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Urgencies and DRGs

Examples of Urgency Payments Combined with DRG Based Remuneration

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Contents

Abstract (English)

Introduction

Flat rates based on Diagnosis Related Groups (DRGs) are being introduced in a growing number of countries to remunerate acute inpatient treatment. In doing so, it will have to be decided – among other things – whether inpatient emergency services should be remunerated separately from the DRG flat rates or as part of them. Without separate remuneration, there may be an apprehension that wrong economic incentives with regard to emergency services could develop. To be able to decide about a separate remuneration of emergency readiness and/or emergency treatment one must know how to categorise services, what are the costs of emergencies and how the remuneration can be deduced from them.

Method

By means of internet searches, the author describes different solutions of emergency patient classification systems and emergency flat rates in France, United Kingdom, and New South Wales (Australia). Additionally, he shows various approaches towards regulations in Switzerland, Germany, United States, Canada, and Victoria (Australia). Out of the information collected (reference year 2008), he draws up suggestions with a view to deciding whether any increased emergency costs would justify separate remuneration and how this could be set up.

Investigation results:

– France

In *France*, an annual lump sum based on the size of the emergency ward/department is paid to remunerate emergency readiness. (The size of the emergency ward is calculated on the basis of the budgeted number of emergency attendances.) Emergency admissions (emergencies with subsequent inpatient admission) are paid through GHS flat rates (GHS = "Groupes homogènes de séjours" = French DRG flat rates). Outpatient emergency attendances are paid at a flat rate of € 25.

– United Kingdom

In the *United Kingdom*, different HRG flat rates are defined for elective and non-elective cases (HRGs = Healthcare Resource Groups = British DRGs). In this way, about 10 % of the total remuneration volume are redistributed. (Non-elective cases encompass not only emergencies but also births, newborns, and transfers.) Additionally, there is a three-tier emergency tariff to remunerate for inpatient and outpatient emergency attendances. It is defined by means of about 10 emergency HRGs. 80 % of the emergency tariff is paid on the basis of the planned emergency attendances in order to cover emergency readiness. This is done regardless of the actual number of emergency attendances ("80/20 rule"). These emergency flat rates are paid for emergency admissions in addition to the non-elective HRG flat rate. 50 % of the latter are paid on the basis of the planned number of emergency admissions, and 50 % as per actual admissions ("differential tariff").

– New South Wales

In *New South Wales* (Australia), emergency services are categorized into seven levels according to their roles and staffing. 80 % of emergency costs (for inpatient and outpatient cases) are paid by a budget for emergency readiness. To this end, the planned cases are weighted by means of emergency patient classification system UDG ("Urgency and Disposition Groups") which defines 11 patient categories. Three base rates are used according to the types of hospital. (The three types of hospital are: "general referral hospitals" or "large metropolitan districts"; "childrens"; "small metro districts" or "rural base".) The remaining 20 % of emergency costs are paid by UDG weighted emergency flat rates. For emergency admissions, an ARDRG flat rate is paid additionally.

– Switzerland

In *Switzerland*, acute inpatient treatment will be remunerated from 2012 onward by the SwissDRG-System, an adapted GDRG-System. Following a law introduced at the end of 2007, the new flat rates must not contain public welfare services. Hence, emergency readiness has to be calculated and remunerated separately from DRG flat rates, independently of the number of cases.

– Germany

In *Germany*, there is no separate remuneration for emergency admissions. In principle, hospitals are ordered to participate in emergency services. Hospitals which do not participate have to expect a deduction of € 50 per case.

Suggestions

The main suggestions which were deduced from several others, are: (1) *Emergency readiness* should be defined and remunerated by performance contracts. A bonus system could promote the attainment of certain emergency targets. (2) To be able to assess the costs of *emergency treatment*, all DRGs should be split as per the criterion "with/without emergency attendance". The concept of "emergency attendance" must therefore be defined. A medical definition would be: "Emergency attendances are attendances of patients who are required to be treated within *x* (e. g. 12) hours." If cost differences arise, these can be taken into account by applying separate DRG weights for DRGs "with emergency attendance" and DRGs "without emergency attendance".

1 Introduction

Introduction

Flat rates based on Diagnosis Related Groups (DRGs) are being introduced in a growing number of countries to remunerate acute inpatient treatment. In doing so, it will have to be decided – among other things – whether inpatient emergency services should be remunerated separately from the DRG flat rates or as part of them. Without separate remuneration, there may be an apprehension that wrong economic incentives with regard to emergency services could develop. To be able to decide about a separate remuneration of emergency readiness and/or emergency treatment one must know how to categorise services, what are the costs of emergencies and how the remuneration can be deduced from them.

Study for DKG

The presented material was collected for a study for the German Hospital Association DKG (Deutsche Krankenhausgesellschaft). Later it was published as a book of its one.[1]

2 Methods

▶ Table 1

Inpatient urgency remuneration systems of different countries were analysed using a scheme developed by combining aspects of cost calculation and tasks to perform.

Aspect (1)

Costs and cost centres:

1. Emergency services.
2. Emergency room.
3. Further hospital services.

– Emergency services

Emergency services include the emergency telephone number, the emergency physicians, the ambulances, etc. They encompass the activities for the patient outside the hospital.

– Emergency room

Emergency room include emergency beds with 24 hour access, experienced emergency nurses, physicians which are available within short time,

– Hospital services

The further *hospital services* include hospital operations rooms and wards. There must be availablity of treatment which can be urgently planned and performed. There has to be skilled personal, free rooms, and adequate equiment.

