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HEALTH SERVICE BENEFIT CATALOGUES IN EUROPE

WORK PACKAGE 6:

APPROACHES FOR COST/PRICE ASSESMENT IN PRACTICE

COUNTRY REPORT: ITALY

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MAIN FEATURES OF PRICE REGULATION AND COSTING PRACTICES IN ITALY

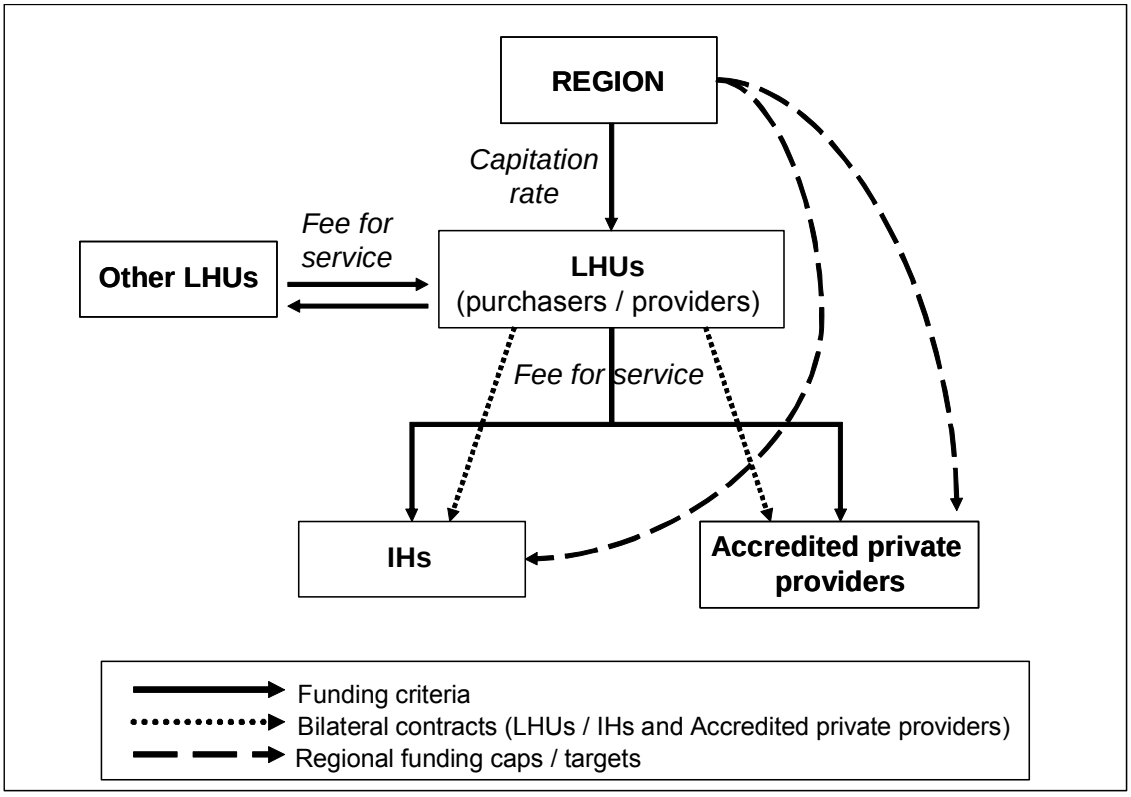
Pricing and costing practices in the Italian healthcare system strongly derive from the nature of the Italian National Health Service (INHS) and its recent developments. Up until 1993, when a major reform promoted managerialism, regionalisation and the introduction of quasi-market arrangements, prices where in place only to regulate economic transactions with privately owned providers and costing practices where rarely performed (Fattore 1999). According to the traditional framework of the INHS, up until the mid '90s public organisations where funded according to criteria (capitation, past expenditure, ex-post funding) unrelated to clear measures of activities performed (Fattore and Garattini 1989). Need criteria (in theory) and ex-post arrangements to cover deficits (in practice) dominated the way to fund providers. In the last ten years the situation has rapidly changed; prices have gained importance also within the public system and cost accounting has become a major management function performed by hospitals and regional department of health (Casati 2000; Lecci and Longo 2004). In addition to regulate interregional patients' mobility, now pricing is actively used at central and regional levels to govern and manage providers of care.

