

## **chapter** thirteen

# **France: Implementing homogeneous patient groups in a mixed market**

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### **13.1 Hospital services and the role of DRGs**

#### ***13.1.1 The French health care system***

The French health care system is based on social insurance, with universal coverage. Health care provision relies heavily on private providers. Ambulatory care is mainly provided on a private, and usually solo practice basis. Inpatient care is delivered both by public hospitals and profit-making and non-profit-making private hospitals. Patients can choose freely between public and private providers without necessarily needing a referral.

Compared with most other European countries, the French system is characterized by high levels of spending. France devotes about 11 per cent of its gross domestic product (GDP) to the health sector, which contrasts with an average of 9 per cent in Organisation for Economic Co-operation and Development (OECD) countries (OECD, 2010). In terms of hospital financing, about 91 per cent of total expenditure is financed by the public health insurance funds, while another 5 per cent is paid for by private complementary insurance. Direct contributions from the state amounted to only about 1.3 per cent in 2008 (Fenina et al., 2008).

At the macro level, financial stewardship of the health system is shared between the Government and the health insurance funds. The Government sets annual financial targets to limit the expenditure of the health insurance funds. There are separate targets for the hospital sector, the ambulatory sector and social/long-term care. The hospital sector budget is further divided into two components: one for acute care, which is financed through diagnosis-related group (DRG)-based hospital payment (including hospital care at home),

and one for other hospital services (mainly psychiatric and rehabilitative care), with separate objectives for the public and private sectors. The public health insurance funds define the baskets of benefits, regulate the prices of procedures, drugs and devices, and define the levels of co-payment (Mousques & Polton, 2005). The health insurance funds are also in charge of setting tariffs for health professionals in private practice. Doctors working in private hospitals contract with health insurance funds and they are paid according to a negotiated fee-for-service schedule,<sup>1</sup> while those in public hospitals are salaried. The salaries and working conditions of the hospital staff – as well as the prices set for DRGs – are regulated by the Government.

Budget targets for financing the hospital sector are defined by the state for each region. At the regional level, Regional Hospital Agencies (*Agences Régional d'Hospitalisation*, ARH) are responsible for organizing and assuring the quality of hospital care. In 2010 these agencies were replaced by the newly created Regional Health Agencies (*Agences Régionales de Santé*, ARS), which will be responsible not only for acute care but also for prevention, rehabilitation, long-term and social care. Currently, the Government is reforming the governance structure of the health care system in France, shifting the power to the ARS, which will control the resources and define the strategy for hospitals within a given region (Or, 2008). Each hospital (including private ones) will have to sign a contract to define its activity and financing needs. Despite this trend in the shift of power towards local and regional authorities, regions have little responsibility for hospital funding.

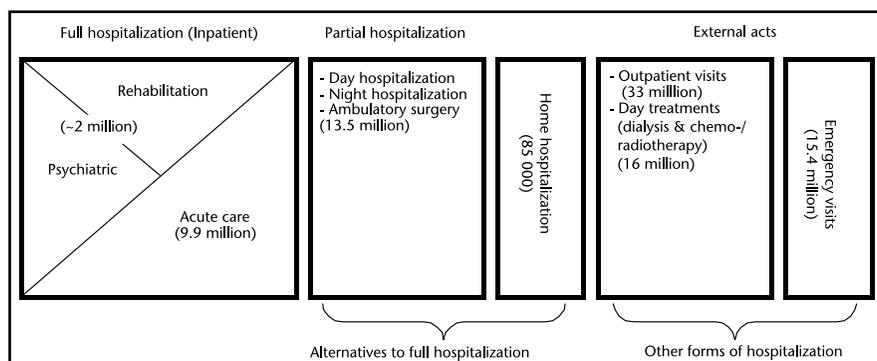
### **13.1.2 Hospital services in France**

The hospital sector plays an important role in health care provision in France. One person in six is hospitalized each year, either as an inpatient or on a day-case basis. Hospitals are also significant providers of outpatient care: they account for about 33 million specialist consultations and an estimated 15.5 million emergency visits per year. Figure 13.1 compares the volumes of different types of services provided by hospitals, including psychiatry and rehabilitation care.

With about 4 beds per 1000 inhabitants, hospital bed capacity in France is at a level comparable to the OECD average. Acute care (including day cases and home hospitalizations) accounts for about 16 million cases and is administered by a mixture of public and private facilities (Table 13.1).

Public hospitals represent 60 per cent of all hospitals and 65 per cent of all acute inpatient beds (about 221 000 beds in 2007). These hospitals are obligated by law to ensure continuity of care, which means providing 24-hour emergency care, accepting any patient who seeks treatment and participating in activities corresponding to national/regional public health priorities.

The private profit-making sector represents 25 per cent of all inpatient beds in France, including 46 per cent of surgical beds and over 70 per cent of ambulatory beds (patient places). The market share of private hospitals depends heavily on the type of hospital activity. About 56 per cent of all surgery and a quarter of obstetric care services are provided by private profit-making hospitals. Their



**Figure 13.1** Overview of hospital activity in France, 2006

Source: HCAAM, 2009.

market share goes up to more than 70 per cent in some areas of elective surgery, such as eye surgery (cataract in particular), ear surgery and for endoscopies. However, certain complex procedures are carried out almost exclusively by public hospitals, for example in the case of burn treatments (92 per cent) or treatment of patients needing surgery for serious multiple trauma (97 per cent).

Finally, private non-profit-making hospitals specialize more in medium- to long-term care; they represent about 8 per cent of acute care activity. Three quarters of these hospitals have a special agreement with the state and they have the same engagement terms as public hospitals for providing 'public

**Table 13.1** Distribution of acute care beds and activity between public and private hospitals, 2007

	Total	Public	Private non-profit-making	Private profit-making
<b>Number of beds</b>	221 990	146 461	19 251	56 278
%	100.0	66.0	8.7	25.4
<b>Surgical beds</b>	88 280	41 307	8 151	38 822
%	100.0	46.6	7.5	45.9
<b>Total hospital stays</b> (episodes, millions)	15.9	8.9	1.3	5.7
%	100.0	56.1	7.8	36.0
<i>of which:</i>				
Surgery	5.6	2.0	0.45	3.1
%	100.0	36.4	7.4	56.2
Medicine	9.1	6.1	0.7	2.3
%	100.0	67.0	7.8	25.2
Obstetrics	1.3	0.9	0.086	0.33
%	100.0	67.6	6.6	25.8
ALOS (days)	4.0	4.9	4.2	2.5

Source: Authors' own compilation based on 2007 data from the French hospital activity database (PMSI).

