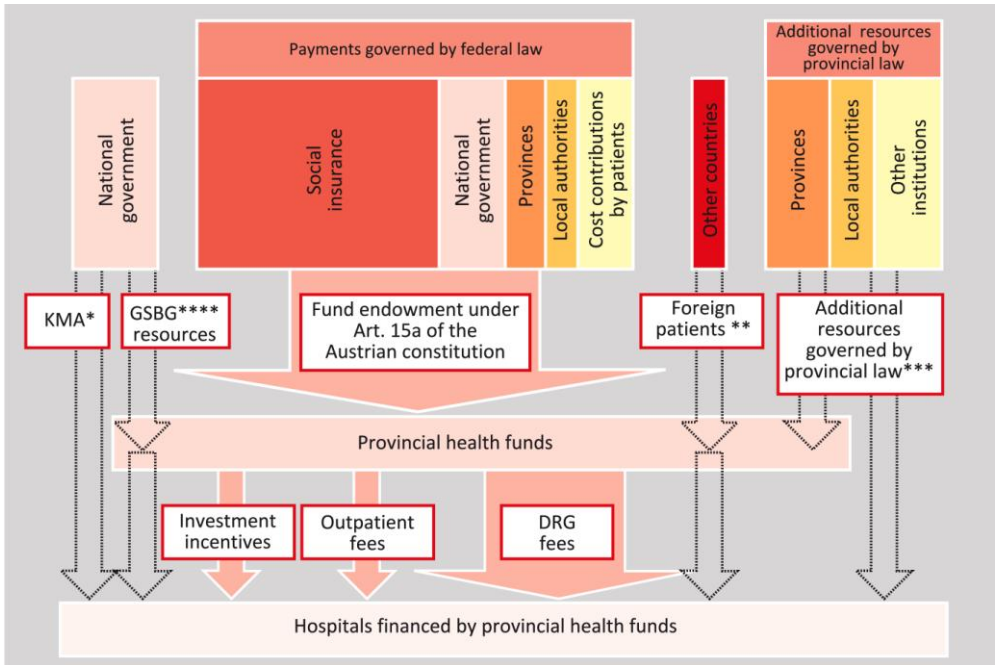
Financing of the acute hospitals – in terms of the provision of resources – is achieved by means of a number of financial sources and is governed by the intra-state agreement between national and provincial governments mentioned above (“15a agreement”). The most important source is the social insurance institutions whose revenues come from legally regulated compulsory insurance. The provinces, national government and even local authorities also contribute to the financing from tax revenues. According to the calculations of the Austrian national debt committee, 44% of public financing contributions in 2005 were accounted for by social insurance, 31% by the provinces (including Vienna), 15% by national government (including additional funding of the university clinics) and 10% by local authorities.* Other financial support is also involved, for example the patients themselves or private health insurance.

* Grossmann B., Hauth E. 2007, Handout at the press conference and book presentation “Verwaltungs- und Pensionsreformen im öffentlichen Dienst sowie Finanzierung des Krankenanstaltswesens” (Public sector administrative and pension reforms and funding the hospital system). Published by the Staatsschuldenaussschuss (national debt committee). 2007.

1.5. Organisation of the distribution of resources

The public funds laid down in the context of the 15a agreement are distributed to the individual provinces and the provincial health funds in those provinces on the basis of set proportional allocations. The provincial health funds must be endowed in such a way that at least 51% of the running expenses (including depreciation) of the hospitals is funded by turnover in line with market conditions in the sense of earnings. The provinces and provincial health funds can divide the resources between various “pots” (budget allocations), by far the largest of which is for the funding of inpatient hospital care. There is also the option of earmarking resources separately for outpatient hospital care, for structural measures or for investments, etc.

Graphic representation of the financing of provincial health fund hospitals



Source: Modified representation after *Lüdeke and Aillinger* 2005, p. 5.

From: Evaluation of the system of procedure-oriented diagnosis-related group financing of hospitals “10 Jahre LKF” [10 years of Austrian DRG], BASYS IMÖG, 2/2010.

Key:

*Additional funding of the university clinics (“Klinischer Mehraufwand” in German – KMA): Flat-rate cost reimbursement by the national government to the relevant hospital funding bodies for additional expenditure on research and teaching (AKH Vienna General Hospital, LKH Graz provincial hospital, LKH Innsbruck provincial hospital).

**Procedure for foreign patients: hospitals invoice provincial health fund, invoice forwarded to GKK regional health insurance fund, forwarded to HVB (Main Association of the Austrian Social Insurance Institutions), forwarded to foreign insurers, transfer of foreign payment from HVB to GKK, forwarded to provincial health fund, payment to hospital; thus advance to hospital by funding body.

***In some provinces, cover for operational losses is also handled entirely or in part via the funds.

****GSBG (“Gesundheits- und Sozialbereich-Beihilfengesetz” in German): Austrian act relating to health and social insurance benefits

The fact that not all hospital costs are settled via the DRG system in every province, but that there are also some complementary financing arrangements (e.g. cover for operational losses) is typical of the current province-specific differences.

The hospitals covered by the PRIKRAF (private hospitals financing fund) legislation receive social insurance resources exclusively on the basis of the DRG system; these private hospitals obtain additional income from patients or from the private insurance funds.

1.6. Options for the distribution of resources

In principle, various forms of remuneration for hospital services can be imagined. One simple form would be for a flat rate to be invoiced for every day in hospital – regardless of what illness had led to the hospitalisation and what treatments were necessary. This form of allocation of resources has the advantage of being easy to manage and was in use until 1996. The social insurance fund paid what was known as a “fee for care costs” per day of care. The remainder of the hospital costs were then paid as operational allowances and the “cover for operational losses”.

However, the disadvantages of this form of financing are clear: the actual expenditure – particularly from the nursing and medical perspective – is not taken into account in the reimbursement for individual cases. This also results in the fact that an extension of the stay in hospital automatically means additional income, which might lead to hospital stays being prolonged beyond what is medically necessary on purely economic grounds.