[1] Fischer [Notfallvergütung im Krankenhaus, 2009].

Table 1: Emergency Remuneration Scheme

Task Type > v Cost Centre	**Emergency Readiness**	**Emergency Treatment**	Elective Treatment
Emergency Services			
Emergency Room			
Hospital OR + Ward			

Tasks: Aspect (2)

a) Emergency readiness.

b) Emergency treatment.

By means of internet searches in the year 2008, the author collected information about different solutions of emergency patient classification systems and emergency flat rates in France, United Kingdom, New South Wales (Australia), and – additionally – about various approaches towards regulations in Switzerland, Germany, United States, Canada, and Victoria (Australia). Internet searches (2008)

The information was collected with the aim to be able to suggest – with a view to deciding about the design of inpatient urgency remuneration systems – whether any increased emergency costs would justify separate remuneration and how this could be set up. Aim: Suggestions

3 Results: Inpatient emergency remuneration in selected countries

3.1 Switzerland (SwissDRGs planned for 2012)

Task Type > v Cost Centre	**Emergency Readiness**	**Emergency Treatment**	Elective Treatment
Emergency Services	**Performance contracts** Public welfare services		
Emergency Room	**Performance contracts** Public welfare services	**Fee for service** Outpatients	
Hospital OR + Ward		**SwissDRG flat rate** Inpatients (2012)	

Table 2: Emergency Remuneration in Switzerland

In *Switzerland*, acute inpatient treatment will be remunerated from 2012 onward by the SwissDRG-System, an adapted GDRG-System. Following a law introduced at the end of 2007, the new flat rates must not contain public welfare services. Hence, emergency readiness has to be calculated and remunerated separately from DRG flat rates, independently of the number of cases. Separate remuneration of public welfare services

There is a recommendation that remuneration for emergency readiness should be derived from the number of inhabitants.[2] Number of inhabitants

In the Swiss minimal data set, "emergency attendances" are defined as attendances of patients who are "required to be treated within 12 hours". As complement, "planned admission" can be chosen.[3] Definition of "emergency"

[2] GDK-CH [Leitfaden Spitalplanung, 2005]: 55.
[3] BFS-CH [Medizinische Statistik, 2005]: 33.

3.2 Germany (GDRGs)

50 € DRG tariff deduction per case

In *Germany*, there is no separate remuneration for emergency admissions. In principle, hospitals are ordered to participate in emergency services. Hospitals which do not participate have to expect a deduction of € 50 per case.

Definition of "emergency"

Emergency attendances can be coded in the German minimal data set, but no definition is given.[4]

3.3 United Kingdom (HRGs)

Elective and non-elective admission

In the british minimal data set for acute inpatient treatments, a distinction is made between elective and non-elective admission. Non-elective admissions encompass urgent admissions as well as maternity admissions, newborns, and transfers.[5]

Differences within many HRGs

When calculating treatment costs, differences between treatment with elective and non-elective admission where found within many HRGs.[6]

Spoke plot

I drew these differences of tariffs of all HRGs by means of a "spoke plot". A spoke plot is