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services', such as (24-hour) continuous care, for example. In return they can receive public subsidies. With the last reform, private profit-making hospitals will also have the opportunity to sign the same type of contract with the ARS.

Hospital profiles in terms of size (number of beds) vary largely by ownership status (Table 13.2). Close to 60 per cent of private profit-making hospitals have fewer than 100 beds. This figure increases to 90 per cent for those specialized in surgery. By contrast, the public sector is characterized by a diversity of profiles, with about 30 per cent of general public hospitals having over 300 beds, while 20 per cent have fewer than 100 beds.

Until 2004/2005, two different funding arrangements were used to finance public and private hospitals. Public and most private non-profit-making hospitals operated according to global budgets, mainly based on historical costs, while private profit-making hospitals were financed through a mixture of per diem and fee-for-service payments. Since 2004, DRG-based hospital payment has been gradually introduced into French hospitals. In public hospitals, the share of all acute care activities financed by the system has progressively increased: from 10 per cent in 2004 to 25 per cent in 2005, reaching 100 per cent in 2008. Private profit-making hospitals have been financed entirely by DRG-based hospital payment since February 2005. However, during a transition period that extends

**Table 13.2** Distribution of hospitals by size and ownership status

		No. of hospitals	< 30 beds (%)	30–99 beds (%)	100–199 beds (%)	200–349 beds (%)	350 + beds (%)
<b>Private profit-making</b>	Establishments for surgical care	171	18	70	12	0	0
	Establishments for medical care	35	14	60	26	0	0
	Establishments for multidisciplinary care	374	3	41	43	13	0
	<b>Total private, profit-making</b>	<b>580</b>	<b>8</b>	<b>51</b>	<b>32</b>	<b>8</b>	<b>0</b>
<b>Private non-profit-making</b>	Establishments for surgical care	12	17	83	0	0	0
	Establishments for medical care	45	24	53	18	2	2
	Establishments for multidisciplinary care	119	6	35	39	16	4
	<b>Total private, non-profit-making</b>	<b>176</b>	<b>11</b>	<b>43</b>	<b>31</b>	<b>11</b>	<b>3</b>
<b>Public</b>	University hospitals	170	0	5	10	18	66
	Local hospitals	355	25	58	15	2	0
	General hospitals	643	1	19	26	23	31
	<b>Total public</b>	<b>1168</b>	<b>8</b>	<b>29</b>	<b>21</b>	<b>16</b>	<b>27</b>
<b>TOTAL</b>		<b>1924</b>	<b>8</b>	<b>37</b>	<b>25</b>	<b>13</b>	<b>17</b>

Source: Or et al., 2009.

until 2012, national DRG prices are still adjusted to reflect hospitals' historical cost patterns, in order to shelter them from excessive budget cuts.

### **13.1.3 Purpose of the DRG system**

Initially introduced for reporting on hospital activity in France, the DRG classification system has since been used to adjust budget allocations and is now used for hospital payment. The first French patient classification system, *Groupes Homogènes des Malades* (GHM, translated into English as 'homogeneous groups of patients') was introduced in 1986 for a sample of voluntary public hospitals in order to better describe hospital activity. Following the hospital reform measures passed in 1991, collecting/reporting data on hospital activity using GHMs became mandatory for all public hospitals. Increasingly, these data were used to compare hospital productivity and to make adjustments to global budgets. However, during the 1990s, several Ministers of Health still declared that DRG data will never be used for hospital payment.

Providing DRG data only became compulsory for private profit-making hospitals in 1998. It took another six years to use these data as a basis for paying hospitals, which is currently the main purpose of the DRG system. DRG-based hospital payment was introduced in 2004/2005 for acute care services (including home hospitalization), with the following objectives: to improve efficiency; to create a 'level playing field' for payments to public and private hospitals; to improve the transparency of hospital activity and management; and to improve quality of care.

## **13.2 Developing and updating the DRG system**

### **13.2.1 The current DRG system at a glance**

There is one national DRG system in France – GHMs – used as the basis of hospital payment in France since 2004/2005. The system applies to all hospitals (public and private) and all patients (inpatients and day cases), except those treated under psychiatry, rehabilitation and long-term care. Payments received through this system account for 56 per cent of all hospital expenditures (ATIH, 2009).

The current GHM system (version 11) was introduced in January 2009. It defines 2297 GHMs within 26 Major Diagnostic Categories (*catégories majeures de diagnostic*, CMD (MDC in English)), one Pre-MDC group (*catégorie majeure 27*) for organ transplantations and one undifferentiated group for 'sessions' (*séance*), mainly for chemotherapy, radiotherapy or dialysis (CMD 28). Furthermore, it differentiates between 'surgical', 'other procedure', 'medical', and 'undifferentiated' categories. There are 606 base-GHMs, most of which are split into four severity levels.

The institution responsible for developing the GHM patient classification system and calculating prices is the Technical Agency for Hospital Information (ATIH). The ATIH was created in 2002 and is an independent

public administrative institution, co-funded by the Government and the national health insurance funds. It includes an advisory committee, involving representatives of public and private health care facilities, which make suggestions based on their experiences of or within the system.

### ***13.2.2 Development of the French DRG system***

The initial idea of a French patient classification system dates back to the early 1980s, when the Government decided to introduce global budgets at the hospital level to replace the previously existing poorly regulated per diem system. It was planned to adjust the budgets allocated to hospitals by measuring their clinical activity through the GHMs (Michelot & Rodrigues, 2008).

The initial French GHM classification (tested between 1986 and 1990) was inspired directly from the third DRG version of the United States Health Care Financing Administration (HCFA-DRG) but the GHM system was later modified to include parts of the All-Patient DRG system. The most important modification was the introduction of a specific major category (CM 24) for day cases. In 1996 a National Cost Study (ENC) was set up with data from about 35 voluntary public hospitals in order to calculate French GHM cost weights.

The first GHM version was introduced in public hospitals between 1990 and 1993. Eleven versions have been implemented since then (Table 13.3). In earlier versions of the GHM system, a closed list of secondary diagnoses (inspired from the original Yale list) was used to identify 'significant complications' (CMAs), independent of the principal diagnosis of the patient. However, later versions of the GHM used several lists of 'exceptions' in order to deal with specific cases. Version 9 (2004–2005) introduced a separate list of diagnoses for episodes which are acutely severe/complicated (the aforementioned CMAs).