According to Italian legislation, INHS must assure that permanent residents receive adequate healthcare with no discrimination based any socio-economic variable. Since its inception, the NHS has always granted a role to privately owned organisations and, consequently, have always needed a tariff system. For hospitals and other organisations belonging to the NHS (basically all public owned organisations) the situation was different. They did not require a tariff system to be funded and, indeed, they were generally funded through grants unrelated to activities and no distinction could be done between purchasers and providers. Basically, the entire system was highly integrated. Transactions were mainly regulated as internal NHS affairs. Starting from 1993 the situation has been changed significantly. The 1992/93 National legislation transferred significant powers to the regions and introduced three principles according to which providers of personal health services should be funded: a) patients' freedom of choice of providers; b) parity of treatment of public and private providers under an accreditation system; c) per case (hospital care) and fee-for-service (outpatient care) funding system (Fattore 1999).

Regional arrangements

Regions reacted to this new framework in different ways. Jommi et al. (2001) suggested a classification of regional funding policies according to 4 basic templates: LHU-centred (centred on Local Health Units), purchaser-provider split, Region-centred, traditional cost-reimbursement. The first two templates are associated to a wide use of tariffs and thus deserve particular attention here. Under the LHU-centred template, regions fund their LHUs on a capitation basis and then LHUs reimburse public independent hospitals and accredited private providers according to Regional fee schedules (table 1). As LHUs directly provide personal health services and patients are free to choose any provider. Fee schedules are also used to regulate mobility between LHUs.

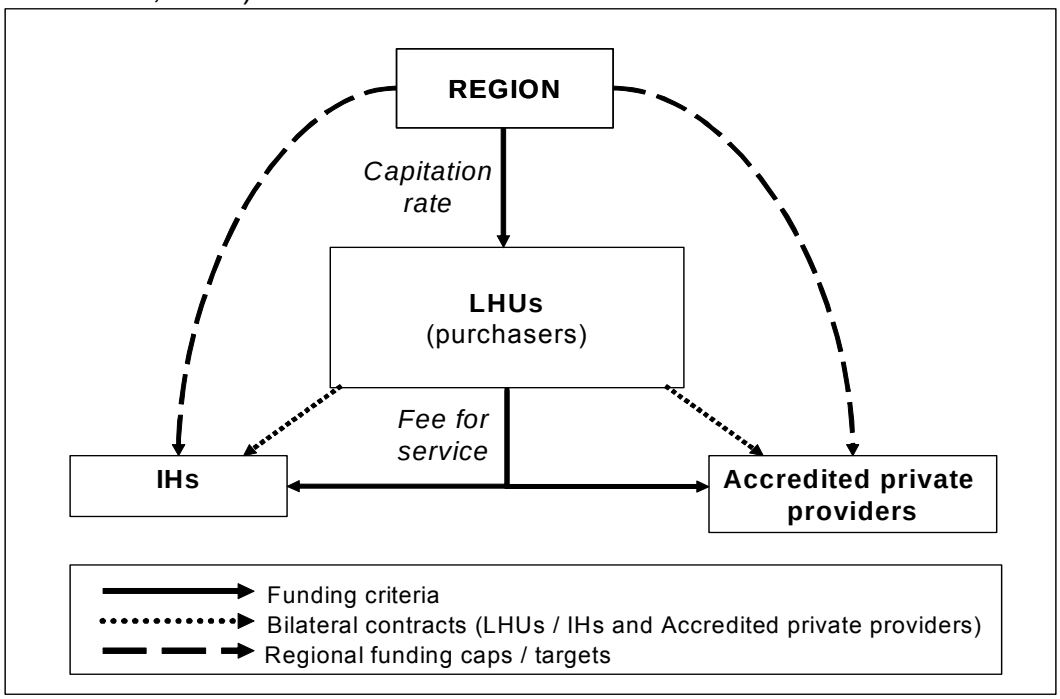
Table 1. Regional funding arrangements: LHU-centre template (adapted from Jommi et al., 2001)



Under the purchaser-provider split template, LHUs act as pure purchasers of secondary care as they do not directly manage hospitals and other healthcare providers (table 2). They still

receive a capitation rate for their residents, but most of their revenues are to be spent to reimburse providers. In this template virtually all hospital and outpatient services are funded through tarriffs.