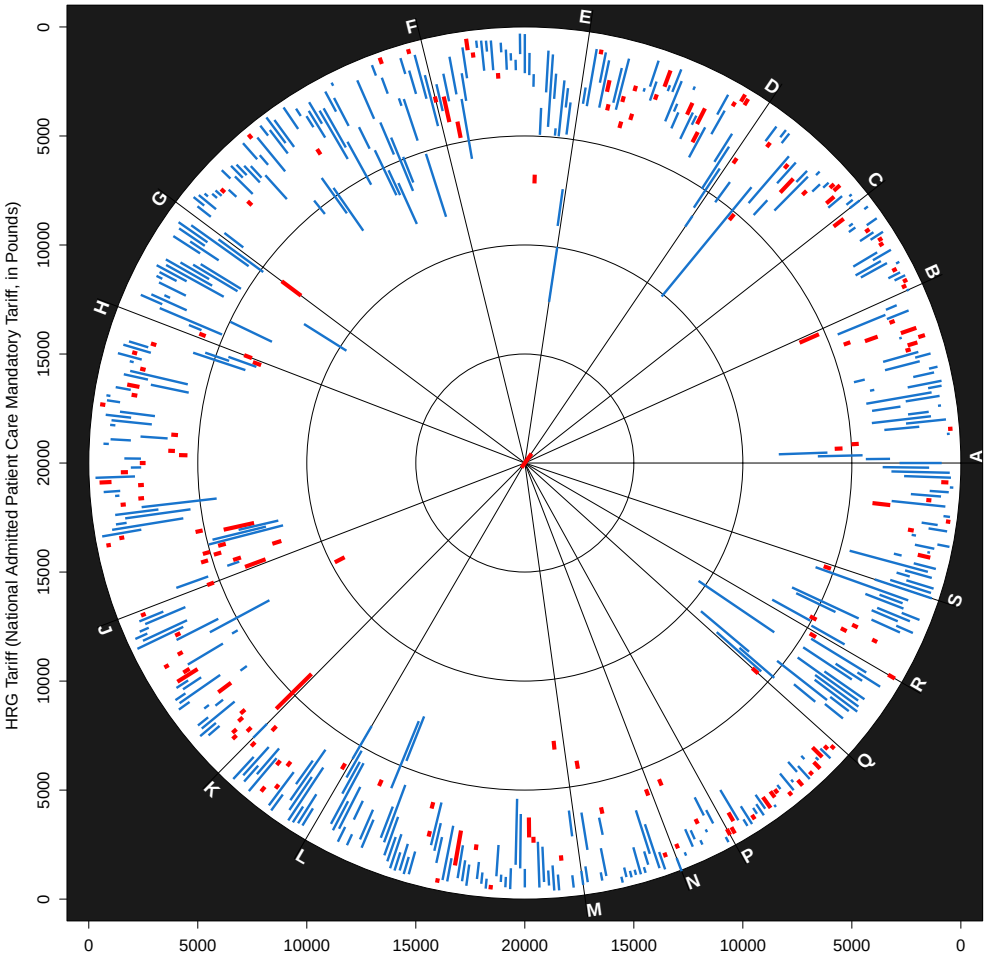
▶ Tables 3 and 4

[4] DKG [MDS §301, 2007]: 13+65.

[5] http:// www.datadictionary.nhs.uk / data _ dictionary / attributes / a / add / admission _ method _ de.asp [2008-4]. An admission is an "emergency admission", when "it is unpredictable and at short notice because of clinical need".

[6] DH-UK [Tariff Calculation, 2008]. DH-UK [PbR Guidance, 2007]. DH-UK [PbR 2008/09, 2007].

Table 3:
HRG 3.5: Differences of HRG tariffs 2007 for elective and non-elective treatment



a kind of a bar chart. As base line, a circle line is used instead of a straight line. A spoke plot occupies only a third of the space of a conventional bar chart.[7]

The difference bar for each HRG is put on a imagined line starting at the circle base line going to the centre of the circle: this is the spoke line. The HRGs are grouped according to the HRG main categories (= MDCs). These are abbreviated by the letters shown at the circle border at the beginning of each MDC sector. The scale from the circle line to the centre shows the HRG tariffs (in english Pounds).

The coloured lines show the differences between the HRG tariff for non-elective and for elective admission. If the non-elective tariff is higher than the elective tariff the differences line is blue, else it is red. A green point shows that both tariffs have the same value.

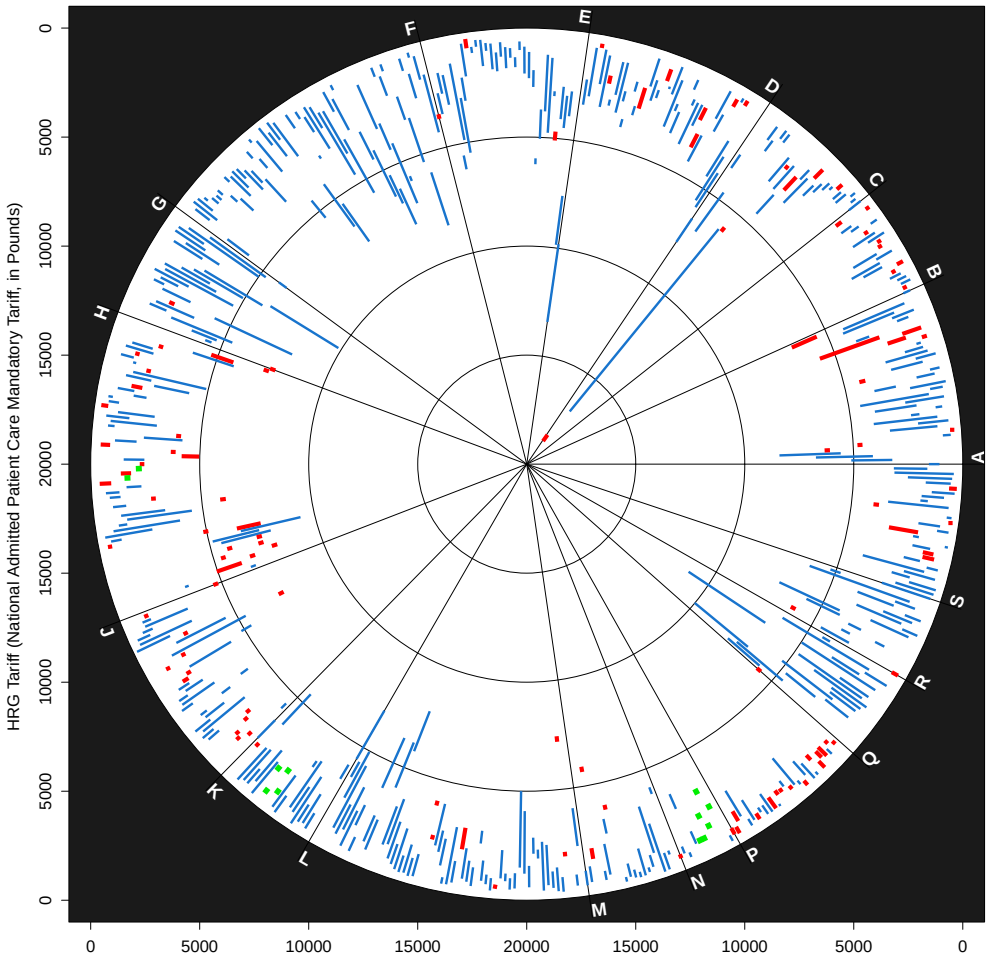
It can be seen that most HRGs have blue lines i. e. higher tariffs for non-elective treatment than for elective treatment. Some of these differencies are very big. And they grewed from 2007 to 2008. But there are also some elective tariffs which are higher than non-elective tariffs (the red coloured differences). By comparing the two graphics, one can see that the some differences changed remarkably from 2007 to 2008.