Version 10 (2006–2008) aimed to improve the classification system, taking into account problems encountered in financing hospitals. In response to requests from the hospital federations and from the Ministry of Health, a number of extra (mostly ambulatory) surgical groups and specific DRGs for non-surgical ambulatory procedures were created.

The current version (11) has seen a major change: the number of GHMs increased almost threefold through the introduction of four levels of case severity applied to most base-GHMs (see Table 13.3). Information on length of stay, secondary diagnoses and old age is now used in a more systematic way in order to improve cost homogeneity of GHMs, especially of medical GHMs. Moreover, day cases can now be identified as a separate group for relevant GHMs and, consequently, the old French specialty 'CM 24' (which was a mixture of day cases and very short stays) was abandoned.

### ***13.2.3 Data used to develop the DRG system***

Two different databases have been used to develop the current DRG system. The patient classification system is based on the French hospital activity database (PMSI), which contains information about patient characteristics, primary

**Table 13.3** GHM versions used from 1986 to 2009

<i>DRG system</i>	<i>HCEA-DRG</i>	<i>GHM V.1</i>	<i>GHM V.2</i>	<i>GHM V.3</i>	<i>GHM V.4</i>	<i>GHM V.5</i>	<i>GHM V.6</i>	<i>GHM V.7</i>	<i>GHM V.9</i>	<i>GHM V.10</i>	<i>GHM V.11</i>
Date	1986–1990	1991–1993	1994	1995	1996–1997	1998–1999	2000–2001	2002–2003	2004–2005	2006–2008	2009 to present
Purpose	Experimentation	Description of hospital activity	hospital	Hospital budget allocation	Hospital budget allocation	Hospital payment					
Data used for development	Data from voluntary public hospitals	Utilization data from some public hospitals	Utilization data from some public hospitals	National utilization data							
Number of DRGs	450	480	480	572	582	582	598	598	773 (573*)	784(575*)	2297(606*)
Applied to	Voluntary sample of hospitals, only acute care services	Public hospitals: inpatients and day cases, excluding psychiatry, rehabilitation and long-term care	Public hospitals: inpatients and day cases, excluding psychiatry, rehabilitation and long-term care	Public and private hospitals: inpatients and day cases, excluding psychiatry, rehabilitation and long-term care	Public and private hospitals: inpatients and day cases, excluding psychiatry, rehabilitation and long-term care	Public and private hospitals: inpatients and day cases, excluding psychiatry, rehabilitation and long-term care	Public and private hospitals: inpatients and day cases, excluding psychiatry, rehabilitation and long-term care	Public and private hospitals: inpatients and day cases, excluding psychiatry, rehabilitation and long-term care	Public and private hospitals: inpatients and day cases, excluding psychiatry, rehabilitation and long-term care	Public and private hospitals: inpatients and day cases, excluding psychiatry, rehabilitation and long-term care	Public and private hospitals: inpatients and day cases, excluding psychiatry, rehabilitation and long-term care

\*Base GHM in parentheses. For instance, 773 (573) means 573 categories for describing base GHM (combinations of diagnoses/procedures) and 200 to distinguish case severity.

and secondary diagnoses, procedures, and length of stay of treated patients, as well as the GHM to which each patient is assigned. This is a national database covering all public (since 1996) and private (since 1998) hospitals.

The information for calculating DRG cost weights comes from the French hospital cost database (ENCC), which provides detailed cost information for each hospital stay from 70–100 voluntary hospitals. Until 2006 the ENCC covered only public and private non-profit-making hospitals (about 40 in total) representing about 3 per cent of these hospitals. Since 2006, cost information is collected from a set of private profit-making hospitals in order to calculate costs in a comparable way across all hospitals for the ENC. The number of participating hospitals increased slightly between 2006 and 2007 (Table 13.4). At present, the ENCC covers 99 hospitals, representing 13 per cent of total stays.

### 13.2.4 Regularity and method of system updates

The GHM classification algorithm has been revised continuously since its introduction. Since 2005, the ATIH has introduced a process of regular revisions of the patient classification system in order to take account of changes in medical practice and technology and to adjust for changes in the WHO International Classification of Diseases, 10<sup>th</sup> revision (ICD-10). Alterations to the system are made on the basis of suggestions from an expert group set up by the ATIH and composed mainly of physicians and statisticians (Patris et al., 2001).

**Table 13.4** Number of hospitals and stays included in the National Cost Study<sup>a</sup>

Hospital type	2006			2007		
	Number of hospitals in data sample <sup>b</sup>	Number of episodes included <sup>c</sup>	Surveyed episodes as percent of all stays (%)	Number of hospitals in data sample <sup>b</sup>	Number of episodes included <sup>c</sup>	Surveyed episodes as percent of all stays (%)
University hospital	10	512 707	11	13	823 440	17
General hospitals	16	508 520	7	22	718 893	10
Cancer centres	5	268 358	25	7	387 184	36
Private non-profit-making hospitals	11	168 616	15	13	224 590	20
<b>Total public hospitals</b>	<b>42</b>	<b>1 458 201</b>	<b>10</b>	<b>55</b>	<b>2 154 107</b>	<b>15</b>
<b>Private profit-making hospitals</b>	<b>32</b>	<b>628 894</b>	<b>7</b>	<b>44</b>	<b>781 769</b>	<b>9</b>
<b>Total</b>	<b>74</b>	<b>2 087 095</b>	<b>9</b>	<b>99</b>	<b>2 935 876</b>	<b>13</b>

Source: ATIH, 2007b.

Notes: <sup>a</sup> Data samples from 2006 and 2007, which are included in the ENCC 2008 and ENCC 2009. <sup>b</sup> Hospitals for which the data provided fitted the quality standard to calculate costs;

<sup>c</sup> Number of episodes contributing to reference cost scale (after trimming procedure).

Information from the PMSI about length of stay, as well as information about costs of treating patients within each GHM from the ENCC are used to assess cost homogeneity of the diagnostic groups and the classification system as a whole. The impact of proposed changes to the classification algorithm is tested using the same data.

GHM cost weights are updated annually by the ATIH on the basis of information from the ENCC. However, there is always a time-lag of two years between the year of the data and the year of the application of prices in hospitals. For example, data relating to hospital costs from the year 2008 were analysed during the year 2009 in order to define the GHM prices to be used for hospital payment in 2010.

