

# DRGs and inequities among French hospitals: From a new dilemma to another health care policy

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## Abstract

*The unpredictable French health care reform of 1995–96 introduced casemix tools to fund French hospitals at a regional level. After two years (1997–98), health care authorities and hospitals are facing great inequities and inefficiencies (1 to 3) in 22 French regions. Only one region (Île de France, Paris) is above the national casemix index mean, the Index Synthétique d'Activité, and very few are equal to this national mean. The dilemma for most of the 22 regions under this national mean, and within a region like Rhône-Alpes (Saint Etienne), with inequities from 1 to 2, is to decide whether the main goal of the new health care policy is to reduce inequities and inefficiencies.*

## Introduction

Born in the United States for acute care inpatient utilisation review in the early 1970s (Fetter et al. 1980, pp 1–53), the diagnosis related group (DRG)/casemix methodology has been transplanted across geographical, institutional and conceptual boundaries. From the United States, the method was introduced into Europe, Australia and Asia. From acute care inpatient treatment, the method was transplanted to rehabilitation and nursing home care and has started slowly to be applied in ambulatory care. From the well-known prospective payment system used by the Health Care Financing Administration in the United States as an incentive to increased efficiency, the method is currently used, particularly in Europe and Australia, for the commonly shared goals of most health care systems – equity, efficiency and quality (Wiley 1992, pp 119–33).

At the 11th PCS/E working conference in Oslo we outlined the equity and efficiency situation in France *before* the introduction of casemix funding for hospitals (Trombert-Paviot et al. 1995). The casemix-adjusted cost is now available for 1996 and 1997 for all public and private non-profit hospitals (1000 throughout France) and edited by the

government (Coca 1998). This paper presents a summary of the French DRG saga initiated in the early 1980s. It then outlines the main characteristics of the French health care reform of 1995–96 which have enabled the use of French DRGs for funding. The paper goes on to assess inequities and inefficiencies among French hospitals using DRGs. It concludes by addressing the present dilemma facing the French health care authorities with the availability and editing of casemix data.

## The French DRG saga

In France Le Programme de Médicalisation du Système d'Information (PMSI) was developed from 1982. PMSI has followed the same four-phase schedule as all DRG projects in Europe (Rodrigues et al. 1988). These phases are as follows.

1. Assessing the technical feasibility of assigning DRG numbers to uniform hospital discharge abstracts databases.

This was achieved in France in 1983 and was the first national project in Europe at that time.

2. Evaluating whether the utilisation model defined by DRGs is adequate to fit the national hospital database, that is, whether or not relationships observed between length of stay and different variables (diagnosis, procedure, age discharge status) explain significant amounts of variability.

This was assessed in France in 1984.

3. Designing and implementing a cost accounting and budgeting model, taking into account actual and expected patient activity levels through both a DRG and national accounting and financial data framework.

This was achieved in two hospitals (Vienne and Annemasse Rhône-Alpes region) in 1984.

4. Implementing and developing software and information systems, including training for data collection, processing (assigning patients to DRGs and computing cost by DRG) and analysis on in-house microcomputers.

This started in France in 1986 with the French grouper software based on Health Care Financing Administration DRG version 3 (1985). The initial version 0 (FG0) (1986) was updated very slightly in version 1 (FG1), with a specific major diagnostic category (CM 24) for the less than one-day stays; then in version 2 (FG2) with 462 Groupes Homogenes de Malades (GHM) for major diagnostic categories 1–23 and 51 GHM for CM 24; and version 3 (FG3) with very few differences. The first real and important shift has been decided for the fourth version (01/01/97) to an AP- DRG 12 like grouper named version 4 FG4 (Trombert-Pavot et al. 1997, pp 297–302).

It is fair to acknowledge that PMSI, like most of the DRGs projects, was methodologically supported by the Yale University Health Services Management Group led by Professor Fetter.

### **Implementation of projects**

Contrasting with the widespread extension of research on DRGs in the early 1980s and in France between 1982 and 1986, the implementation of DRG-based applications has been a slower phenomenon in Europe, particularly in France, where the first real comprehensive data production year was 1996 and the first utilisation for funding was in the fiscal year 1998.

Since 1997, acute care inpatient hospital budget allocations have been set partly on the basis of their DRG production: the hospital budget is based, on one hand, on the hospital-specific cost and, on the other hand, on an adjustment based on the regional casemix index mean (named ISA – Index Synthétique d'Activité) of the cost per case. We have explained the computation elsewhere (Freeman et al. 1986, pp 38–57).