The total opposite of this model would be payment for individual procedures (fee-for-service model), where every measure required for the patient is charged for individually. If the advantage of solely expense-related remuneration here is compared with the associated disadvantages, such as high administrative expense and the temptation of providing procedures that might not be medically essential, it can be seen that this form of remuneration also requires extremely critical evaluation. In this controversial area, one alternative is available that at least partially combines the advantages mentioned above (reasonable administrative effort, and related to actual expenditure) while simultaneously almost entirely avoiding the disadvantages mentioned with respect to the two other models.

This alternative is a flat-rate remuneration for hospital financing oriented to expense or procedure and diagnosis. The essence of such a system is primarily that it qualifies the expenditure in terms of its relevance for remuneration but at the same time combines the individual expenses required into groups of similar expenditure. This means that it is no longer the individual expense that counts but the typical expenditure associated with a hospital stay within the group to which the patient is allocated that is reimbursed on a flat-rate basis.

These case flat-rate systems have already been in use for some time in many countries for financing inpatient hospital stays and for epidemiological observations, under the name “DRG systems” (DRG = Diagnosis-Related Groups).

2. Aspects of the Austrian DRG system

2.1 DRG model and DRG system

The **DRG model** is the regulatory framework (instrument) for standardised grouping and scoring of inpatient hospital stays across the whole country. It includes the concrete definitions for all procedure-oriented case flat rates (allocation criteria, defined periods of hospitalisation, LDF points [LDF = “Leistungsorientierten Diagnosenfallgruppen” in German – “procedure-oriented diagnosis-related case groups”]), for supplementary points for intensive care and for all special areas (e.g. palliative medicine facilities) and special cases (e.g. day clinic stays, exceptions regarding periods of hospitalisation).

The **DRG system** describes the use of the DRG model for settlement of charges for inpatient hospitalisation within the framework of the provincial health fund or PRIKRAF. It contains the definition of the financing volume to be settled via the DRG system, information on how to determine the DRG point values to be charged for, the care functions of specific hospitals to be taken into account at all events in the context of the DRG control range and the additional regulations, provided in all events for the funding of investments and additional service areas (e.g. outpatient hospital sector, training facilities).

The provincial health funds must be endowed with sufficient sums that at least 51% of the running costs of the hospitals (including depreciation) is financed by turnover (earnings) in line with market conditions.

The possibility of establishing endowment of the core area in the provincial health fund within the framework of the DRG system means that, despite case flat rate scores being standardised across the country, different point

values may arise at a provincial level with respect to the distribution of resources.

2.2. Structures

The Federal Health Commission (“Bundesgesundheitskommission” in German – BGK), as an organ of the Federal Health Agency (“Bundesgesundheitsagentur” in German – BGA) is responsible for setting the terms relating to the arrangements of the DRG model. The Federal Health Commission is made up of representatives of the national government, of the social insurance institutions, of all the provinces, representatives of the interests of the cities and local authorities, of the denominational hospitals, the patient representative bodies and the Austrian Medical Chamber, as well as a number of other members without voting rights.

The DRG Working Group, a committee set up by the Federal Health Commission, deals with the maintenance and further development of the DRG model, prepares the scheduled changes for the next year and facilitates the exchange of knowledge at an early stage. The relevant stakeholders in the Austrian healthcare system are all represented on this committee.

2.3. Objectives of the DRG system

The objectives associated with DRG are

- Increased transparency of costs and procedures,
- Sustainable containment of the rates of cost increases,
- Optimisation of the use of resources,
- Shorter stays in hospital and reduced frequency of inpatient treatment in accordance with medical requirements
- Reduction of unnecessary multiple procedures,

- Relief of the hospitals as a result of a shift of procedures to the outpatient sector, in line with medical and overall economic requirements,
- Necessary structural changes (including a reduction in acute beds) and
- A set of instruments, standardised across the whole of Austria and easy to administrate, for planning and regulatory measures in the field of health policy

The following premises should be complied with in the design of the DRG system:

- Pathology and medical/nursing procedures should determine the reimbursement for inpatient stays,
- Reimbursement should be at a flat rate based on costs actually incurred,
- The system should be transparent and comprehensible,
- The system should be capable of adaptation to current developments and should be subject to dynamic further development,
- The system should meet both medical and economic requirements to an equal extent.

2.4. Origins and development

Until 1996, reimbursement in Austria was based on a per diem payment model. In this context, every inpatient stay in hospital was paid for on the basis of the number of days of care (= number of calendar days spent in hospital). A fixed sum per day (for patients in the social insurance system = reimbursement of care fee) was charged to the payee (usually the relevant social insurance institution). This payment was made regardless of what procedures the patient underwent and of the disease from which the patient was suffering. The remaining hospital costs were usually borne by various payees under what was known as “operational losses”.

Since 1997, Austrian hospitals have largely been financed under the Austrian DRG system, a DRG system adapted to meet the Austrian framework conditions. The Austrian DRG system is actually a “PDRG system” – a Procedure and Diagnosis-related Groups System, since, in addition to diagnosis, the procedures provided are a primary criterion for allocation to case groups.

Many years of consideration, transparency in hospital costs, the introduction of nationally standardised diagnosis documentation based on the WHO’s International Classification of Diseases (ICD) and the development of a nationally standardised catalogue of procedures in the inpatient sector, detailed cost analysis of the case flat rates, in collaboration with many reference hospitals, pilot studies – all of the above were essential prerequisites for the introduction, from 1997, of the then new system across the country in hospitals financed from public resources.

The first model to be used throughout Austria, DRG Model 1997, was developed from the start of the 1990’s. One priority task in this development was to establish flat-rate charges that differed from one another both in their cost structure and also in terms of their medical characteristics and that had to be mutually cost-related in line with realistic conditions.

In order to determine the specific costs, a total of 20 hospitals from all over Austria were recruited to calculate the costs of their procedures on the basis of the catalogue of procedures. These hospitals were known as “reference hospitals”. The costs calculated there on the basis of some 500,000 inpatient stays were representative in overall terms for all the hospitals in Austria and thus provided the economic basis for the model.

In order to ensure maximum medical acceptance for the model, medical specialists from every discipline were invited to take a major part in drawing up the individual flat rates.