### **13.3 The current patient classification system**

#### ***13.3.1 Information used to classify patients***

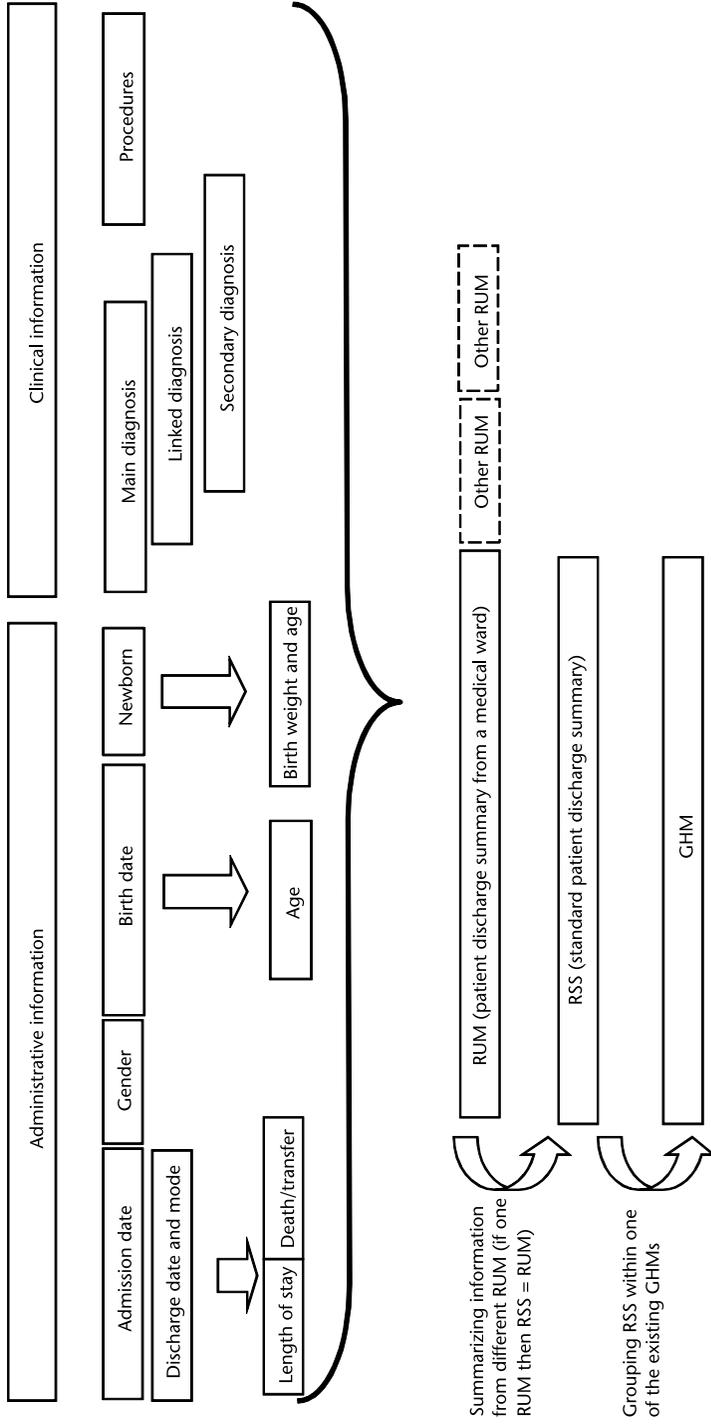
Classification of patients into GHMs is based on administrative and clinical information, both of which are available from the standard patient discharge summary (RSS) (see Figure 13.2). Clinical data are reported by physicians and are transmitted to the medical information units (DIMs) of hospitals, where data are processed and checked before a specialized software programme uses the information to select the appropriate GHM.

If a patient was transferred between medical wards during the hospital stay, several departmental discharge summaries (RUMs) are combined into one RSS. Until 2009, the main diagnosis was coded at admission (main diagnosis of first RUM) and any additional diagnoses were coded as secondary diagnoses. In the current GHM version (11), the main diagnosis is assigned by the discharging department (last RUM) and should represent the 'cause' of hospitalization.

Clinical information considered in the classification process includes the main diagnosis and secondary diagnoses coded using the ICD-10 and the procedures coded according to the French classification of procedures (CCAM). In addition, birth weight and age (in days) of neonates are considered. Administrative data that are used to define the severity level of patients include age, length of stay and mode of discharge (death, transfer).