I tried to estimate the redistributed sums. I calculated an averaged tariff for each HRG by weighting the two HRG tariffs with the number of urgent respectively elective cases as found in the "Hospital Episode Statistics".[8] The estimated redistribution amounts to 9 % to 10 % of the total remuneration volume.

Estimated redistribution: 9 % to 10 %

[7] Fischer [Neue Grafiken I, 2010]: 15 ff.

[8] http:// www.hesonline.nhs.uk / > Accessing the data > Freely available data > Inpatients > Healthcare Resource Groups . [2008-11]



Bars: Differences between elective and non−elective treatment:
Blue: Elective tariff lower than non−elective. Green: Elective = non−elective. Red: Elective tariff higher than non−elective.
546 HRGs

Datenquelle:
www.dh.gov.uk [2008−05]

Z I M
[HRG.085.spokeplot.CW:2008−108U]

Table 4:
HRG 3.5: Differences of HRG tariffs 2008 for elective and non-elective treatment

▶ Tables 5 and 6

I listed HRGs with huge differences in two tables. One table shows HRGs with higher tariffs for non-elective treatment, the other shows HRGs with higher tariffs for elective treatment.

Table 5: HRGs with huge absolute or percent differences of tariffs 2008 for non-elective admissions compared to elective admission with expected length of stay $\geq$ 3 days

HRG	Label	Cases 2006	%urgent	Tariff £ el./non-elect.	% Diff.	ELOS el./non.
A11	Muscular Disorders	2600	33 %	1100 / 3900	+260 %	7 / 40
C54	Complex Major Mouth or Throat Procedures	1400	6 %	6100 / 17000	+170 %	48 / 114
F45	General Abdominal - Diagnostic Procedures	9300	61 %	760 / 2900	+280 %	7 / 32
G04	Liver - Major Procedures>69 or w cc	4100	27 %	1100 / 4900	+330 %	5 / 48
G11	Biliary Tract - Complex Procedures	550	15 %	6200 / 9800	+57 %	24 / 54
G16	Diagnostic Pancreatic or Biliary Procedures w cc	1000	43 %	1200 / 4600	+280 %	5 / 40
G22	Pancreas - Very Major Procedures	1600	15 %	4300 / 8100	+90 %	36 / 64
H16	Soft Tissue or Other Bone Procedures - Category 1>69 or w cc	10000	15 %	1500 / 4800	+220 %	5 / 47
H53	Pathological Fractures or Malignancy of Bone and Connective Tissue>69 or w cc	10000	55 %	860 / 3800	+350 %	10 / 47
J21	Other Burn with 1 Significant Graft Procedure>18 <50	550	59 %	1600 / 5300	+240 %	7 / 28
K15	Diabetes and Other Hyperglycaemic Disorder>69 or w cc	5900	85 %	480 / 2200	+350 %	5 / 24
K18	Non Pituaritary Endocrine Neoplasms>69 or w cc	1700	30 %	930 / 3400	+260 %	7 / 38
L05	Kidney Intermediate Endoscopic Procedure>69 or w cc	4300	30 %	1200 / 4300	+260 %	5 / 40
L46	Renal Replacement Associated Procedures	7500	15 %	1600 / 4900	+220 %	3 / 41
Q12	Therapeutic Endovascular Procedures	20000	15 %	890 / 3700	+320 %	3 / 36
Q13	Diagnostic Radiology - Arteries or Lymphatics w cc	3600	32 %	1300 / 4700	+260 %	5 / 44
Q15	Amputations	5100	53 %	6900 / 11000	+60 %	67 / 112
Q16	Foot Procedures for Diabetes or Arterial Disease, and Procedures to Amputation Stumps	2200	43 %	1000 / 4900	+390 %	13 / 43
Q19	Vascular Access for Renal Replacement Therapy	9800	26 %	1700 / 6300	+260 %	7 / 59

Table 6: HRGs with huge absolute oder percent differences of tariffs 2008 for elective admissions compared to non-elective admission with expected length of stay $\geq$ 3 days

HRG	Label	Cases 2006	%urgent	Tariff £ el./non-elect.	% Diff.	ELOS el./non.
A30	Epilepsy <70 w/o cc	29000	91 %	1700 / 950	-43 %	11 / 7
A31	Head Injury with Brain Injury	8000	83 %	5600 / 2900	-48 %	77 / 26
A99	Complex Elderly with a Nervous System Primary Diagnosis	24000	86 %	6600 / 5600	-16 %	132 / 89
C27	Major Medical, Head, Neck or Ear Diagnoses w/o cc	7200	93 %	1300 / 950	-28 %	10 / 7
C35	Major Maxillo-facial/ENT Procedures	3900	10 %	2700 / 2000	-24 %	6 / 8
D34	Other Respiratory Diagnoses <70 w/o cc	23000	91 %	1200 / 810	-32 %	7 / 5
H19	Soft Tissue or Other Bone Procedures - Category 2 <70 w/o cc	48000	40 %	1900 / 1600	-16 %	5 / 3
H36	Closed Pelvis or Lower Limb Fractures>69 or w cc	23000	88 %	4900 / 4300	-13 %	79 / 51
H40	Closed Upper Limb Fractures or Dislocations <70 w/o cc	32000	81 %	1800 / 1500	-16 %	5 / 3
H71	Revisional Procedures to Hips	14000	46 %	7400 / 6500	-13 %	27 / 45
H88	Other Neck of Femur Fracture w cc	6600	61 %	6100 / 5100	-17 %	90 / 77
L33	Urethra Major Open Procedures	1100	7 %	3000 / 2200	-27 %	12 / 12
P04	Lower Respiratory Tract Disorders without Acute Bronchiolitis	34000	94 %	1400 / 1100	-24 %	7 / 6
P28	Epilepsy Syndrome	12000	75 %	1300 / 910	-29 %	5 / 5
S13	Pyrexia of Unknown Origin	20000	95 %	1300 / 900	-28 %	7 / 7
S21	Convalescent or Other Relief Care	7200	26 %	3000 / 1900	-38 %	46 / 13