An interdisciplinary team of doctors, economists and statisticians designed the first DRG model. It became clear that the pathology (primary diagnosis) was the primary criterion for allocation to a case flat rate in just under three-fifths of all flat rates, with the medical procedure being the primary criterion in the other two-fifths. This fact was also reflected terminologically, with a distinction being made between “primary diagnosis groups” (“Hauptdiagnosengruppen” in German) and “individual medical procedure groups” (“Medizinische Einzelleistungs-Gruppen” in German), abbreviated to HDG and MEL groups. Each HDG and MEL group was then analysed further on the basis of specific criteria and subdivided where appropriate, resulting in the creation of the “procedure-oriented diagnosis-related case groups” (“Leistungsorientierte Diagnosenfallgruppen” – LDF in German).

Since its introduction in 1997, the model has been subjected to annual maintenance work. In addition, the 1999 model contained comprehensive changes to the documentation and the scoring for intensive care medicine and oncology. 2001 saw a switch from the diagnosis documentation of ICD-9 to ICD-10. For the 2002 model, major changes were again implemented, since the introduction of the euro made adaptations appear reasonable, on the one hand, and, on the other, the existing weightings of the case flat rates were mutually updated on the basis of final cost accounting for the procedures. From 2002, the DRG system was also used for the distribution of social insurance resources in the hospitals of the private hospitals financing fund (PRIKRAF).

In 2009, there was a further comprehensive adjustment of the DRG model and the scores as a result of final cost accounting, and a new classification system was introduced for the catalogue of procedures, while at the same time the rules governing the documentation of multiple procedures were simplified. The cost basis from the 2009 model onwards is the year 2005, in which one DRG point corresponded to one euro.

Before the introduction of the DRG system, it was still necessary to record diagnoses and procedures, but little attention was paid to these and the data quality was subject to very few checks.

It was only as a result of linking it to payment flows that more attention was paid to correct documentation. This led to an extraordinary increase in transparency. All the professional groups in the hospitals, such as administration, nursing care and doctors, were encouraged both to take part and collaborate in the further development of the system, and also to subject themselves to critical review.

2.5. Annual service-oriented maintenance

Annual maintenance has been scheduled for the DRG model and its underlying principles ever since its introduction. For reasons of continuity, a distinction is made between maintenance years (in which only absolutely essential corrections are implemented) and amendment years (in which fundamental and far-reaching further developments of the system are also undertaken).

The core demands on the developers of the DRG system are to adapt the model flexibly, to depict all procedural areas in as much detail as possible while taking the requirements of the service-providers into account as far as possible.

Maintenance is performed on behalf of the Federal Health Agency, after evaluation and coordination with the DRG Working Group, by an interdisciplinary team of experts (DRG Team) from the fields of medicine, economics, statistics and IT. The DRG Team is supported by medical (and other) experts from the provincial health funds and the social insurance institutions, and also – if necessary – by specialists from the relevant medical fields.

The provincial health funds are also supported in their duties: for example, the Ministry of Health offers a DRG telephone hotline. In order to facilitate

data quality monitoring at a provincial level, the Ministry provides a software program containing relevant test mechanisms free of charge.

The aim of this is to detect and correct unintentional coding errors, and also intentional “code optimisations” (“upcoding”). An example of primary diagnosis optimisation would be if a doctor’s letter clearly describes one primary diagnosis but a different diagnosis is selected as the primary diagnosis in the coded data record solely because it yields more points than the correct primary diagnosis.

The catalogue of procedures from the Federal Ministry of Health (BMG) is updated annually to reflect medical progress. In the course of this annual maintenance process, service-providers (hospitals or their operators) have the opportunity of submitting non-binding proposals for amendments and supplements to the catalogue of procedures.

An internet-based system is available for the structured submission of these proposals (“Verwaltung von Änderungs- und Ergänzungsvorschlägen zum Leistungskatalog des BMG” in German – VAEV – the management of proposed changes and additions to the BMG catalogue of procedures). Its use has been compulsory since 2007. The provincial health funds have the opportunity of commenting on proposals from hospitals from their own province and of sending them back to the hospitals for revision.

A fundamental prerequisite for inclusion in the catalogue of procedures is that certain criteria are met:

- I. The procedure is new (newly developed) and/or required to reflect medical progress.
- II. The procedure is professionally established.
- III. Adequate scientific evidence is available.
- IV. There is a rigorous medical indication for the procedure.
- V. The procedure and procedural unit is clearly defined and distinct from other procedural items.

VI. The procedure is economically relevant (cost, frequency).

The following are not included in the catalogue of procedures:

1. Proposals that are incomplete.
2. Investigations and treatments that are typical and constantly recurring components of various diagnostic or therapeutic sequences.
3. Procedures that are contained in existing case flat rates.
4. Various surgical techniques for the same procedure.
5. Drugs, except in the field of oncology.
6. Procedural items that contain manufacturer-related data regarding drugs, devices or other manufacturer-related material specifications.

Assessment of the proposals is by means of these inclusion criteria, on the one hand and, on the other, systematic, scientific review papers (HTA reports) are used to assess new procedures or those presented for evaluation purposes (e.g. those included temporarily in the catalogue of procedures). Inclusion in the catalogue of procedures can only occur if there is proven evidence and if all criteria are met. If the evidence is not yet adequately proven, provisional inclusion may be granted only for very expensive, uncommon procedures (small patient collective) in the field of leading-edge medicine. This maintenance procedure made it possible to increase acceptance of the model still further.

In contrast to the maintenance process in the catalogue of procedures, maintenance of the international catalogue of diagnosis, ICD-10, is undertaken by the WHO and adopted and issued by the BMG.

The figures for duration of hospitalisation and the cost principles in the procedure-oriented diagnosis-related case groups (LDFs) are evaluated regularly and adjusted in the event of significant changes.

Changes to the DRG model come into effect on 1 January of each year. As a basis for decision-making regarding amendments to the model, the planned modifications are set out by 31 May and simulation calculations drawn up by 30 June before the accounting year. Definitive definition of the model must be decided upon by the Federal Health Commission by 15 July. The model descriptions and DRG scoring programmes required are presented to the provinces and the provincial health funds by 30 September and come into effect from 1 January of the next year. See Sections 3.2 and 3.3 for details of the DRG model.