Table 2. Regional funding arrangements: Purchaser- provider split template (adapted from Jommi et al., 2001)



Presently, the purhaser-provider split is adopted by Lombardy only. The other large Northern and Central Regions apply the LHU-centred template, although not to a full extent (e.g. Regions directly fund providers for some special activities, namely Emergency Department, transplants, blood banks, etc.). In some small regions (with a limited number of LHUs and providers) tariffs are used by the regions to fund providers directly. In the remaning regions funding of providers is much less based on a systematic use of tariffs as it is generally based on past - year expenditures and on criteria not related to performed activities.

The extent to which tariffs cover production costs vary among templates and even among regions attributable to the same template. As a general rule, the comprehensiveness of tariffs depend on the characteristics of the regional quasi market (Jommi and Del Vecchio 2004). If private providers are subjected to rules equal or very similar to those of public providers,

tariffs must be comprehensive because otherwise private providers would suffer severe losses. On the other side, if private and public providers are regulated separately, tariffs for public organisations may be designed to cover cost only partly as other funding mechanisms (e.g. block grants) can be in place.

In theory, tariffs are not expected to cover capital costs of NHS public providers because there are specific budget lines for capital spending. In practice, however, those budget lines make available very limited funds and providers are forced to fund capital investments from operating revenues. Private providers expect adequate rates of return form their investments and thus operate to have revenues covering all types of costs and making adequate profits.

In general, tariffs and other funding mechanisms within the NHS framework are decided by regions through formal legislative acts (decrees approved by the regional governments). In some regions, however, there are bilateral negotiations between LHUs and providers that may result in changes in the regional fee schedule. In such circumstances the same LHU may be charged different tariffs by different providers and the same provider may charge different tariffs to different LHUs. In addition, regional tariffs are often different from those set at national level to compensate interregional mobility. Consequently, it may be the case that tariffs for regional residents differ from those of patients residing in other regions. Nevertheless, many regions have regulated this case in order to avoid this “price discrimination” (it should be reminded that compensation for mobility takes place between regions without any direct involvement of providers and LHUs).

In regards to tariffs within the INHS framework, it is important to underline that they are determined on the basis of several elements in addition to the principle of “production cost”. All our informants stated that:

a) tariffs may be used to provide incentives about the provision of specific services; so there may be discouraging and “promotional” tariffs (see below about the definition of the tariffs for Day Hospital DRGs)
b) tariffs may be used correct undesired outcomes of the funding system; It has been reported to us that it may be decided to increase the tariffs of some DRGs simply

because they are more frequently provided in public hospitals and there is a “policy” need to increase their revenues

c) tariffs may be “improperly” used to fund activities that cannot be easily enumerated and subjected to a tariff system (e.g. maintenance of blood or organ banks, health promotion activities)

Different units of payments are used depending of the type of service. For acute hospital care the unit of payment is now the admission (it was the day of stay in the past). For outpatient services detailed fee for service schedule apply, while for long-term and rehabilitation reimbursement is defined per-day and rehabilitation session, respectively.

All regions fund a significant part of their healthcare expenditure with mechanisms other than tariffs (fee-for service or activity-related payments that in this report are used interchangeably). Three other main funding channels need to be mentioned: capitation (that is very relevant for LHUs), lump-sum funding covering specific services for which tariffs are deemed inadequate and “extraordinary funds” (e.g. reserves for unexpected losses or special funding to manage the transition from one funding system to another). Decision regarding the mix of these funding channels are a key elements of regional health polices.

One additional feature of INHS is worth mentioning. About 70% of total healthcare expenditure in Italy is privately paid, mainly out of pocket. Both private and public providers are allowed to sell their services for the private market. Indeed, public hospitals are major providers of health services for privately paying patients through “intramoenia” and other arrangements. According to the “intramoenia” arrangement, which rules are defined by each hospital in accordance with national legislation, medical doctors and other health professionals use hospital premises to offer their services, directly charge patients a leave a part of the revenue to the hospital. To implement this regime, hospitals defined strict rules about hours, tariffs, distribution of revenues. The definition of the fee schedule is decided by hospitals and LHUs and is the result of a negotiation between the General Management and the health professionals. Generally, this negotiation is based on simple cost analyses (mainly direct personnel costs) and studies of the market conditions (prices of competitors, market size, etc.).