What was done during these years, mainly between 1986 and 1994 when the government decided that sending hospital DRG statistics to the regional agency of the government was mandatory, can be analysed in different ways – lack of health care policy, lack of leadership, the contradictory role of lobbies, underestimation of training needs of the different actors, resistance to change, French acceptance of very equitable 'service public à la française', and so on.

### **French health care reform**

An important health care reform was approved by the French Government and the parliament during the first semester of 1996 and implementation started in 1997. The main features are as follows (Rodrigues 1996).

- Progressively implementing a universal health insurance system funded by a process monitored by an annual parliamentary Act based on regional population needs.
- Carrying out a population needs assessment on a regional basis and introducing the goal of equity for resource allocation between regions.
- Introducing comprehensive regional hospital system management by merging the two hospital sub-systems of public and private, with only one organisation, the Agence Régionale de l'Hospitalisation (ARH), making decisions.
- Extending medical information systems (DRGs for all types of hospitals, coded minimum data sets for ambulatory care, electronic networking between health services using microprocessor health care card systems).
- Making accreditation and quality of care assessment mandatory.

- Using medical information systems, accreditation certificates and quality of care assessment for any decision in planning, contracting and funding.
- Introducing cost containment procedures for fee-for-service ambulatory care private physician payments.
- Experimenting with new health care delivery organisations (such as managed care, GP gatekeeper).

### ***Progressive implementation of a universal health insurance system***

This is the most basic modification of the system. The new system required a modification of the constitution to allow the annual vote by the parliament of a budget as for all government departments (the former system was by law an insurance system without limitation for spending; in effect, a bottomless system). This Act is based on population needs to determine the spending by region and by different sectors of health care (hospitals, ambulatory care).

The revenue source has shifted in two years from a wages-based premium to an income tax.

### ***Population needs assessment***

Several authors have illustrated many inequities between French regions and hospitals. Until the reform, these known inequities were not considered by decision-makers.

The epidemiological needs of the population now must be assessed annually at the regional and national levels. This has been written for the first time in a French law.

### ***Comprehensive hospital system management***

A new regional (22 for mainland France) state government agency, the Agence Régionale de l'Hospitalisation (ARH), manages (planning, contracting and funding) the two hospital sub-systems (public and private-for-profit) with the same goal of efficiency by a procedure of 'melting'.

While this comprehensive management is based on population needs and regional epidemiological statistics, it is mainly based on the DRG/GHM information system available since 1996 for all public hospitals and extended from 1 February 1997 to acute care private for-profit hospitals – and planned in the coming years for mid-term and long-term care and for mental care.

***Mandatory accreditation and quality of care assessment***

The new system is introducing a mandatory accreditation for all hospitals every five years and evaluation based on compliance with clinical protocol standards approved by a new national public agency, the Agence Nationale d'Accréditation et d'Evaluation de Santé (ANAES), which is organised to be a professionally independent institution.

***Normalisation of the use of medical information systems***

This is the logical consequence of the other features.

All the decisions for planning, contracting and funding will be based on population needs assessment, DRG systems, accreditation certificates and quality of care assessment. ARHs receive all the medical information from the hospitals.

***Experimentation with new health care delivery organisations***

Experimentation with new health care delivery organisations such as managed care and a GP gatekeeper system show how the episode-based information system is becoming an important issue for the French health care system.

**DRGs and inequity among French hospitals****Inequity between French regions**

Figures 1 and 2 show that 3 regions have a regional mean above the national mean, but 2 of these regions are little islands (Corsica and Réunion Island) and only 1 region (Île de France) has an important supply and spending size; 5 regions are very near the national mean (Rhône-Alpes, Provence, Midi-Pyrénées, Basse-Normandie, Alsace); and 15 to 23 regions are well under the national mean.

The Île de France region is capturing too much money and is inefficient, not only with its five university hospitals (discounted 13% for their cost for training and research activities) but with the 60 non-university hospitals as shown in Table 1.

**Inequity within French regions**

Concerning the intra-region differences, 6 regions have differences from 1 to 2 and 2 regions have differences around 1 to 2.5.

At the national level the differences range from 1 to more than 3 (Figure 1).

The Rhône-Alpes region is given as an example in Tables 2, 3 and 4, showing an overfunding of 10% or around 500 000 000 French francs for Lyon University hospital and an underfunding of 10% or around 100 000 000 French francs for Saint Etienne University hospital.