An A&E minimum dataset was introduced in october 2006.[9] An A&E classification and tariff exists for HRG 3.5 (9 HRGs)[10] and for HRG4 (11 HRGs).[11] While the A&E HRGs of Version 3.5 are defined by investigation type and attendance disposal, A&E HRGs of Version 4 are defined by investigation category and dominant treatment category.

It has to be noticed that specialised services treatment – defined by lists of procedures und diagnoses – is paid by top-ups on the HRG tariff.[12]

A&E classifications

▶ Tables 7 and 8
▶ Table 9

Specialised tariff top-up

▶ Table 10

[9] DH-UK [Costing Manual, 2008]: 112.
[10] DH-UK [PbR Guidance, 2007]: 13 f (§ 50). NHS-IA [A&E HRGs 3.2, 2002].
[11] The Casemix Service [HRG4/EMUC, 2007].
[12] DH-UK [PbR 2008/09, 2007]: 19 f.

HRG-3.5	Investigation Type	Attendance Disposal	Tariff
V01	High cost imaging	Died / Admitted	High cost
V02		Referred / Discharged	High cost
V03	Other high cost investigation	Died / Admitted	High cost
V04		Referred / Discharged	High cost
V05	Lower cost investigation	Died / Admitted	Standard
V06		Referred / Discharged	Standard
V07	No investigation	Died / Admitted	Minor A&E
V08		Referred / Discharged	Minor A&E
DOA	Dead on Arrival		Standard

Table 7: A&E-HRGs and their tariffs (HRG 3.5)

Tariff (in £ per A&E attendance)	2007/08	2008/09
High	101	102
Standard	73	75
Minor	55	56

Table 8: HRG 3.5: Tariffs for A&E attendances

HRG4	Label
VB01Z	Any investigation with category 5 treatment
VB02Z	Category 3 investigation with category 4 treatment
VB03Z	Category 3 investigation with category 1–3 treatment
VB04Z	Category 2 investigation with category 4 treatment
VB05Z	Category 2 investigation with category 3 treatment
VB06Z	Category 1 investigation with category 3–4 treatment
VB07Z	Category 2 investigation with category 2 treatment
VB08Z	Category 2 investigation with category 1 treatment
VB09Z	Category 1 investigation with category 1–2 treatment
VB10Z	Dental care
VB11Z	No investigation with no significant treatment

Table 9: HRGs for Emergency and Urgent Care (HRG4)

Specialty	2007/08	2008/09
Orthopaedic	70	79
Children Specialised	69	90
Colorectal	35	39
Neurosciences	24	27
Spinal surgery	24	27
Respiratory	17	19
Cardiology and Cardiac Surgery	16	18
Hepatology, Hepatobiliary and Pancreatic Surgery	9	10
Children Non-specialised [U17]	11	12
Thrombolysis for Stroke (Alteplase) [NICE]	–	23

Table 10: HRG 3.5: Tariff top-ups for specialised activity in percents of HRG tariffs

Elective and non-elective tariff

In the british HRG based remuneration system called "Payments by Results" (PbR), different HRG flat rates are defined for elective and non-elective cases (HRGs = Healthcare Resource Groups = British DRGs). In this way, about 10 % of the total remuneration volume are re-distributed. (Non-elective cases encompass not only emergencies but also births, newborns, and transfers.)

80/20 rule

Additionally, there is a three-tier emergency tariff to remunerate for inpatient and outpatient emergency attendances. It is defined by means of about 10 emergency HRGs. 80 % of the emergency tariff is paid on the basis of the planned emergency attendances in order to cover emergency readiness. This is done regardless of the actual number of emergency attendances ("80/20 rule").

Differential tariff

These emergency flat rates are paid for emergency admissions in addition to the non-elective HRG flat rate. 50 % of the latter are paid on the basis of the planned number of emergency admissions, and 50 % as per actual admissions ("differential tariff").

Table 11: Emergency Remuneration in the United Kingdom (HRG 3.5)

<table>
<tr><td>Task Type >
v Cost Centre</td><td>Emergency Readiness</td><td>Emergency Treatment</td><td>Elective Treatment</td></tr>
<tr><td>Emergency Services</td><td colspan="2">Primary Care Trusts (PCT)
+ NHS Ambulance Services Trusts</td><td></td></tr>
<tr><td rowspan="2">Emergency Room</td><td>80 % of A&E tariff
for budgeted but not treated cases
(80 / 20 rule)</td><td>A&E tariff
3 levels, based on A&E−HRGs</td><td rowspan="2"></td></tr>
<tr><td rowspan="2">50 % of non−elective HRG weights
for budgeted but not treated cases
(differential tariff)</td><td rowspan="2">Non−elective HRG weights
100 % for cases below budget
50 % for cases above budget
(differential tariff)</td></tr>
<tr><td>Hospital OR + Ward</td><td></td><td>Elective HRG weights</td></tr>
<tr><td></td><td></td><td>Short stays
(< 2 days, > 17 years, medical partition)
HRG weight reduction from 0 % to 80 %</td><td></td></tr>
</table>