2.6. Core area and control range

The DRG model with its nationally standardised specifications regarding the scoring of inpatient hospital stays thus forms what is known as the **core area** of the DRG system.

But what can be done if two hospitals are to provide the same services in principle but one has higher expenditure because it has been given a special care remit by the province? For example, this might be the centralised care provided by a large university hospital.

To deal with this, the DRG system contains what is known as the **control range** that allows four special care provision functions to be taken into account:

- Centralised care provision (e.g. a large university hospital),
- Specialised care focus (e.g. a large hospital with many departments),
- Specialised professional care functions (e.g. an orthopaedic hospital) and
- Specialised regional care functions, such as, for example, the care of patients in tourist regions of the Alps.

Austrian DRG system (Procedure-oriented hospital financing)

| | |
|--|--|
| Nationally standardised DRG CORE AREA | Scoring of inpatient hospital stays on the basis of procedure-oriented diagnosis-related case groups (LDF) including all special scoring regulations |
| DRG CONTROL RANGE that can be organised on a provincial basis | Within the framework of the DRG control range, procedure-oriented allocation of resources from the provincial health funds to the hospital operators can take into account specific care provision functions in certain hospitals. |

Source: BMG – DRG model 2010

3. Functioning of the Austrian DRG model

So how does the DRG model function in reality? How can case flat rates contribute to cost reductions, reduce the length of time spent in hospital, increase transparency and help support structural change?

To understand this, it is useful to look at the DRG model from two angles: firstly at a meta-level with the function of increasing transparency and secondly at the level of its concrete form and application using the DRG model 2010 as an example.

3.1. Transparency

Increasing transparency is probably the most fundamental contribution made by the DRG system to an efficient healthcare system, in terms of cost containment among other factors. Healthcare services tend to a lack of transparency for several reasons: as a result of increased confidentiality requirements, for example (medical confidentiality and maximum data protection) and also owing to the absence of clear-cut or inalterable treatment routes in the field of medicine.

In the WHO's "21 goals for the 21st century", participation and accountability are defined as an ethical basis, on the one hand, and as a primary strategy, on the other, so that maximum health potential can be achieved for every individual. Transparency is a basic requirement for participation and accountability.

An awareness of economic relationships has increased among the professional groups as a result of the linking of transparent documentation with hospital financing. At the same time this helps to promote more responsible dealing with scarce resources.

3.2. Overview of the DRG model

In the DRG model, inpatient hospital stays are grouped into procedure-oriented diagnosis-related case flat rates (LDFs) on the basis of the data collected in hospitals. These include the medical procedures carried out, the diseases found or ICD-10 diagnosis, age and the hospital departments involved. It is these that essentially determine the LDFs and the flat-rate compensation to be paid.

Standardised medical documentation is a prerequisite for grouping diagnoses and medical procedures together. Diseases are recorded on the basis of the globally recognised index of diseases produced by the World Health Organisation (WHO), the International Classification of Diseases (Version ICD-10). Austria has developed its own catalogue of procedures for listing the procedures involved.

Diseases have specific categories or degrees of severity: heart failure may be present without any physical restrictions or may cause a patient to be permanently bedridden; fracture of the tibia may result in shock or may have no complications; appendicitis may be life-threatening if the appendix perforates or it may be “simple” in the case of just a “grumbling” appendix; malignant diseases, such as carcinomas, may be cured completely if found at an early stage but may inevitably cause death at a later stage. Naturally, the most suitable treatment also depends on the individual patient.

These different categories of illness within the same diagnosis are taken into account in the grouping of hospital stays in that the age of the patient is considered on the one hand and the various procedures on the other.

Stays on intensive care units may be regarded as indicators of severity and are reimbursed by a daily supplementary score in addition to the normal case flat rate. Stays in certain other departments are also given special scores.

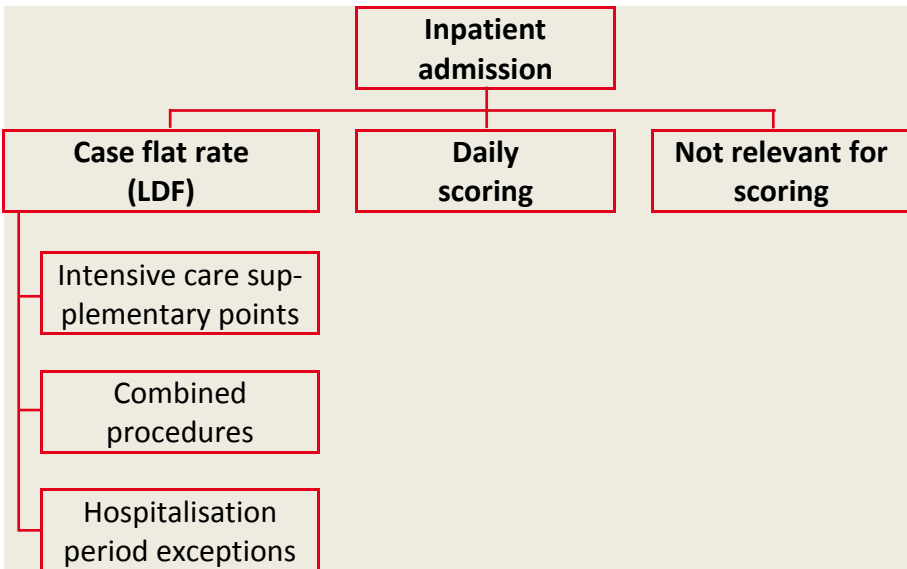
These special areas of care are characterised by the fact that they are linked to specific preconditions. For instance, treatment in an intensive care unit requires this unit to be appropriately equipped. In addition, certain psychiatric or neurological departments are also examples of areas with special care provision.