**Table 1: Île de France inefficiency 1996 (ISA)**

<b>Dept</b>	<b>Establishment</b>	<b>Statute</b>	<b>F/ISA</b>	<b>PMCT</b>	<b>80% ISA</b>
75	Montsouris, Paris	PSPH	<b>25.99</b>	1080	78
92	Nanterre (Maison d'accueil	CH	<b>24.16</b>	1164	124
77	Forcilles, Ferolles-Atilly	PSPH	<b>24.00</b>	1267	29
75	St-Joseph, Paris	PSPH	<b>23.81</b>	1622	124
94	G.-Roussy, Villejuif	CLCC	<b>23.77</b>	1405	35
95	Beaumont-sur-Oise	CH	<b>22.70</b>	1024	115
75	Porte de Pantin, Paris	PSPH	<b>21.80</b>	1458	70
78	Porte Verte, Versailles	PSPH	<b>21.40</b>	1397	35
93	St-Denis	CH	<b>20.94</b>	1003	133
95	Eaubonne	CH	<b>20.83</b>	1325	106
75	St-Michel, Paris	PSPH	<b>20.64</b>	1649	90
91	CMC Bligny	PSPH	<b>19.88</b>	1365	41
93	Montreuil	CH	<b>19.66</b>	1103	116
93	Le Raincy	CH	<b>19.64</b>	1302	33
92	M.-Lannelongue, Le Plessis-Rob	PSPH	<b>19.07</b>	3610	9
94	Villeneuve-St-Georges	CH	<b>18.68</b>	1109	154
91	Croix-Rouge, Juvisy	PSPH	<b>18.18</b>	1071	83
78	Versailles	CH	<b>17.92</b>	1174	145
75	AP-HP, Paris	CHU	<b>17.91</b>	1335	185
91	Corbeil-Essonnes	CH	<b>17.90</b>	1208	134
92	Foch, Suresnes	PSPH	<b>17.85</b>	1621	120
78	MGEN, Maisons-Lafitte	PSPH	<b>17.84</b>	1481	15
93	Montfermeil	CH	<b>17.81</b>	1146	158
95	Argenteuil	CH	<b>17.78</b>	1184	143
93	Aulnay-sous-Bois	CH	<b>17.59</b>	1069	165
78	St-Germain-en-Laye	CH	<b>17.51</b>	1134	142
75	Porte de Choisy, Paris	PSPH	<b>17.38</b>	2603	40
75	Ophthlmo-Rothschild, Paris	PSPH	<b>17.34</b>	1408	26
78	Courses, Maisons-Lafitte	PSPH	<b>17.29</b>	1449	93
75	Diaconesses, Paris	PSPH	<b>17.22</b>	1123	76
92	Perpétuel Secours, Levallois	PSPH	<b>17.19</b>	1173	129
75	Notre-Dame-Bon-Secours, Paris	PSPH	<b>17.17</b>	999	42
75	Croix-St-Simon, Paris	PSPH	<b>17.16</b>	1628	89
95	Gonesse	CH	<b>17.05</b>	1046	148
91	Evry	CH	<b>17.04</b>	1028	117
95	Montmorency	CH	<b>17.04</b>	1062	118