#### ***13.3.2 Classification algorithm***

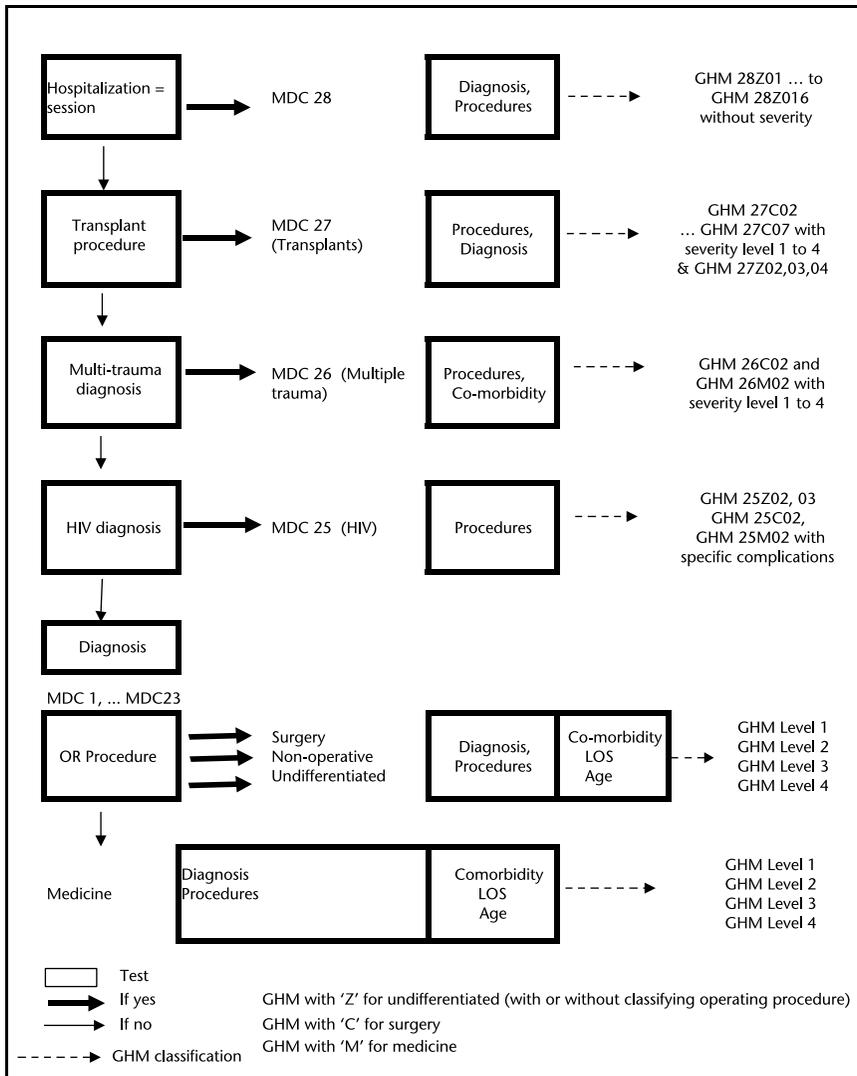
Every discharged hospital patient is grouped into exactly one GHM on the basis of information contained in the standard RSS. Figure 13.3 illustrates the grouping algorithm. The first test carried out is to see if the patient's hospital stay corresponded to a 'session' (*séance*) for chemotherapy, radiotherapy or dialysis. If this is the case the patient is classified into a separate CMD (CMD 28), which is divided into 15 GHMs without any severity levels. The next step of the grouping process identifies a type of Pre-MDC group for organ transplantations (*catégorie majeure* 27). Furthermore, 'transversal' cases with multiple trauma or with a diagnosis of AIDS are assigned to specific CMDs (26 and 25).



**Figure 13.2** Information used for classifying patients into the GHM

Source: PowerPoint presentation prepared in 2009 by R. Cash for Mission T2A.

All other patients are classified into one of 23 mutually exclusive CMDs on the basis of the main diagnosis. Afterwards, the grouping algorithm examines the procedures that were carried out during the hospital stay. Cases with operating room (OR) procedures are classified into a 'surgical' partition. Cases with relevant non-OR procedures are assigned to an 'other procedure' partition. Cases without relevant procedures fall into the 'medical' partition. In certain CMDs, an 'undifferentiated' partition exists, which contains cases that were assigned without testing to establish the type of procedures carried out.



**Figure 13.3** GHM classification with level of severity

Source: Adapted from Bellanger & Tardif, 2006.

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Within partitions, base-GHMs are selected for a specific combination of main diagnosis and procedures, and often also considering age, complications and length of stay. If several procedures were performed during the hospital stay, the most complicated procedure (in terms of complexity and resource use) determines the classification of patients into base-GHMs. Error-GHMs can be assigned at several stages of the grouping process if inconsistencies exist, for example between diagnosis and patient gender or weight and patient age.

A new feature of the current GHM version (11) is that base-GHMs are systematically split into four levels of severity. Severity levels are defined on the basis of length of stay, age, and secondary diagnoses that represent complications or co-morbidities (CCs). Lists of secondary diagnoses exist that define their level of complexity (levels 2 to 4) and specify excluding conditions (that is, a secondary diagnosis is not considered to be a CC for certain main diagnoses).

Severity level 1 corresponds to cases without any CCs or with a length of stay of less than 3 days. Severity level 2 requires a minimum length of stay of 3 days and level-2 CCs. Severity level 3 requires a minimum length of stay of 4 days and level-3 CCs. Severity level 4 requires a minimum length of stay of 5 days and level-4 CCs. Under certain conditions, patients can be classified into a higher severity level if their age is either below 2 years or above 69 (or even 79) years. In addition, death is also used within the system as a marker of case severity. If the length of stay is more than 3 days, and the patient died during hospitalization, a case without CCs can be reclassified from level 1 into level 2. The idea is to give hospitals sufficient resources to cover the extra costs of dealing with death, but it is not clear what the implications are for the quality of care.

In addition, for some base-GHMs (for example, cataract surgery, for which day surgery is a recognized practice), an additional group is created to classify cases involving ambulatory surgery, previously coded as CM 24.

### ***13.3.3 Data quality and plausibility checks***

DIMs within hospitals carry out internal controls to analyse the plausibility of data. To this end, the ATIH provides them with a specific program (DATIM) that checks consistency between length of stay, type of admission, CCs and severity levels. In addition, the ATIH provides to each hospital reference means and standard deviations (from a comparable group of hospitals), as well as an index of outlier cases. The physicians within the DIM can use this information to check and correct the data before validating the database.

External data quality and plausibility checks are performed at the regional level by the ARH and the health insurance funds. The ATIH provides information to support external controls for hospitals with too many 'outlier cases'. The principal objective of external controls is to identify 'unjustified' billing of services and up- or wrong-coding. In 2006, more than 150 000 hospital stays in about 530 hospitals (one third of all hospitals concerned) were inspected: over 60 per cent of inpatient stays (and more than 80 per cent for ambulatory episodes) had some kind of coding error or inconsistency in the procedures billed (CNAM, 2006). The controls also revealed that use of innovative medications (financed separately, on top of the DRG price) was not justified in about 30 per cent of cases.

If up-coding or incorrect coding is detected, hospitals must reimburse payments received. In addition, hospitals may have to pay high financial penalties of up to 5 per cent of their annual budgets. The revenue recovered from these controls amounted to €24 million in 2006. The number of controls doubled for the year 2007, but results are not yet available.

### ***13.3.4 Incentives for up- or wrong-coding***

Since classification of patients into GHMs determines hospital revenues, strong incentives exist for hospitals to 'optimize' their coding practices. In 2006, a year after the introduction of DRG-based payment, external controls from health insurance funds demonstrated that a large number of hospitals either intentionally up-coded patients or inadvertently classified them into incorrect GHMs. The up-coding of ambulatory consultations as day cases appeared to be a real problem (CNAM, 2006). Therefore, the Ministry of Health issued a decree in 2007 describing those procedures that should not be coded as day cases. Between 2005 and 2008, the share of inpatient stays without any CCs decreased significantly in all hospitals, which could indicate DRG creep (see Chapter 6).