Providers arrangements

Consistently with the incentives created by the new funding arrangements in 1993 reform (see above), public and private hospitals have developed cost accounting systems to understand the impact of the new funding mechanisms on economic performance and to exert more control on their organisational units.

In general, hospitals regularly perform cost accounting exercises to evaluate performance of their units, to make service production decisions (e.g. expanding volume of care in particular areas) and to make simulations about revenues and costs (e.g. break even analysis). In order to do this they are generally supported by management information systems (MIS) based on sophisticated software. Enterprise Resource Planning (ERP) systems are the new generation of these system and promise to lead to a full integration of information flows. In public hospitals, cost accounting systems are mainly focused on producing information to control organisational units (e.g. Departments) rather than to compare the difference between tariffs and unit costs. This is due to two main reasons a) public hospitals have limited room to choose their production profile (they are mainly demand driven given their mission in the Italian NHS), b) appropriate systems to analyse costs at the level of individual patients tend to be more sophisticated and expensive than those used to attribute costs to organisational units. As a consequence public hospitals have limited experience in making analysis to calculate the full costs of "units" of services (admissions, hospital days, etc..). We have been reported that some private hospitals have now sophisticated activity-based costing systems but we have not had the opportunity to analyse them. It is likely that some few large private hospitals are now in the position to attribute to specific cost objects (e.g. each patient) many categories of costs.

Key actors

Costing for the purpose of pricing is mainly performed at regional and national level. In the past, national fee schedules were very relevant because could bound regions and providers. At present, their role is less relevant as they are simply "references" for regional decisions. At national level, the first costing exercise was performed to launch the DRG system. Pharmaceutical prices are determined at national level and, recently, the DoH has announced that it would like to introduce a national reference pricing for some categories of medical

devices. In addition, national decisions (resulting from negotiations between the State and the Regions) regulate the tariff systems for interregional mobility of patients.

In the Italian NHS the key actors for pricing and costing of health services are the 19 regions and the 2 autonomous provinces (Bolzano and Trento). Both policy and operational decisions are almost completely in the hands of regional governments and their regional department of health. Italy experiences relevant differences across the regions in respect of many socio-economic variables, institutional capabilities, and management practices; these differences are also reflected in the health policy domain. Autonomy has given some regions (mainly the most affluent of the country) the opportunity to speed up the pace of change. The active use of funding mechanisms to govern the healthcare system is a major element of health policy in the most dynamic regions. In order to understand the Italian case is thus important to analyse both the national and the regional level. In the following sections we present information about the initiatives taken by the central level and by Lombardy, the largest Italian region and the most active in using prices to regulate the healthcare system. Lombardy, differently from most of the other dynamic regions, has clearly adopted a peculiar quasi-market model based on a clear separation between purchasers and providers and common rules for public and private providers (Fattore and Longo 2002; France and Taroni 2005). In Lombardy, much more significantly than in other regions, “tariffs” play a major role in health policy.

TARIFF DEFINITION AND COST ASSESSMENT BY FUNCTIONAL CATEGORIES

HC 1. SERVICES OF CURATIVE CARE

The Ministry Decree approved on April 15th 1994 is the pivotal document for the definition of tariffs for curative care services in Italy. It introduced the set of "general criteria for the definition of tariffs for specialist outpatient, rehabilitative and hospital care services". The document was developed in collaboration with various medical professional associations (doctors, dentists, nurses, technicians, radiologists).

In Article 1 it is stated that the tariff system refers only to services under public coverage (included in "uniform levels of care" to be granted across country).

Article 2 lists healthcare services to which national criteria for definition of tariffs apply:

a) inpatient care services (per-case, based on DRG classification)
b) day hospital services (per-case, based on DRG classification)
c) residential services (per day, only healthcare component)
d) semiresidential services (per day, only healthcare component)
e) outpatient specialist care services, inclusive of emergency care (per unit of service)
f) patient transportation services (per unit of service)
g) thermal care services (per treatment cycle)
h) inpatient and day hospital rehabilitation care services (per day, based on Major Diagnostic Category classification)

The decree establishes that "all tariffs for the services defined above are set at the regional level", taking the value set at national level as the maximum. Article 3 sets specific criteria that needs to be followed in the definition of regional tariffs. The tariffs are set on the basis of "standard production cost" and "general cost". "Standard production cost" are to be evaluated by the regions on the basis of cost data retrieved from a sample of hospitals. Standard production costs are calculated as a product of the quantity of resources consumed for providing a specific service and their relative unit cost. Unit costs refer to average market prices (acquisition costs) in the previous year (adjusted for the inflation if needed).