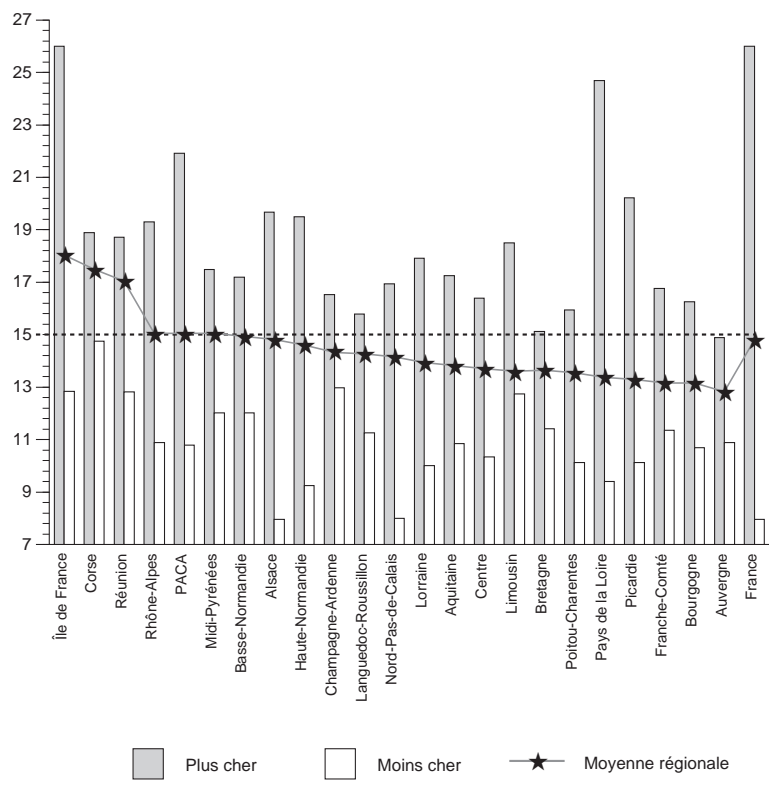
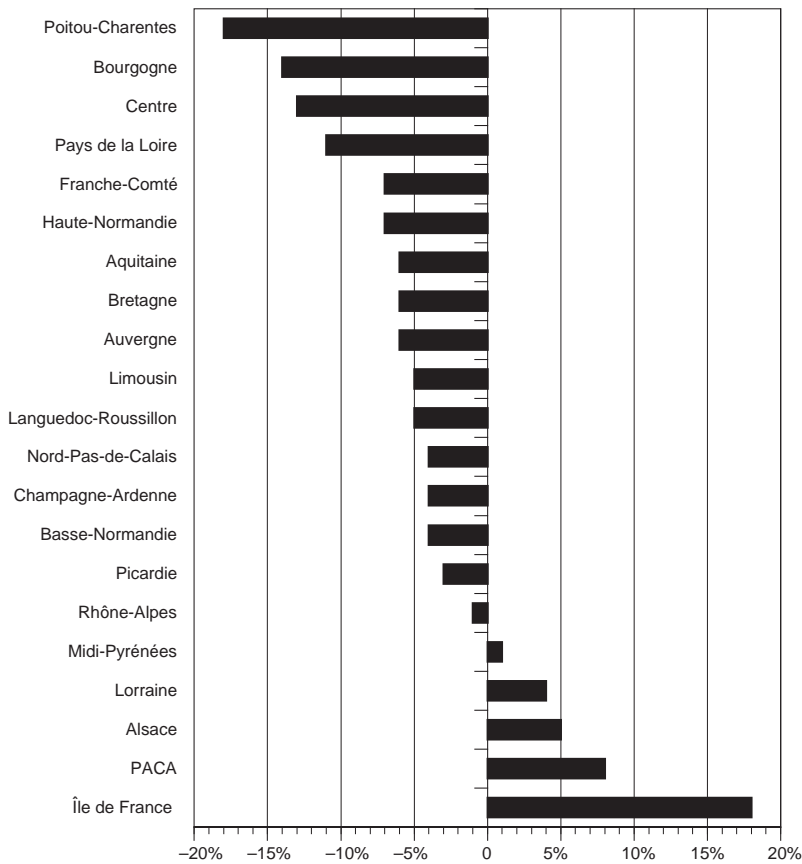


Figure 1: Hospitals efficiency by region (F/ISA mean, upper and lower values)



**Figure 2: Inequity between French regions, total cost paid by health insurance (F/standardised habitant)**

**Population needs cannot account for the results**

Figures 3 and 4 show that there is no statistical relationship between the mortality ratio by region and the total cost per inhabitant supported by the health insurance system. Île de France, with the lowest mortality ratio, is among the regions with the highest cost per inhabitant ratio and most of the French regions with a higher mortality ratio have a lower cost per inhabitant ratio.

The inequity between the French regions is not population needs adjusted.

**Inequity and quality**

An almost best-seller guide to hospitals, *Le Guide des Hôpitaux*, shows the first comparison of casemix-adjusted mortality in France available to the public. The mapping of the inequities in funding increases the challenges facing the French health care system.



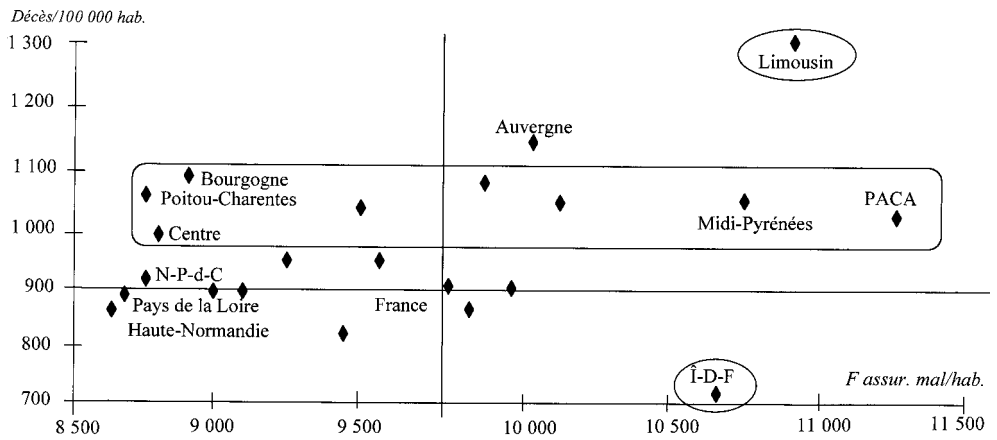


Figure 3: Mortality ratio by region and total cost paid by health insurance per inhabitant