## **13.4 Cost accounting within hospitals**

### ***13.4.1 Regulation***

The recommended hospital cost-accounting model is called 'analytical accounting', which is essentially a top-down accounting model distributing current consumption of resources into various cost groups (Ministry of Health, 2007). Since 1992, all hospitals participating in the ENC must provide data according to this model. In 2007, in order to harmonize cost-accounting methods for private hospitals joining the database, common accounting rules were defined by a decree (Circulaire DHOS 2007/06/27). The rest of the public and private hospitals use a far less detailed accounting system than the analytical one.

### ***13.4.2 Main characteristics of the cost-accounting system***

Hospitals participating in the joint ENC use a combination of top-down and bottom-up cost accounting, with elements of both gross-costing and micro-costing (see Chapter 5) (Bellanger & Tardif, 2006). Participating hospitals must be able to provide patient-level information regarding all procedures performed and relating to direct charges for certain specific drugs and medical devices, blood, external laboratory tests and fees for private physicians.

Preparing the hospitals' cost accounts for the analysis requires excluding all expenditure related to activities that are not reimbursed through the GHMs (for example teaching, research, psychiatry, rehabilitation, intensive care, neonatology, physicians' fees in private hospitals), and excluding the costs of high-cost drugs and medical consumables that can be directly attributed to patients. All remaining costs are distributed into a number of cost centres.

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In order to calculate costs per hospital stay, unit costs of cost centres are determined and allocated to patients on the basis of easily identifiable allocation criteria. Total costs of each hospital stay are broken down into three main components: medical costs, overheads and capital costs. *Medical costs* include: (1) direct charges, which can be directly attributed to a patient, such as specific drugs and medical devices, blood, outpatient tests and fees for private physicians; (2) costs at direct cost centres – that is, clinical costs at the ward level (for example medical and non-medical staff, drugs, materials and running costs of hospital wards, equipment and maintenance), which are allocated to patients on the basis of length of stay in the hospital ward; and (3) medico-technical costs (such as anaesthesia, surgery, laboratory, radiology, pharmacy, including the running costs of these departments). Since patient-level consumption of these services (relating, for example, to the number of imaging tests or surgical procedures) is recorded by hospitals, it is possible to allocate costs to patients on the basis of services consumed and imputed costs per service at medico-technical cost centres.

*Overhead* costs include general administration, as well as and management and support services such as laundry, catering, sterilization, pharmacy and hospital hygiene. *Capital costs* include rental of buildings, interests, depreciation of buildings, and taxes. Overheads and capital costs are allocated to patients on the basis of calculated per diem costs. Despite this common methodology, the cost components may not always cover exactly the same cost items in public and private hospitals.

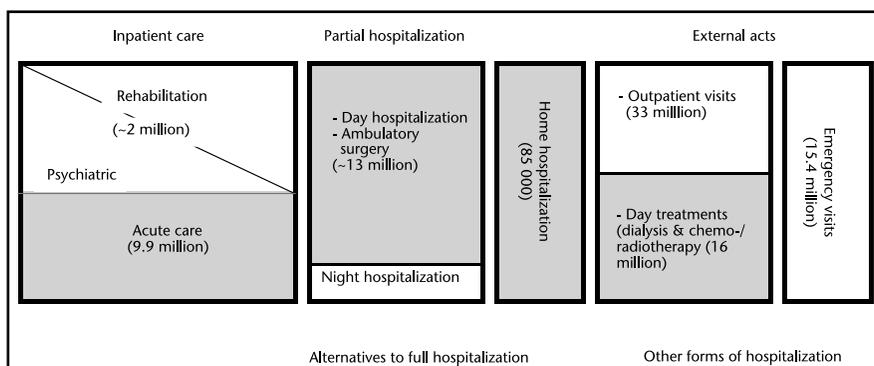
### 13.5 DRGs for reimbursement

#### ***13.5.1 Range of services and costs included in GHM-based hospital payment***

Since 2008, all acute care activity in public and private hospitals is financed on the basis of GHMs (see Figure 13.4). Pilot tests to include psychiatric care and rehabilitative care services into GHM-based hospital payment are planned to start in 2011.

Currently, GHM prices differ for public and private hospitals, since they include different cost categories and are based on historical costs in each sector (Table 13.5). The tariffs for public hospitals cover all costs linked to a stay (including medical personnel, tests and procedures), while those for private hospitals do not cover medical fees of doctors (paid for by fee-for-service payments) and the cost of some technical equipment, paid for by a specific allocation to concerned hospitals (*forfait haute technicité*). Until 2010, certain medical devices were billed separately by private hospitals, while they were included in the DRG pricing in public hospitals. The objective is to harmonize cost- and tariff-calculation methods between the two sectors by 2012.

Since 2008, capital costs (equipment, financial and building costs) are included in GHM prices. Hence, hospitals are expected to fund capital investments from these revenues. However, some (unmeasured) part of capital costs is financed through specific funding streams to help public hospitals to finance weighty investment plans imposed by recent hospital reforms. This means that



**Figure 13.4** Range of services included in the GHM-based hospital payment system

Source: HCAAM, 2009.

the part of the capital costs covered by GHM prices is not completely transparent (Cour des comptes, 2009).

In 2008, payments made through GHM-based hospital payment represented about 56 per cent of hospital expenditure budgets (which amount to €67 billion). The overall payments made for 'missions of general interest' (MIGAC)<sup>2</sup> represented about 10 per cent of the public hospital budget, but there are large variations between hospitals according to their size, ownership status, and so on. Additional payments for expensive drugs and medical devices represent on average about 6 per cent of hospital expenditure, while annual remuneration for providing specific services such as intensive care, emergency care, and organ transplants corresponds to 1.5 per cent of total hospital expenditure (see Figure 13.5). Global budgets are used for the financing of rehabilitative, psychiatric and long-term care and account for about 27 per cent of all hospital expenditure.