The cost components to be included to calculate "standard production cost of services" are explicitly defined in the decree:

a) personnel directly involved in providing the service
b) materials and supplies directly used
c) depreciation cost of medical equipment
d) general (overhead) cost of the department , i.e. indirect cost of the service production unit

Finally, the sum of these cost components is increased by certain percentage in order to account for the overheads of the hospital. Thus, standard production cost of services referred by the Ministry Decree follow a full costing approach.

In summary, the 1994 Ministry Decree defines a set of criteria according to which the regions should determine the tariffs for the different types of inpatient and outpatient healthcare services. The methodology proposed is the full costing approach in which all the resources involved in the production are evaluated, including overheads, indirect costs and capital costs. Decree does not open discuss the distinction between variable and fixed costs so that it do not address the issue of the dependence of unit costs by the overall volume of services.

The list of DRG specific weights, equivalent to those used in the USA HCFA Grouper version 10 for Medicare reimbursement, is provided in the appendix of the decree.

For in-patient curative and rehabilitation care (points a) and h)), in case the regions do not perform the cost assessment, they are allowed to use the above-mentioned DRG weights to define regional. Furthermore, the regions are required to verify and update DRG weights annually.

The decree also states that the regions may increase the tariffs beyond calculated level or give additional funding (lump-sum) to providers in order to sustain the activities not included in the fee schedule (e.g. for research and teaching).

IN-PATIENT AND DAY-CASES OF CURATIVE CARE

1) ITALY

Since January 1st 1995, hospital care services delivered by public or private accredited hospitals are expected to be reimbursed on "per case" basis, classified according to Diagnosis Related Groups. The legislative act that actually provided for the first list of national DRG tariffs was adopted on December 14th 1994 (DM n.169): "Tariffs for hospital care services". All regions who did not implement their own regional fee schedules before January 1st 1995 (according to the criteria set in the decree presented above), were required to adopt the national list. This implementation, however, was to be considered temporary and "in transition".

The hospital services listed in the national fee schedule were classified in three categories:

1) services provided to acute cases in ordinary hospitalization regime
2) service provided to acute cases in day hospital regime
3) rehabilitation care services

The tariffs for services provided in ordinary regime (point 1) are further differentiated for 4 types of hospitalization:

a. ordinary hospitalizations – specific DRG tariffs per case apply
b. ordinary admissions of 1 day - specific DRG tariffs per case apply
c. "extra ordinary" admissions – particular cases with length of stay above "cut-off" value defined for each DRG – reimbursement tariff is composed of specific DRG tariff per case (point 1) increased by the product of number of days exceeding the cut-off and daily tariff
d. ordinary long-term hospitalizations – a single tariff per day applies

The tariffs for services provided in day hospital (DH) regime are defined for each DRG. Two cases may apply:

a. one access only – specific DRG tariffs

b. cycle of programmed accesses within one diagnosis - reimbursement is the product of number of access and relative specific DRG rates

For rehabilitation care provided in hospital settings, daily tariffs are specified for each Major Diagnostic Category.

Regions are also required to provide extra – tariff funding to providers for activities like research, education, emergency, intensive care, organ transplantation and other activities programmed by regional and national health plans.

Definitions of the first national tariffs for hospital care (inpatient, day hospital and rehabilitative care) (DM December 14th 1994)

The methodology applied for defining the first national fee schedule was mainly influenced by the availability of hospital data in 1994. Availability of analytical data regarding both resource consumption for services provided, relative unit costs and clinical characteristics of patients was very limited and variable across the national territory. The tariffs were determined on the basis of data collected in 8 hospital centers that participated in a sort of feasibility study for introduction of DRG system in Italy (Taroni, 1996) . The criteria used for the selection of hosiptals were:

- completeness of hospital activity data (through SDO- Hospital Discharge Forms)
- availability of cost data from the hospital accounting system

It is reported that the sample of 8 institutions was representative of the national hospital population (equally distributed across the national territory; annual activity (i.e.case-mix) was similar to national average values).