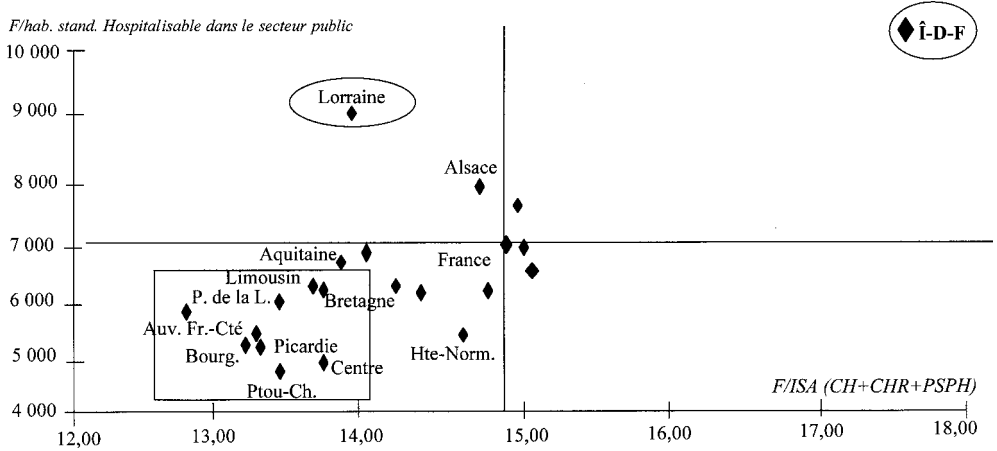


Figure 4: Equity and efficiency in Île de France: the main outlier

Table 2: DRGs report 1997, all hospitals, Rhône-Alpes

Hospital identification number	Total ISA	Actual costing	Expected costing	Difference (expected – actual)	Cost by ISA
690805361	32 320 087	481 857 954	391 091 028	– 90 766 926	14.91
380780072	875 863	12 911 275	10 598 429	– 2 312 846	14.74
260000104	2 112 549	30 038 333	25 563 018	– 4 475 315	14.22
690780416	4 904 218	69 262 481	59 343 765	– 9 918 716	14.12
260000062	4 443 520	61 308 157	53 769 063	– 7 539 094	13.80
690783220	19 220 816	264 587 376	232 582 564	– 32 004 813	13.77
690781810	335 500 073	4 597 353 705	4 059 737 476	– 537 616 229	13.70
380781435	18 071 763	232 152 430	218 678 383	– 13 474 047	12.85
690781737	4 756 609	60 894 731	57 557 614	– 3 337 117	12.80
420780413	11 870 073	151 313 200	143 634 485	– 7 678 715	12.75
730780111	8 902 964	112 567 994	107 730 816	– 4 837 178	12.64
690000021	3 689 935	46 602 331	44 650 266	– 1 952 065	12.63
380780080	117 708 499	1 465 806 183	1 424 338 303	– 41 467 880	12.45
070780085	7 640 490	93 678 174	92 454 178	– 1 223 996	12.26
690781836	16 235 246	198 225 881	196 455 506	– 1 770 375	12.21
690780036	6 085 372	73 874 524	73 636 386	– 238 138	12.14
740781174	8 384 089	100 709 603	101 452 140	742 537	12.01
420780595	8 160 710	97 571 458	98 749 130	1 177 672	11.96
730780103	5 255 872	62 311 498	63 598 974	1 287 476	11.86
070780374	2 361 394	27 660 180	28 574 181	914 001	11.71
420780637	13 222 010	154 437 107	159 993 675	5 556 568	11.68
260000021	33 362 638	382 267 933	403 706 475	21 438 542	11.46
380784751	13 130 492	150 250 089	158 886 256	8 636 167	11.44
010780088	8 123 267	92 864 293	98 296 049	5 431 756	11.43
700780358	18 203 627	207 149 065	220 274 011	13 124 946	11.38