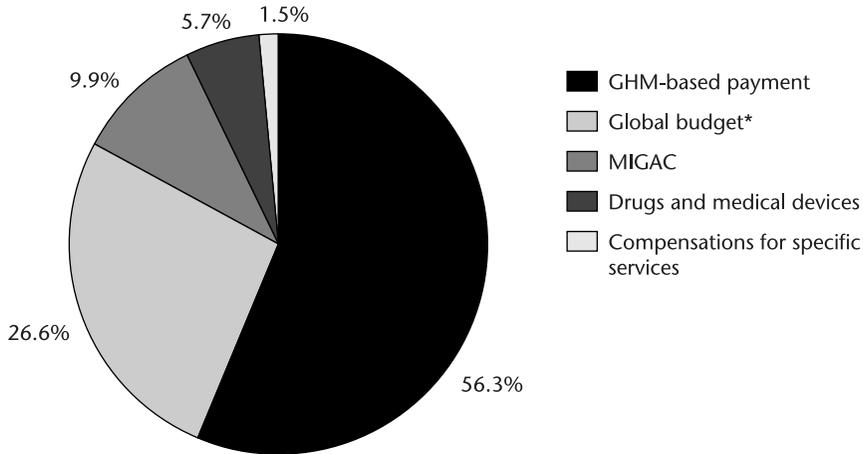
### 13.5.2 Calculation of reference costs and prices

Average costs per GHM (reference costs) are calculated from the ENC separately for public and private hospitals (ATI, 2007a).

**Table 13.5** Cost categories included in GHM prices for public and private hospitals, 2010

Hospitals	Public	Private, profit-making
Cost categories	Included in DRG price	
Payment for physicians including social charges	Yes	No
Payment for other medical staff	Yes	Yes
Investment in technical equipment	Yes	25%
Expensive drugs and devices from a closed list	No	No
All medical material, devices, drugs	Yes	Yes
Infrastructure/Overheads	Partly	Yes

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**Figure 13.5** Breakdown of total hospital expenditure, 2008

Source: Adapted from ATIH, 2009

\* Revenues for rehabilitative, psychiatric, and long-term care.

Using as a basis information relating to costs of individual patients, outlier cases are detected for each GHM through two different ‘trimming’ procedures: the first on length of stay and the second on costs. Trimming by length of stay is applied only to those GHMs for which the severity level is 1. This involves excluding all GHMs for which length of stay is longer than: [average length of stay (ALOS)  $\times$  2.5].

On average, 0.7 per cent of all public hospital stays and 0.4 per cent of all private hospital stays are trimmed from the ENCC on this basis (ATIH, 2009). In rare cases, this is followed by a second stage of trimming based on cost data. However, according to the ATIH, only 92 stays were discarded in 2007 during the cost data part of the trimming process.

Given that the ENCC does not cover all hospitals, but just a small group, costs per GHM are weighted by the type of hospital. For the public sector, five types of hospitals are defined: general hospitals producing fewer than 16 000 episodes per year; those producing more than 16 000 episodes; teaching hospitals; cancer centres; and private non-profit-making hospitals. The ALOS, the ALOS in wards that provide services related to reanimation, and the average number of procedures performed by type of hospital are used to weight average costs per GHM obtained from the ENCC. For private profit-making hospitals, the ALOS for the sector – as well as the ALOS in reanimation/intensive care (when relevant), together with the average number of procedures – are used as weighting variables.

The reference costs are used to compute ‘raw’ tariffs per GHM given the total budget for GHM-based payments (per sector). The actual prices per GHM are determined by the Ministry of Health, taking into account the budget envelope (expenditure target) for the acute care sector and other political priorities. The result is a macro-level price/volume control mechanism: if the growth in total volume of activity exceeds the target for the inpatient sector, GHM prices are reduced. In 2009 the ATIH noted that GHM prices were modified to adjust for

the increase in MIGAC budgets, the growth of expenditures for additional payments on expensive drugs and the evolution of activity volumes and national priorities (for cancer treatment and palliative care). However, it is not clear how these different elements changed the prices of different GHMs. Consequently, it is not possible to predict the evolution of GHM prices from one year to another.

### ***13.5.3 DRGs in actual hospital payment***

National GHM prices are set annually. They differ between public and private hospitals since they do not cover the same cost items (see subsection 13.5.1) but they are not affected by hospital size or teaching status.

Hospital payment is adjusted for extreme cases. An upper and a lower threshold are calculated for each DRG in order to identify cases with extremely long or extremely short lengths of stay. The GHM tariff applies to episodes with a length of stay between these limits (inliers). For long-stay outlier cases, hospitals receive GHM-specific surcharges (Tariff EXH) for every day that the patient stayed above the upper length-of-stay threshold. Similarly, if patients are discharged earlier than the lower length-of-stay threshold, the DRG payment is reduced by per diem-based deductions (Tariff EXB). The lower threshold is used to discourage providers from discharging patients earlier than clinically appropriate. These low/high length-of-stay limits are not always the same for public and private hospitals.

Currently, the national DRG prices are weighted with a hospital-specific 'transition coefficient' calculated for each hospital from its own historical costs/prices. The transition coefficients aim to avoid large changes in hospital budgets from one year to another. The objective is for the coefficients within public and private sectors to converge to '1' by 2012. A regional index is also applied to hospitals in the Parisian area and those in overseas French territories, where labour costs are higher.

The initial proposition to introduce one DRG price for public and private hospitals in 2012 has been delayed to 2016 because of the strong reactions from public hospital federations. However, experimentation with selected DRGs is expected over the period 2011–2012.

As already mentioned (see subsection 13.5.1), hospitals receive additional payments for certain services, drugs and medical devices, and if applicable for teaching and research. Budget envelopes for public missions (MIGAC) are distributed by the ARH according to nationally defined rules. The growing size of the MIGAC budgets is currently an issue of concern, as the decision regarding the amount of these budgets seems to be political rather than evidence based.

### ***13.5.4 Quality-related adjustments***

There is no specific adjustment for quality of care. GHM payments do not vary according to differences in outcomes. The only GHM-related measure against inappropriate early discharge (as a dimension of quality) is the use of per diem-based deductions below the defined lower length-of-stay threshold(s).

Otherwise, quality-related programmes, such as developing infection control programmes, are negotiated and financed through specific allocations from the ARH as part of the MIGAC budget envelope.

At the same time, with the introduction of GHM-based payment, there has been quite substantial work – led by the Ministry of Health and the High Health Authority (HAS) – towards developing indicators to better monitor care quality in hospitals. A battery of indicators measuring care process and structure/organization quality – which has been tested and validated in a small number of voluntary hospitals – will be generalized over the period 2011–2012. Surprisingly, however, outcome indicators such as standardized mortality rates, readmission and/or complication rates are not part of that battery of indicators and they are currently not monitored routinely.