3.3. The DRG model using DRG model 2010 as an example

As mentioned above, the diseases recorded, the medical procedures provided and recorded, the departments through which a patient passes and the age of the patient all make up the preconditions for the allocation of each individual case to a case group. Of course there are also exceptions, which we will highlight separately below. Since every procedure-oriented diagnosis-related case group is characterised by a point score, a case flat rate is always obtained. This flat-rate value is the same for every hospital in Austria, regardless of whether it is a university hospital or a standard hospital.

In addition to this flat-rate value, special scores may arise under certain conditions, as will be seen in Sections 3.3.2. to 3.3.8. The examples given all relate to the 2010 model.

Graphic representation of the scoring in the DRG model



Source: BMG – DRG Team

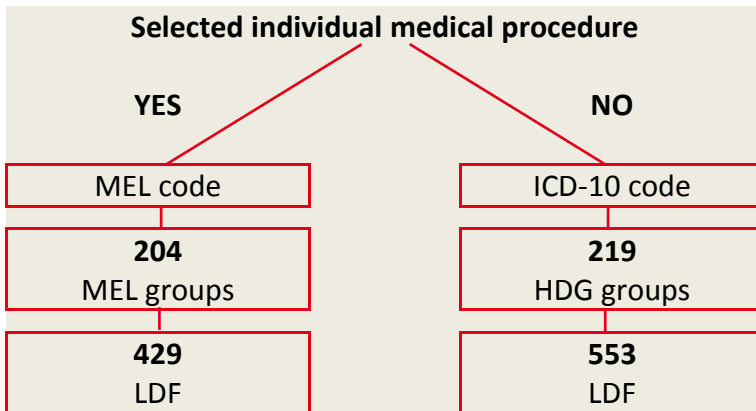
The DRG model 2010 contains 982 case groups, of which 429 are primarily procedure-oriented and 553 diagnosis-related.

Of the 1,496 individual medical procedures (MEL) in the BMG 2010 catalogue of procedures, 1,293 lead to one of the 204 MEL groups. In these 204 MEL groups further differentiation according to procedures, age and diagnoses may be undertaken so that one of the 429 LDFs in the MEL groups is ultimately reached.

The remaining 203 procedures are used for grouping within the diagnosis-related case flat rates or for evaluation of the case flat rates.

The Austrian DRG system

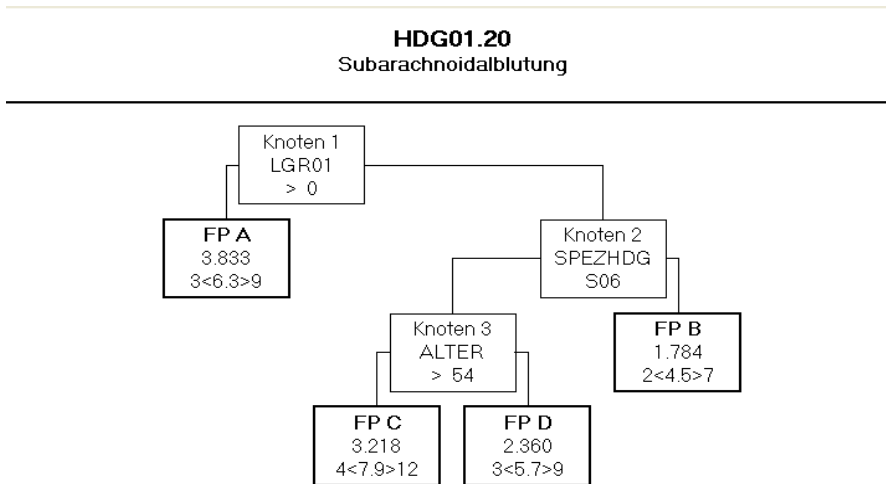
If none of the selected 1,293 MELs is present, then group allocation is implemented on the basis of the 12,500 diagnoses in the ICD-10 that can be encoded as primary diagnosis, to allocate the patient to one of the 219 HDGs (primary diagnosis groups). Here, too, further differentiation may be made on the basis of age, diagnoses, psychiatric departments and procedures, so that one of the 553 LDFs in the HDG groups is ultimately reached.



Source: BMG – DRG model 2010

Shown in greatly simplified form, the calculation of the applicable case flat rate takes place over several decision-making steps that are made over time – they always follow the pattern “If ..., then ...”. This means that a form of branching takes place after every decision, which is why we also refer to a decision tree in this context.

Example of a “decision tree”:



Source: BMG – KDok 2010

Key:

HDG01.20 = code for an HDG primary diagnosis group

Subarachnoid haemorrhage = name of this HDG group

(specific form of brain haemorrhage)

LGR = procedure group (“Leistungsgruppe” in German)

SPEZHDG = special primary diagnosis (“spezielle Hauptdiagnose” in German)

FP = case flat rate (“Fallpauschale” in German)

Example: 3,883 points are reimbursed for FP A (case flat rate A), the minimum length of stay is 3 inpatient days, the maximum length of stay is 9 days, and the average length of stay is 6.3 days.

The graphic above uses a concrete case example to illustrate the complexity of a potential decision-making process. First there is the question of whether certain procedures were provided: “LGR 01 > 0” means that at least one procedure from procedure group 01 was carried out. If this question is answered with a “YES”, the subsequent decision-making pathway in the diagram branches off to the left, if the answer is “NO”, it branches to the right.

So, with a “NO”, the question also arises as to whether a specific disease is present (primary diagnosis from SPEZH DG S06), and finally, patient age may also be crucial – in these cases too, a “YES” moves along the left-hand pathway, a “NO” to the right.

At the end of every decision-making process, an “end node” is determined, corresponding to the procedure-oriented diagnosis-related case group (LDF). The final decision regards whether or not the preconditions are present for any supplementary scoring. Once all these steps have been taken, the final case flat rate is obtained. Any and all supplementary points are calculated in a final step. Flat-rate points and supplementary points then yield the total score to be charged per case.