3.4 France (GHM/GHS)

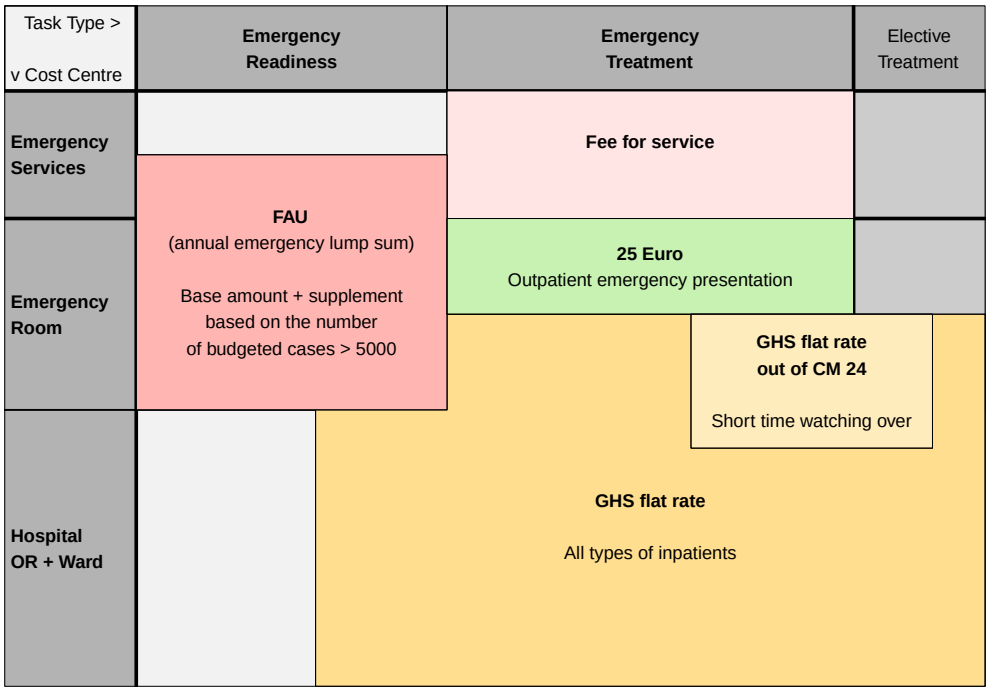


Table 12: Emergency Remuneration in France

"T2A" remuneration system

The name of the french DRG based remuneration system is "Tarification à l'activité" (T2A). Emergency treatments of admissed patients are not payed separatly from the french GHS flat rate (GHS = Groupes homogènes de séjours), but there is a lump sum called "Forfait annuel urgences" (FAU) to cover hospital emergency readiness. From 2003 to 2005 the amounts were slowly hightened, 2006 they were reduced a little bit, and since then (until 2008) they remained unchanged.[13]

▶ Table 13

GPU classification

An experimental emergency classification GPU ("Groupes de passage aux urgences") was developed before 1999 to classify emergency attendances.[14] But it was never used broadly.

RPU data set

For several studies an emergency minimum data set RPU ("Résumé de passage aux urgences") is in use since 2002. A growing number of hospitals are contributing data. In 2007, data of 20 % of emergency attendances at hospitals was available.[15]

Definition of "emergency"

"Emergency attendances" are patients which enter through the emergency ward/department, but not for organisational reasons (e. g. not to control plasters and not to redo wound dressings).[16]

A&E costs: € 140

Average full cost of an emergency attendance was calculated as approximately € 140.[17]