### ***13.5.5 Main incentives for hospitals***

The principal incentives provided by GHM-based hospital payment are to increase activity and to improve efficiency. Because hospitals are paid a fixed tariff per GHM, they are incentivized to reduce length of stay and to treat more patients. However, since GHM prices are reduced if activity exceeds the target for the inpatient sector, hospitals do not know whether increasing activity in a given year will always lead to an increased income in the next year. Since it is impossible to predict the evolution of GHM prices from one year to another, it is not clear how much incentive there is for hospitals to increase productivity.

The most obvious perverse incentive for hospitals is for up-coding or wrong-coding (see subsection 13.3.4). Other possible perverse incentives – such as engaging in patient selection and cream-skimming – are seen to be less of an issue for public hospitals since, by law, they cannot select their patients and have to provide a comprehensive package of care.

## **13.6 New/innovative technologies**

The effect of DRG-based hospital payment on development and introduction of cost-increasing innovative technologies in hospitals (see Chapter 9) has been a major preoccupation in France, where access to new therapies (particularly in cancer treatment) remains one of the most generous in Europe (De Pourville, 2009).

Ultimately, the patient classification system and/or GHM prices are updated in order to reflect the higher costs for innovative drugs and technologies. However, two financing mechanisms exist to encourage the development and utilization of cost-increasing innovative drugs and technologies during the early stages of introduction to hospitals, as detailed here.

1. Additional payments are made for a certain number of expensive innovative drugs and medical devices, for which a list is defined at the national level. These are funded on the basis of a maximum standard price. Total expenditure on these drugs and devices increased by 37 per cent between 2005 and 2007, reaching €2.4 billion in 2008.

2. The development of innovative technologies is funded by a specific budgetary allocation within the global budget envelope of MERRI (*Missions d'enseignement, de recherche, de référence et d'innovation* – teaching, research, recourse and innovation). These payments are to cover the general cost of innovation-related activities, as well as specific innovative technologies on an experimental basis (such as artificial hearts, new-generation ear implants, and so on). Within this budget, there are specific separate payments to ensure quick access to innovative drugs which have not yet been authorized to be marketed called 'temporary access for treatment' (ATU). ATUs can be requested for one patient or a group of patients. The Agency for Safety of Medical Products (AFSSAPS) examines the request(s) and decides thereon after consultation with medical experts. The authorization and funding for ATUs is for one year, but can be renewed. The duration of the individual ATU corresponds to the duration of the treatment.

## 13.7 Evaluation of the GHM system in France

### 13.7.1 Official evaluations

Several public bodies have recently evaluated specific aspects of GHM-based hospital payment in France. The Evaluation Committee set up by the Ministry of Health published a report about the financial effects of the hospital payment reform in September 2009 (DREES, 2009). According to the report, the financial situation of private hospitals has improved since the introduction of GHM-based hospital payment, while that of public hospitals has deteriorated. In 2007, one in three public hospitals was in deficit, with a total budget deficit of about €500 million. The report points out that it has been difficult for the public hospitals to reduce their costs, despite a slight increase in their activity.

The report also examined the organizational changes in hospitals through a survey of 800 hospitals and found that efforts have been concentrated on modifying the structure of hospital activity (through transfers, hospital mergers, and so on) rather than on trying to improve efficiency. There has been little change in medical and human resource management. Finally, the report points out the incoherence between the incentives provided by GHM-based hospital payment and regional health plans aimed at ensuring a needs-based distribution of hospital resources. Currently, the development of the regional health plans is disconnected from financial planning and often ignores the financial constraints faced by hospitals.

In 2009, the Auditor's Office (*Cour des comptes*), within the framework of its annual evaluation of public accounts, presented an evaluation of GHM-based hospital payment. The major conclusion of the report was that it had not improved efficiency in the hospital sector. The report suggests that (1) GHM-based hospital payment has become a very opaque mechanism of cost control for managers and local regulators; and (2) the measurement and follow-up of hospital resources (revenues) is insufficient. For example, it is not possible to establish how hospital revenues (from public health insurance, patients and private complementary insurance) have evolved with respect to their production/activity.

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The report also questions the incomprehensible nature of the price/volume control mechanism, which makes it very hard for hospitals to predict their income. Furthermore, it severely criticizes the ambiguous process for fixing prices, given that it is not always clear what is included in the price and what is not.

Furthermore, the Auditor's Office report estimated that within the hospital inpatient budgets, the categories which are not included in DRG prices escalated between 2005 and 2007: the expenditure for expensive drugs and medical devices increased by 37 per cent and other daily supplementary payments by 21 per cent, against an average of a 4 per cent increase in DRG prices.

### **13.7.2 Authors' assessment**

To date, GHM-based hospital payment in France appears to fall short of achieving its stated objectives in terms of improving efficiency, transparency, fairness of funding, and quality.

Cost data are not available to identify efficient providers, to facilitate an understanding of the differences in medical practices and to monitor changes in behaviour of various actors. In terms of productivity improvement, it is not clear to what extent the rise in ambulatory activity represents an increase in efficiency, and to what extent this is due to up- or wrong-coding or to oversupply of services. Quality indicators – such as readmission and avoidable mortality rates – are not available either.

In addition, the macro-level volume/price control mechanism appears to be counterproductive. It creates an extremely opaque environment for hospitals, whereby they cannot predict their income based on their activity. Prices are set (progressively) independently of costs, which encourages health care facilities (especially private ones) to opt for less expensive care/therapies.

In order to achieve expected benefits in terms of efficiency and quality, it is important to improve the monitoring and transparency of the GHM system (methods used for cost/price calculations, data on individual providers, and so on), as well as expenses alongside the GHM payments, which are still allocated through an opaque mechanism. Furthermore, a contractual approach – giving individual providers clear volume and quality signals – could improve efficiency.

## **13.8 Outlook: Future developments and reform**

It is intended to introduce GHM-based hospital payment for other hospital services which are currently financed through global budgets: namely rehabilitative and psychiatric care. The construction of a DRG scale for psychiatric care has proved to be difficult. The Ministry of Health (along with the ATIH) has been developing a DRG system for rehabilitative care, using more or less the same logic as that applied in inpatient care. The Ministry aims to test this classification system in a number of hospitals on a voluntary basis in 2011/2012.

### 13.9 Notes

- 1 These costs are not accounted for in the hospital sector budget, but are included in the ambulatory sector.
- 2 Missions d'intérêt général et de l'aide à la contractualisation: Missions of general interest and assistance with contracting, including payments for education, research and public health programmes.

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