3.3.1. Case flat rates

A case flat rate is defined for every procedure-oriented diagnosis-related case group (LDF) in the form of points (LDFP). These are made up of a daily component (“Tageskomponente” in German – TK) and a procedure component (“Leistungskomponente” in German – LK). In cases where multiple procedures are provided in a single session (e.g. cataract surgery on both eyes) a procedure bonus – usually reduced – is defined for the additional procedure. Every LDF also has a maximum length of stay, a minimum length of stay, an average length of stay and a minimum value for the daily supplement awarded for days in excess of the maximum length of stay (cf. Section 3.3.2.).

The daily component is used alongside the basic procedures to reimburse those expenses, in particular, that are incurred daily within the framework of caring for the patient. In addition to medical and nursing care, these include, for example, any drug therapy (exception: oncological drugs, which generally require a case flat rate with a procedure component).

The procedure component is a points equivalent for selected medical procedures (e.g. expensive and complex surgery) and is thus independent of the average length of stay of the patient in hospital. Every case flat rate has a typical length of stay allocated to it (“from-to” in days), during which the full point score is reimbursed. This range is defined by a concrete minimum and maximum length of stay for each case flat rate.

Example of a case flat rate: MEL 15.05 cataract operations

| KDok 2010 - Version 7.0 SP-2 inkl. Scoring Simulator | | | | | |
|--|-------|--------------------------|-----|--------------------------|-----|
| Grafik | | | | | |
| Fallpauschale A | | | | | |
| * LDfP -> | 1.322 | TK -> | 771 | LK -> | 551 |
| BD-Zuschlag (Min) -> | 168 | Leistungszuschlag -> | 319 | | |
| * Belagsdaueruntergrenze -> | 1 | Belagsdauermitteiwert -> | 2.3 | Belagsdauerobergrenze -> | 3 |

| |
|---------|
| FP A |
| 1.322 |
| 1<2.3>3 |

Source: BMG – KDok 2010

This calculation applies as standard for every hospital in Austria, which means that the same number of points is awarded for a specific disease in a specific type of patient in a university hospital as in a standard hospital – unless there are intensive care supplements, which, of course, depend on the categorisation of the intensive care units.

3.3.2. Supplementary points for longer stays

If the hospitalisation period (length of stay) extends beyond the maximum length of stay set for the case group, supplementary points are added to the case flat rate for each additional day. But this daily supplement decreases with the number of days above the maximum length of stay. In other words, more points are awarded for the first day in excess of the maximum length of stay than for the second, more for the second than for the third, etc. This

counteracts any incentive deliberately to keep patients as inpatients for longer periods. In the case of extreme periods of hospitalisation beyond the set length of stay, the daily supplement is frozen once a set threshold value has been reached (BD supplement (Min) – BD is “Belagsdauer” – length of stay – in German). This minimum value is then added per day.

Example: Kidney cancer is clinically diagnosed for the first time in a female patient aged 60 years in poor general health. This results in her having to spend 9 days as a hospital inpatient. The number of days of hospitalisation is the number of calendar days in hospital minus 1 or, to put it differently, the so-called “midnight count”, i.e., normally the number of nights spent in hospital. The case group to which this diagnosis is allocated (HDG 09.02 FP C) has a maximum length of stay of 4 days. 1,096 points are now added to the flat rate (1,153) to cover the stay of 5 days beyond the upper limit, so that the total points charged for the patient are 2,249. It should be noted that the flat rate for a hospital stay of 1 inpatient day is given the same 1,153 points as for a stay of 4 inpatient days.

3.3.3. Reduced case flat rates for short stays

In contrast to the case described above, a hospital stay may also be shorter than the set minimum length of stay. Such cases are charged at a reduced flat rate. Calculation of this flat rate is, however, very much based on the conventional flat rate calculation. The procedure component is charged to the full amount. But there are linear reductions in the daily component. Linear means that the same number of points is subtracted for each day less than the minimum length of stay.

Example: The kidney of a female patient is removed using open surgery. A flat rate of 6,659 points is scheduled for this treatment with a minimum length of stay of 4 days (MEL11.04 B). But because the patient is only in hospital for 3 days as an inpatient, only 5,788 points are charged.

3.3.4. Special regulations for 0-day cases and day clinics

There are also special scoring rules for procedures from the day clinic catalogue. The stay in the day clinic is normally calculated here in exactly the same way as if it had taken one day as an inpatient.

0-day cases in HDG groups without procedures from the day clinic catalogue are reimbursed with the normal procedure component and only 5% of the daily component that would be obtained using the normal scoring rules for short stays. Exceptions to this rule are transfers, deaths and inpatient stays with oncological therapies (MEL22.xx).

3.3.5. Supplements for multiple procedures

If two or more procedures (that are relevant for the reimbursement) are carried out on one patient in the course of one stay in hospital, then – to put it in simple terms – in principle the case flat rate set is the one that will yield the most points in total. The procedure component for the case flat rate that would apply if only this one procedure were performed is then added to this point score. If it is a matter of the same procedure being performed twice, the flat rate is multiplied by its own procedure component. The exception would be if the second procedure is recorded with the same procedure date, in which case the additional procedure is normally not scored with the total procedure component but with the supplementary procedure points shown. The three examples below will be a better illustration of this:

- a) A sixty-year-old woman suffering from breast cancer is admitted for chemotherapy and given infusions. It is subsequently found that her vein situation is not satisfactory. On the advice of the doctor treating her, she decides to have a long-term central venous catheter implanted while she is still in hospital. The model selects the case group that yields the highest number of points taking into account the length of her inpatient stay and the multiple procedures among other factors. In this ex-

ample, it is the long-term central venous catheter operation. The procedure component (about 600 points) from the chemotherapy case group is added to the flat rate for the implantation.

- b) If a patient needs two cataract operations on his eyes and if these are carried out on separate days during one stay in hospital then, for this stay, both the LDF flat rate for the relevant MEL group and also the whole procedure component for this group again, without reduction, are used for charging.
- c) If a patient needs two cataract operations on his eyes and if these are performed in the same session of surgery during a single stay in hospital, both the LDF flat rate for the relevant MEL group and also the relevant procedure supplement for this group again (reduced procedure component because of the lower expense) are charged for this hospitalisation period.