Emergency readiness: FAU annual lump sum

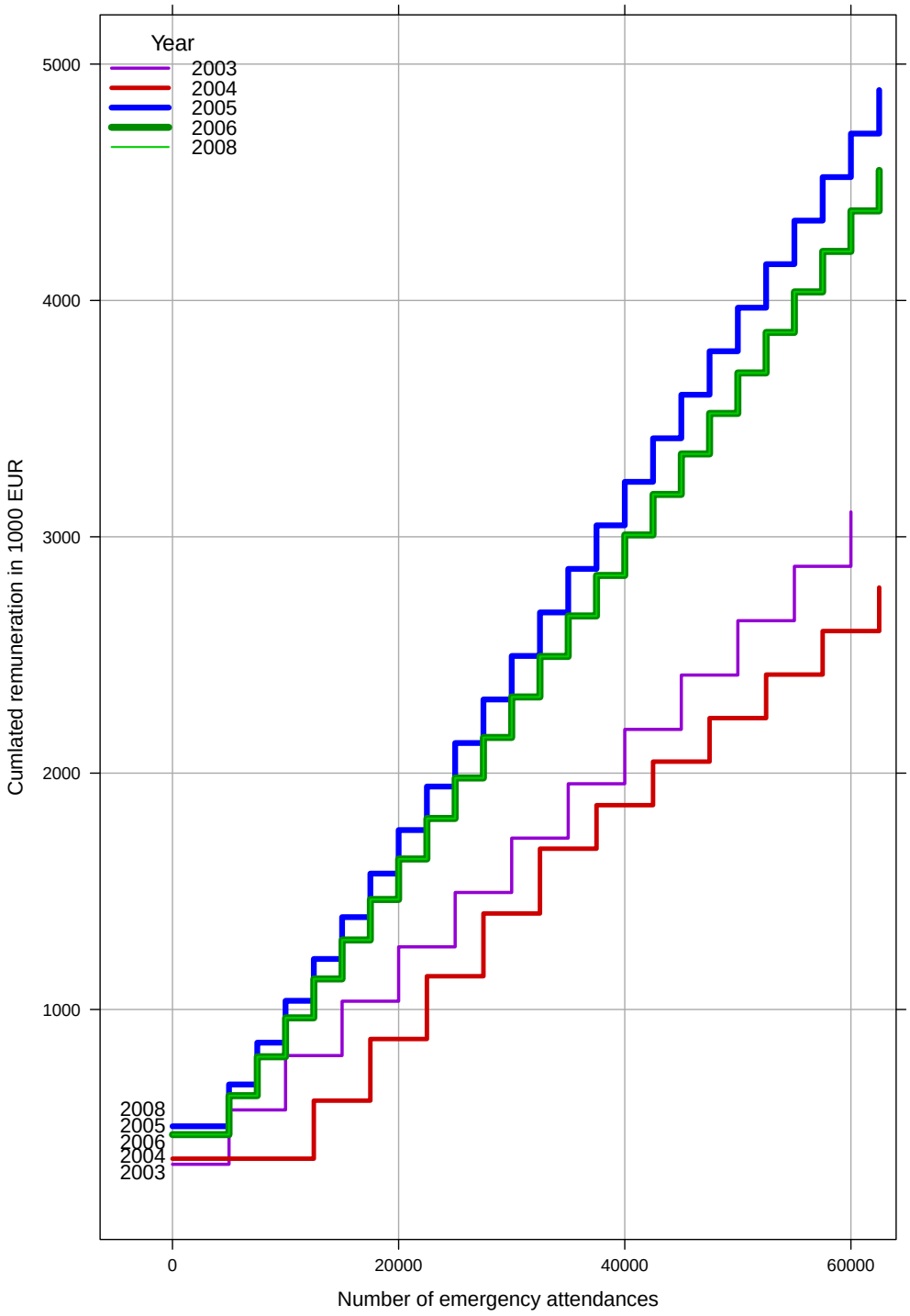
An annual lump sum based on the size of the emergency ward/department is paid to remunerate emergency readiness. (The size of the emergency ward is calculated on the basis of the budgeted number of emergency attendances.)

All inpatient admissions: GHS flat rate

Emergency admissions (emergencies with subsequent inpatient admission) are paid through GHS flat rates (GHS = "Groupes homogènes de séjours" = French DRG flat rates). Outpatient emergency attendances are paid at a flat rate of € 25.

[13] Andréoletti et al. [T2A, 2007]. "Journal Officiel" from http:// www.legifrance.gouv.fr /, n°0055 du 5 mars 2008 page 4020 texte n°31. Guignery-Debris [Urgences – Réanimation, 2002].
[14] Mathy [GPU, 1999].
[15] SFMU+DHOS+InVS [RPU National, 2006]. InVS [Oscour, 2008]. InVS [Urgences, 2007]. Belliard/Goldberg [RPU-Test, 2003].
[16] Andréoletti et al. [T2A, 2007]: 16. SFMU+DHOS+InVS [RPU National, 2006].
[17] C.H.U. d'Angers [GACAH 2005, 2007]: 6+67 ff+123 ff.

Table 13:
Annual lump sums («FAU») for emergency readiness



Source: Fischer [Notfallvergütung im Krankenhaus, 2009]: 72.

3.5 New South Wales (ARDRGs)

Task Type > / v Cost Centre	Emergency Readiness	Emergency Treatment	Elective Treatment
Emergency Services			
Emergency Room	**UDG based budget** = UDG weights for budgeted cases x UDG base rate by hospital type [280 / 230 / 195 AU$] (80 % of emergency costs)	**UDG flat rate** = UDG weight x 65 AU$ (20 % of emergency costs)	
Hospital OR + Ward		**AR−DRG flat rate** = AR−DRG weight x base rate x correction factors	

Table 14: Emergency Remuneration in New South Wales

To deal with emergency patients, a patient classification system named "Urgency and Disposition Groups" (UDG) was introduced in New South Wales beginned at the year 2001. The patients are classified by disposal type («subsequently admitted» or «emergency department only») and triage type according to the "Australasian Triage Scale" (ATS).[18]

1991, a seven level classification of emergency departments was published.[19]

UDG in NSW

- ▶ Table 15
- ▶ Table 16
- ▶ Table 17

[18] NSW Health [Costs 2006/07, 2007]: 12+15. NSW Health [Costs 2000/01, 2000]: 12. ACEM [ATS, 2000]. – The "ACEM Performance Indicator" represents the percentage of patients who should commence medical assessment and treatment within the maximum waiting time.

[19] Cf. Duckett/Jackson [Paying Emergency Care, 1997]: Chapter 10.