Table 3: DRGs report 1997, all hospitals, Rhône-Alpes

Hospital identification number	Total ISA	Actual costing	Expected costing	Difference (expected – actual)	Cost by ISA
730000023	5 662 485	64 345 325	68 519 218	4 173 893	11.36
420780033	32 527 224	368 735 737	393 597 501	24 861 764	11.34
260000039	18 760 010	211 271 903	227 006 555	15 734 652	11.26
420784878	97 116 467	1 076 379 761	1 175 163 263	96 783 502	11.08
740781216	13 868 532	152 937 919	167 816 950	14 879 031	11.03
380780130	14 547 047	158 241 377	176 027 359	17 785 982	10.88
010780062	10 226 664	110 532 940	123 748 322	13 215 382	10.81
740790258	24 596 465	265 453 629	297 630 906	32 177 277	10.79
010780054	34 223 163	366 895 364	414 119 306	47 223 942	10.72
690782222	21 488 580	230 193 210	260 023 769	29 830 559	10.71
740781133	39 224 214	417 353 966	474 634 805	57 280 839	10.64
730780541	10 897 860	115 246 624	131 870 167	16 623 543	10.58
260000047	17 233 828	182 174 340	208 538 904	26 364 564	10.57
260000146	3 138 723	33 172 130	37 980 294	4 808 164	10.57
420780645	11 081 624	116 059 855	134 093 814	18 033 959	10.47
380780049	14 573 498	152 475 293	176 347 431	23 872 138	10.46
420780652	14 749 473	153 368 950	178 476 826	25 107 876	10.40
070783790	13 850 104	143 320 241	167 593 961	24 273 720	10.35
730000015	45 251 695	468 195 627	547 570 677	79 375 050	10.35
740790035	16 353 143	166 020 337	197 882 125	31 861 788	10.15
730780525	4 120 183	41 510 838	49 856 506	8 345 668	10.07
690782271	5 202 821	52 291 827	62 957 028	10 665 201	10.05
740000328	15 725 300	154 680 359	190 284 876	35 604 517	9.84
420780686	10 143 338	97 679 163	122 740 031	25 060 868	9.63
380780056	4 882 753	42 724 121	59 084 027	16 359 906	8.75
<b>REGION</b>	<b>1 203 987 370</b>	<b>14 568 916 792</b>	<b>14 568 916 792</b>	<b>0</b>	<b>12.10</b>

Table 4: DRGs report 1997, main hospitals, Rhône-Alpes

Hospital identification number		Total ISA	Actual costing	Expected costing	Difference (expected – actual)	Cost by ISA
690783220	CENTRE LEON BERARD (CAC)	19 220 816	264 587 376	236 962 298	– 27 625 078	13.77
690781810	HOSPICES CIVILS DE LYON (CHU)	335 500 073	4 597 353 705	4 136 185 912	– 461 167 794	13.70
380781435	CHL HUSSEL VIENNE	18 071 763	232 152 430	222 796 290	– 9 356 140	12.85
380780080	CHU GRENOBLE	117 708 499	1 465 806 183	1 451 159 849	– 14 646 334	12.45
260000021	CH VALENCE	33 362 638	382 267 933	411 308 624	29 040 691	11.46
420780033	CH ROANNE	32 527 224	368 735 737	401 009 289	32 273 552	11.34
420784878	CHU ST ETIENNE	97 116 467	1 076 379 761	1 197 292 624	120 912 863	11.08
010780054	CH FLEYRIAT BOURG EN BRESSE	34 223 163	366 895 364	421 917 538	55 022 174	10.72
690782222	CH VILLE FRANCHE/SAONE	21 488 580	230 193 210	264 920 246	34 727 036	10.71
740781133	CH ANNECY	39 224 214	417 353 966	483 572 596	66 218 630	10.64
260000047	CH MONTELMAR	17 233 828	182 174 340	212 465 875	30 291 535	10.57
380780049	CH BOURGOIN JALLIEU	14 573 498	152 475 293	179 668 209	27 192 916	10.46
070783790	CH AUBENAS	13 850 104	143 320 241	170 749 903	27 429 662	10.35
730000015	CH CHAMBERY	45 251 695	468 195 627	557 881 915	89 688 288	10.35
<b>TOTAL GROUPE</b>		<b>839 352 562</b>	<b>10 347 891 166</b>	<b>10 347 891 167</b>	<b>0</b>	<b>12.33</b>

## Conclusion

These partly predictable results have had rather reduced effects for the first two years. The first redistribution was done between Île de France and the five most deprived regions for a small percentage of the 650-billion French francs health care budget.

Within regions, the hospitals with a cost by ISA above the regional mean have lost 1% of their budget. This amount has been distributed between the hospitals with a cost by ISA ranking them under the median, provoking much reaction from the losers.

Such important differences are creating political turbulence in many places. For instance, among the 60 non-university hospitals of Île de France, 59 are more casemix-adjusted funded than half of the French university hospitals outside Île de France.