3.3.6. Supplementary points for stays in intensive care units

The DRG model takes account of whether a hospital stay is spent entirely or in part on an intensive care ward. In order to be recognised as an intensive care unit for the calculation, a ward must be approved by the relevant provincial health fund or PRIKRAF for classification either as an intermediate care unit or as an intensive care unit.

This approval is based on two basic elements:

- Structural quality criteria that must be met (“What constitutes an intensive care unit?”), and
- The quality of procedures performed in the past by an intensive care unit (as proof, so to speak, of the capability of the intensive care ward).

Intensive care units are divided into three categories, the highest, Category 3, being the best-equipped and most efficient intensive care units. Categories 1 and 2 are intended for facilities with lower classification as a result of their structure and range of procedures.

The categorisation is undertaken using a process that quantifies expenditure on the intensive care units (“intensive scoring” with TISS points (cf. glossary of specialist terms) and, at the same time, provides information about the intensive care requirements of the patients treated there. Point scores are determined for each category (intermediate care and the three classes of intensive care) and are then reimbursed per day and per patient. Categorisation of the intensive care units is therefore a decisive factor in determining the reimbursement to be obtained.

Example: A female patient has a cardiac valve replaced. Immediately after the operation she has to spend three days in an intensive care unit before being moved back to the normal ward. For each of the three “intensive care days”, a daily value of 1,487 points (for intensive care category 3), i.e. a total of 4,461 points, is then added to the case flat rate of 14,785 points, yielding a final charge of 19,246 points for this patient.

For neonatal/paediatric intensive care units, a plausibility check of the categorisation of the intensive care units is undertaken with reference to the range of patients and procedures, on the basis of selected ICD 10 diagnoses and selected medical procedures. A distinction between intermediate care and intensive care units is made for these intensive care units as well.

3.3.7. Daily scoring in special areas

The current DRG model contains the following areas that are not charged according to the flat rate regulations but on a per diem basis with a set point score:

- Remobilisation/aftercare
- Acute geriatrics/remobilisation
- Palliative medicine
- Paediatric and adolescent psychiatry (treatment forms: intensive therapy and rehabilitative therapy)
- Acute aftercare of neurological patients

What all these areas have in common is that there is no additional calculation of procedures there. The treatments are relatively clearly defined, the individual patient groups in these areas can be easily delimited and each field must be appropriately equipped with staff and equipment in order to be able to perform its defined package of tasks.

Targeted neurological acute aftercare with the aim of the greatest possible rehabilitation of the patient is only possible if sufficient numbers of suitably qualified staff are available. These equipment/staff prerequisites are combined under the heading “structural quality criteria”. They are also decisive in many cases for the regulations of the DRG model.

3.3.8. Other special features

There are also rules for other specific procedural areas, such as day-clinic and day-structuring therapy in the field of psychiatry, stroke units, wards focusing on psychosomatic illnesses and psychotherapy and facilities for weaning patients off alcohol and drugs.

Charging for selected specific individual medical procedures, e.g. pain therapy in cases of spinal disorders, requires approval by the provincial health funds. The outcomes of the HTA reports must be taken into account in granting this approval.

Charging for new methods of investigation and treatment defined in the model for procedures in the field of leading-edge medicine, where the evidence is not sufficient to allow assessment of the net benefits of the intervention being evaluated, may be approved by the relevant provincial health fund for specific hospitals.

3.3.9. Scoring

The term “scoring” describes the calculation process set in motion at the end of every inpatient stay to determine the points to be charged for the stay. Scoring is based on unequivocal and transparently described calculation rules (algorithms) that are freely available.

It is also important to run a sophisticated algorithm as a plausibility check, which will then allow further checking by the relevant provincial health fund or by PRIKRAF in the event of problems. Sections of the case history, such as a doctor’s letter or operation report, are usually requested and inspected to this end.

Annex

1. Glossary of DRG-related specialist terms

15a agreement: An agreement made on the basis of Article 15a of the Austrian federal constitution (intra-state agreement). In this specific case, such an agreement exists between the national government and all the provinces regarding the organisation and financing of the healthcare system. These agreements are for a set period of time and also contain fundamental joint measures for the further development of the healthcare system during the term of the agreement.

BMG: Bundesministerium für Gesundheit (Austrian Federal Ministry of Health).

Federal health commission: The political, federally composed committee, one of the responsibilities of which is to decide on the guidelines for the DRG system and the relevant DRG model.

Errors: An error is generated if the data encoded for a case are medically extremely unlikely, or if data required for reimbursement are formally incorrect or missing altogether. By way of example, it is impossible, even in the broadest sense, to remove a patient's uterus more than once. Errors usually arise as a result of accidental miscoding (e.g. typographic errors). Error cases will generally not be reimbursed. Nonetheless, certain errors may be accepted by the hospital and then by the provincial health fund or PRIKRAF in order to be able to reimburse for justifiable exceptional cases.

Case group: Group of inpatient admissions with the same characteristics. The DRG model groups hospital stays in several stages on the basis of characteristics, such as diagnoses, procedures, age or department (cf. Section 3.3.).

Case flat rate: In this context describes the point score allocated to an LDF for reimbursement on the basis of the DRG model. Basically consists of a daily component and a procedure component (cf. Section 3.3.1.).

Notes: Some combinations of procedures must be encoded but should not generate additional points if performed in a single session in the same area of the body. Notes are issued for these combinations with a view to transparency of point calculation. In justified exceptional cases, these notes may also be accepted in the DRG scoring programme and reimbursed.

HDG01.20: Example of the code for a primary diagnosis group (“Hauptdiagnosengruppe” in German – HDG group). HDG01 (skull, brain, nervous system) describes one of 24, mainly location-related areas based on the system used in ICD-10 and the catalogue of procedures. The areas are subdivided up to 34 times. HDG01.20 (subarachnoid haemorrhage) thus describes the HDG group (cf. also MEL15.05).

HTA: Health Technology Assessment. Procedure for creating scientifically based decision-making principles for the appropriate use of resources in the healthcare system.

Provincial health fund: The 15a agreement provides for a provincial health fund being set up in every Austrian province. Its tasks include ensuring the correct distribution of the resources available in line with the regulations in force.