UDG Group	Cost Weight: CW 2003	CW 2006
Subsequently Admitted, Triage 1	2.665	2.72
Subsequently Admitted, Triage 2	1.668	1.60
Subsequently Admitted, Triage 3	1.505	1.42
Subsequently Admitted, Triage 4	1.346	1.23
Subsequently Admitted, Triage 5	1.328	1.00
ED Only, Triage 1	1.381	1.72
ED Only, Triage 2	1.191	1.18
ED Only, Triage 3	1.008	1.06
ED Only, Triage 4	0.848	0.82
ED Only, Triage 5	0.695	0.61
Did not wait	0.497	0.26

Table 15: UDG costs per emergency attendance, NSW 2003/04 and 2006/07

ATS Category	Description	Maximum Waiting Time	ACEM Performance Indicator
1	Resuscitation	0 min	100 %
2	Emergency	10 min	80 %
3	Urgent	30 min	75 %
4	Semi-urgent	60 min	70 %
5	Non-urgent	120 min	70 %

Table 16: ATS Scale

Table 17: Emergency department levels and there staffings (NSW 1991)

Kat.	Roles and Staffing
0	No service.
1	No planned Emergency Service. Able to provide first aid and treatment prior to moving to higher level of service, if necessary. Access to a medical practitioner. Quality assurance activities.
2	Emergency service in small hospital. Designated assessment and treatment area. Can cope with minor injuries and ailments. Resuscitation and limited stabilisation capacity prior to referral to higher level of care. Nursing staff from ward available to cover emergency presentations. Visiting medical officer on call. May be Local Trauma Service.
3	As Level 2 plus designated nursing staff available 24 hours and nursing unit manager. Some registered nurses having completed or undertaking relevant post-basic studies. Has 24 hour access to medical officer(s) on site or available within 10 minutes. Specialists in Generally Surgery, Anaesthetics, Paediatrics and Medicine available for consultation. Full resuscitation facilities in separate area. Formal quality assurance program. Access to allied health professionals and liaison psychiatry.
4	As Level 3 plus can manage most emergencies. Purpose designed area. Full-time director. Experienced medical officer(s) and nursingstaff on site 24 hours. Experienced registered nurses on site 24 hours. Specialists in general surgery, paediatrics, orthopaedics, anaesthetics and medicine on call 24 hours. May send out medical and nursing teams to disaster site. Participate in regional adult retrieval system (country base hospitals) is desirable. May be a Regional Trauma Service.
5	As Level 4 plus can manage all emergencies and provide definitive care for most. Access to clinical nurse consultant is desirable. Has undergraduate teaching and undertakes research. Has designated registrar. May be Area/Regional Trauma Service. May have neurosurgery service.
6	As Level 5 plus has neurosurgery and cardiothoracic surgery on site. Sub-specialists available on rosters. Has registrar on site 24 hours. May be designated Supra-Area Trauma Service.

Definition of "emergency"

In the Australian minimal data set, the "urgency of admission" can be coded as "emergency" or "elective". An admission has to be categorised as "elective" if "the admission could be delayed by at least 24 hours". A provisional list of clinical conditions is defined for emergency admissions.[20]

UDG based budget for emergency readiness

80 % of emergency costs (for inpatient and outpatient cases) are paid by a budget for emergency readiness. To this end, the planned cases are weighted by means of emergency patient classification system UDG ("Urgency and Disposition Groups") which defines 11 patient categories. Three base rates are used according to the types of hospital. (The three types of hospital are: "general referral hospitals" or "large metropolitan districts"; "childrens"; "small metro districts" or "rural base".)

Inpatient emergencies: UDGs additionally to ARDRGs

The remaining 20 % of emergency costs are paid by UDG weighted emergency flat rates. For emergency admissions, an ARDRG flat rate is paid additionally.

4 Suggestions

The main suggestions are:

Emergency readiness

1. *Emergency readiness* should be defined and remunerated by performance contracts. A bonus system could promote the attainment of certain emergency targets.

Emergency treatment

2. To be able to assess the costs of *emergency treatment*, all DRGs should be split as per the criterion "with/without emergency attendance".
   The concept of "emergency attendance" must therefore be defined. A medical definition would be: "Emergency attendances are attendances of patients who are required to be treated within *x* (e. g. 12) hours."
   If cost differences arise, these can be taken into account by applying separate DRG weights for DRGs "with emergency attendance" and DRGs "without emergency attendance".

[20] AIHW [Adm.Pat.Care NMDS, 2007]: 105 f: "Urgency of admission".

5 Appendix

5.1 Abbreviations and internet references

Table 18: Abbreviations

Abbreviation	Text	Internet
ACEM	Australasian College for Emergency Medicine	http:// www.acem.org.au /
A&E	Accident and Emergency	
ARDRG	Australian Refined Diagnosis Related Groups	http:// www.health.gov.au / internet / main / publishing.nsf / Content / health-casemix-ardrg1.htm
ATS	Australasian Triage Scale	http:// www.medeserv.com.au / acem / open / documents / triage.htm
CC	Comorbidity or Complication	
DRG	Diagnosis Related Groups	http:// www.fischer-zim.ch / textk-pcs / index.htm
FAU	Forfait annuel urgences	
GDRG	German Diagnosis Related Groups	http:// www.g-drg.de /
GHM	Groupes homogènes de malades	http:// www.atih.sante.fr /
GHS	Groupes homogènes de séjours	http:// www.atih.sante.fr /
GPU	Groupes de passage aux urgences	http:// www.atih.sante.fr / openfile.php ? id = 917
HES	Hospital Episode Statistics	http:// www.hesonline.nhs.uk /
HRG	Healthcare Resource Groups	http:// www.ic.nhs.uk / our-services / standards-and-classifications / casemix
RPU	Résumé de passage aux urgences	http:// www.mainh.sante.gouv.fr / download.asp ? download = stockfile / commun / sih / programmes _ nationaux / rpunationalv2006.pdf
UDG	Urgency and Disposition Groups	

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