The inequities correction needs to decrease the supply and staff in Île de France (not only in the famous University Hospital of Paris) and in some famous university hospitals outside Île de France, and to increase them in most hospitals of most mainland French regions.

The DRG information system is now the most commonly used measurement unit within the French health care system. It is showing that the main goal of the French system following well accepted standards is to reduce inequities and inefficiencies. This main goal still needs to be formally approved by the actors to play a major role in the health care process re-engineering and in the strategy to change the existing French health care system.

## References

- Coca E 1998, *Hôpital silence! Les inégalités Entre Hôpitaux*, Berger-Levrault, Paris.
- Fetter RB, Shin Y, Freeman JL, Averill RF & Thompson JD 1980, 'Case mix definition by diagnosis related groups', *Medical Care*, vol 18, no 2 (supplement), pp 1–53.
- Freeman JL, Fetter RB, Newbold RC, Rodrigues J-M & Gautier D 1986, 'Development and adaptation of a hospital cost and budgeting model for cross national use', *J Management Med*, vol 1, no 1, pp 38–57.
- Palmer G 1994, 'Case mix models and options in funding hospital services in the public sector', *Proceedings of the 10th PCS/E International Conference*, Budapest, pp 57, 64.
- Rodrigues J-M 1996. 'The French connection', in *Casemix and Change – International Perspectives*, Proceedings of the Eighth Casemix Conference, Sydney, Australia.
- Rodrigues J-M, Roger France FH, Wiley MM, Ruijs T, Hansen R, Pakarinen V & Scicluna H 1988, *Computerisation of Medical Data in Hospital Services Including University Hospitals*, Council of Europe, Strasbourg.

Trombert-Paviot B, Coca E, Mennerat F, Rusch P & Rodrigues J-M 1995, 'Equity and efficiency when resource allocation is not population needs neither case mix based', *Proceedings of the 11th PCS/E International Conference*, Oslo.

Trombert-Paviot B, Rusch P, Mennerat F & Rodrigues J-M 1997, 'Effet des AP DRGs sur le coût médical des séjours d'hospitalisation complète de la base nationale des coûts', *Journal d'Economie Médicale*, pp 297–302.

Wiley MM 1992, 'Hospital financing reform and case-mix measurement: An international review', *Health Care Financing Review*, vol 13, no 4, pp 119–33.

*Le guide des Hôpitaux* 1998, Le Pré aux Clercs, Tours.

# Discussion

*A discussion of the paper, 'DRGs and inequities among French hospitals', by Jean-Marie Rodrigues.*

## JIM BUTLER

Jim Butler is a Senior Fellow (Health Economics) at the National Centre for Epidemiology and Population Health, The Australian National University.

Before commenting on some aspects of Jean-Marie's paper, I would like to thank the organisers for inviting me to participate in this symposium in honour of George Palmer. When I began working on hospital cost analysis in the latter part of the 1970s, there were only a few people in Australia who had an appreciation of what economists were trying to achieve in applying econometric methods to the analysis of hospital costs. John Deeble was one of them, having published a paper in *Medical Care* in the 1960s analysing hospital costs in Victoria (Deeble 1965). George Palmer was another. His quantitative economic background, together with his interest in the health sector, gave him a deep understanding of the issues involved in statistical analysis of hospital costs. I was, then, delighted to find (after the event) that George had been an examiner of my PhD thesis on this subject – and, I must confess, even more delighted to find that he had given me the right result!

It is also a pleasure to participate in a symposium dealing with issues of casemix, hospital costs, hospital payment schemes and health policy. In an era when the methods of economic evaluation and their application command a lot of attention from health economists, it is refreshing to listen to, and learn from, the papers being presented and discussed here today dealing with subject matter other than economic evaluation. Hospitals generally consume a sizeable proportion of health expenditure, and the measurement of their efficiency is an important item on the agenda of health economists.

Turning to Jean-Marie's paper, I would like to highlight a couple of features in his piece that caught my attention. The first is that interest in diagnosis related groups (DRGs) in France has been evolving slowly. This is not due to France being a 'late adopter' of DRGs as a basis for classifying and measuring hospital output. In fact, as Jean-Marie has told us, the first attempt to assign DRG codes to hospital discharges in France occurred in the early 1980s. This was, in fact, early in the history of the development of DRGs. Recall that the late 1970s and early 1980s were a time of great ferment in hospital output measurement and hospital cost analysis. A number of scholars were grappling with the problem of how to measure hospital output using a casemix classification scheme to reduce hospital output categories to a manageable number while at the same time keeping within-group variation in lengths of stay and cost within

reasonable bounds. The AUTOGRP variance reduction algorithm, subsequently used in the formation of the DRGs, first appeared in the literature in the mid-1970s (Mills et al. 1976), while a special supplement to *Medical Care* in 1980 contained a detailed discussion of the concept of DRGs and their derivation (Fetter et al. 1980). France was, then, an early entrant in the field of DRG experimentation. But following these early experiments, developments fell into a 'black hole' (to use Jean-Marie's description in his presentation), with the result that the use of DRGs in hospital financing did not appear in France until 1997. At that time, financing arrangements changed so that a hospital's budget was determined partially by a hospital's DRG profile and standard DRG costs, and partially by its own specific costs.