Provincial quota: The percentage set out for each province in the 15a agreement, according to which the total resources available across the whole of Austria are divided up between the individual Austrian provinces.

LDF: Performance-oriented diagnosis-related case group (“Leistungsorientierte Diagnosenfallgruppe” in German). The LDF is the result of the grouping in the DRG model and covers a group of hospital stays with the same characteristics. Each LDF has a case flat rate allocated to it (cf. Section 3.3.)

MBDS: “Minimum Basic Data Set”. Describes, in this context, the structure for data reporting by the hospitals to the Federal Ministry of Health, which is undertaken by way of the provincial health funds or directly to the BMG depending on the legal form of the individual hospital. On the basis of the MBDS, the Ministry draws up DRG evaluations for Austria as a whole; these data are also important for the further development of the DRG system. In addition, the MBDS also forms the basis for reimbursement in accordance with the DRG model by the provincial health funds.

MEL: Individual medical procedure (“Medizinische Einzelleistung” in German). Surgical or non-surgical procedure from a catalogue of approximately 1,500 procedural items.

MEL15.05: Example of the code of an MEL group: MEL15 (eyes, orbits) describes one of 31, largely location-related areas based on the system used in ICD-10 and the catalogue of procedures. The areas are subdivided up to 27 times. MEL15.05 (cataract operations) thus describes the MEL group (see also HDG01.20).

“Optimisation”: Higher points can sometimes be achieved by modifying codes to distort the reality of a case. Optimisation is illegal and strictly prohibited.

Plausibility: The DRG system is based on medically comprehensible procedures. For this reason, the model checks whether the patient-related codes in the documentation correspond to these procedures. For example, the procedure performed may be used to claim points only if it also corresponds to the disease recorded for this case (e.g. gall-bladder surgery – gall-bladder disorder).

PRIKRAF: Private hospitals financing fund (“Privatkrankenanstalten-Finanzierungsfonds” in German). Fund led by the Federal Ministry of Health for reimbursement of social insurance resources to private hospitals using the core area of the DRG system.

Scoring programme: BMG programme provided free of charge for plausibility checking and accounting of the MBDS data.

TISS: Stands for “Therapeutic Intervention Scoring System” – the system that supplies the data required for categorising the intensive care units. It reflects the cost of care on intensive care units in the broadest sense.

VAEV: Management of proposed changes and additions to the BMG’s catalogue of procedures (“Verwaltung von Änderungs- und Ergänzungsvorschlägen” in German) – a web-based system for the structured submission of proposals for new procedures.

Warning: The credibility of the coding is monitored in the plausibility checks. There may be certain data constellations in a case that, although they are not impossible, would be cause for subjecting the data to a further check for correctness. Cases given a warning can usually be reimbursed. Warnings affect various combinations of procedures, numbers of procedures, diagnoses, age, gender or stay in hospital, among other data.

2. Overview of Austrian hospitals

The table below provides an overview of the development of the Austrian hospitals financed by the provincial health funds on the basis of the basic statistical key data. It is intended to provide a rough impression of how inpatient care of the Austrian population has been delivered over the past years:

| | 1997 | 2008 |
|---|----------------------|-----------------------|
| Hospitals | 154 | 130 |
| Beds in the system | 54,729 | 49,996 |
| Beds actually in use | 53,134 | 48,599 |
| Inpatient stays | 1,938,047 | 2,521,569 |
| Days in hospital (midnight count) | 14,747,702 | 14,132,440 |
| Single-day care | 179,208 | 444,594 |
| Average stay in hospital (excluding single-day care and long-term stays; 1–28 days) | 6.74 | 5.59 |
| Employees in full-time equivalents | 103,872 | 113,961 |
| Final costs in euro | 6,461,256,636 | 10,376,769,285 |

Source: BMG – Hospital statistics and diagnosis and procedure reports

3. DRG overview 2008

DRG points 2008 Austria

The table below shows the distribution of points across the whole of Austria in the hospitals financed by the provincial health funds for 2008 referred to the scoring regulations described in Section 3:

| DRG points 2008 | absolute | in % |
|---|----------------------|----------------|
| DRG LDF flat rate TK | 2,689,161,960 | 42.58% |
| DRG LDF flat rate LK | 939,801,237 | 14.88% |
| DRG LDF flat rate, total | 3,628,963,197 | 57.46% |
| DRG points below BDUG-TK | 667,799,202 | 10.57% |
| DRG points below BDUG-LK | 423,285,068 | 6.70% |
| DRG points below BDUG, total | 1,091,084,270 | 17.27% |
| DRG supplementary points, BDOG | 427,348,536 | 6.77% |
| DRG supplementary points, ICU | 513,865,519 | 8.14% |
| DRG supplementary points, multiple procedures | 401,159,794 | 6.35% |
| DRG points, special field | 253,005,541 | 4.01% |
| DRG points, total | 6,315,426,857 | 100.00% |

Source: BMG – diagnosis and procedure reports

Key: TK = daily component (“Tageskomponente” in German)

LK = procedure component (“Leistungskomponente” in German)

BDUG* = minimum-length of stay (scoring for short stays, flat rate reduced)

BDOG** = maximum length of stay (supplementary points for long stays)

*“Belagsdaueruntergrenze” in German **“Belagsdauerobergrenze” in German

4. More information on DRG

The Federal Ministry of Health publishes all documents relating to the current DRG-model – including the description of the model, catalogues, software tools, circulars and service packs – on its website at

<http://www.bmg.gv.at/cms/site/thema.html?channel=CH0622>.

The Austrian DRG system, in German “Leistungsorientierte Krankenanstaltenfinanzierung” – LKF (“Procedure-oriented Hospital Financing”), was developed by Austrian experts for the reimbursement of inpatient hospital costs and has been in use since 1997. In combination with supplementary measures, such as structural planning and quality management, it has been possible to achieve improvements for patients as well as a reduction in the length of hospital stays and hence a decrease in the annual rates of increase in hospital costs. The Austrian DRG system has been the subject of international interest for years and serves as a blueprint for funding models in other countries. This brochure, updated in July 2010, contains a clear and comprehensible description of how the system functions.

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