A second point I found particularly interesting is that the introduction of DRG financing of hospitals in France is taking place within a much more wide-ranging reform of health care financing in that country. Specifically, a system of universal health insurance was also implemented in 1997, the introduction of which required constitutional change. This is large-scale system reform and requires considerable political, administrative and economic will to succeed, as I'm sure the 'architects' of Australia's national health insurance scheme – Dick Scotton and John Deeble – found some 30 years ago. In addition to implementing a universal health insurance system, the regional distribution of funds in France is to be determined on the basis of population needs assessment, with equity being specified as a goal in determining inter-regional resource allocation. The concept of *equity*, of course, requires further definition if it is to be made operational, but it also raises the issue of how conflicts between equity (however defined) and efficiency are to be managed. I will return to this point shortly.

A third point that attracted my attention is that the universal health insurance scheme in France is to embrace inpatient treatment in both public and private hospitals. This is interesting to hear as Australia proceeds down the path of subsidising private hospital treatment indirectly through subsidies to private health insurance, rather than subsidising private hospital treatment directly. Further details on how the French system is dealing with this issue would be welcome.

Finally, returning to a point raised above, the introduction of DRG hospital financing alongside regional allocations of funds based on needs raises the spectre of the equity–efficiency tradeoff, or 'The Big Tradeoff', to use Arthur Okun's term (Okun 1975). In the past, hospitals were commonly regarded as part of the social welfare system. In the words of Paul Starr (1982, p 145): 'From their earliest origins in preindustrial societies, hospitals had been primarily religious and charitable institutions for tending the sick, rather than medical institutions for their cure'. The development of medical science has changed that, and alongside that development has been the growth of economic science and its application to the analysis of hospital costs and output. It could be argued that the classification of hospital output using DRGs, and the funding of hospitals partly or wholly according to their DRG casemix, represents the capstone of these developments. The case for DRG-based financing of hospitals undoubtedly rests on the incentives it provides for improvements in technical and productive efficiency, rewarding



as it does the 'low-cost' hospitals at the expense of 'high-cost' hospitals. These implications of DRG financing are nicely demonstrated in Jean-Marie's paper.

But how does efficiency-based DRG financing sit with respect to the attainment of equity objectives? To be sure, some would argue that DRG financing is 'equitable' with respect to the relative treatment of hospitals. After all, is it not 'fair' that inefficient hospitals should be penalised and efficient hospitals rewarded? But in a broader equity framework, would DRG funding of hospitals always result in a redistribution of funds towards those regions in greater 'need', for example, to those regions with higher age-sex standardised mortality rates? In some circumstances, of course, one or more regions may have relatively high-cost hospitals *and* relatively low mortality rates, so that a redistribution of funds away from those regions may satisfy both equity and efficiency objectives (the Ile de France region is a case in point). In these cases, the public policy prescriptions are easier to devise. However, when efficiency and equity objectives conflict, there is no escaping The Big Tradeoff.

Jean-Marie's paper gives us a very useful overview of recent developments in health care financing in France, and illustrates some of the implications of DRG financing for the French regions. It whets our appetite for more knowledge in a number of areas of French health care financing reform, and I look forward to reading more of his writings on this subject in the future.

## References

- Deeble JS 1965, 'An economic analysis of hospital costs', *Medical Care*, vol 3, no 3, July–September, pp 138–46.
- Fetter RB, Shin Y, Freeman JL, Averill RF & Thompson JD 1980, 'Case mix definition by diagnosis-related groups', *Medical Care*, vol 18, no 2, February (supplement).
- Mills R, Fetter RB, Riedel DC & Averill R 1976, 'AUTOGRP: An interactive computer system for the analysis of health care data', *Medical Care*, vol 14, no 7, July, pp 603–15.
- Okun AM 1975, *Equality and Efficiency: The Big Tradeoff*, The Brookings Institution, Washington DC.
- Starr P 1982, *The Social Transformation of American Medicine*, Basic Books, New York.