Cost data were retrieved from the hospital accounting systems (for year 1993). In line with guidelines set by the Ministry Decree (DM April 15th 1994), full costs for each DRG were calculated. More specifically, all costs incurred for producing the service (direct costs) and general costs for hospital functioning (indirect costs) were included. The only cost items excluded from the calculation were those associated with research and teaching activities as well as costs for the functioning of emergency rooms.

In order to calculate tariffs, cost data collected were first grouped in 11 categories:

1) routine care costs (overnight and nursing care in all departments, except intensive care units)
2) operating room costs (total costs for activities in operating rooms)
3) pharmaceuticals (total costs of drugs provided to hospitalized patients, general costs of hospital pharmacy management)
4) radiology costs (of all radiology service centers inside the hospitals: radiology, diagnostic imaging, radiotherapy, nuclear medicine, CT, MR, ecography..)
5) laboratory costs (of all active laboratories: clinical pathologies, microbiology, virology, haematology..)
6) medical supplies costs (prosthesis, medications, gloves, needles…)
7) costs associated with respiratory care, occupational therapy, logotherapy
8) other care services (i.e. anaesthetic care, delivery room, blood transfusions centers)
9) intensive care units costs
10) department personnel costs
11) administration and management costs (allocated from general costs centers)

Costs occurred for ambulatory care services (provided to non hospitalized patients) were estimated on the basis of the number of units of service delivered and/or the number of hours dedicated to ambulatory care and, finally, deducted from overall costs classified in 11 categories.

Full costs of in-patient care calculated in this way were assigned to single DRGs on the basis of an allocation matrix. Allocation was based on hospital activity data associated with each DRG (i.e. number of hospitalizations, length of stay). More specifically, indirect costs- routine department care, department personnel and administration and management costs (cat.1, 10 and 11)- were allocated on the basis of number of hospital days (for each DRG) retrieved from the hospitals selected. For services directly consumed by patients – direct costs- (laboratory, radiology, pharmaceuticals, medical supplies) mean cost for each DRG was calculated by using DRG specific weights assessed in the US hospitals (State of Maryland) as the allocation base.

A special procedure was used for DRGs with very low number of cases registered in 1993.

Full costs per DRG was used to calculate tariffs that were distinguished between 1) hospitalizations for acute patients; 2) DH; 3) rehabilitation care and 4) long-term care.

1) Hospitalization tariffs differed between:

a) ordinary admission

- tariffs are calculated by dividing full production cost for each DRG and number of hospitalizations

b) 1-day recovery

- tariffs are calculated as 80% of the average cost per day for each DRG (lower tariff in order to discourage this type of activity)

c) over cut-off

- cost of each day above the cut-off value are estimated as 60% of average cost per day for each DRG

2) DH

Tariffs for DH services were calculated as 120% and 75% of average cost per day for medical and surgical DRGs, respectively. The lower tariff for surgical DRGs was motivated by the national objective of promoting ambulatory or outpatient surgery.

3) Rehabilitation

Daily tariffs for in-patient rehabilitative care were estimated on the basis of cases discharged from rehabilitation departments and institutions included in a national databases managed by Ministry of Health. Average cost per day was calculated for four MDC with more than 1000 hospitalization. Mean daily cost was estimated across all remaining MDC.

4) Long-term services

A single tariff per day was estimated for in patient long-term care (based on the lowest average daily cost of all DRGs)

Following the decree, in 1995 the Ministry of Health issued a set of guidelines for the implementation of the DRG system.

The regions were given two alternatives: either to adopt the tariffs defined at national level (as a maximum reimbursement value, regions could decrease them up to 20%) or to develop their own system. Furthermore, regions could adopt two approaches in defining region-specific tariffs:

1) a comprehensive costs assessment of services (on a sample of hospitals) in order to calculate full costs of specific DRGs (so-called analytical method) or
2) a simplified procedure for which a) full costs of few selected DRGs are calculated b) the cost per DRG point is derived from the full costs c) the cost of the other DRGs are calculated as the product of the cost per point by the weights of the Ministry of Health (so called weight method).

The national tariffs were updated only once after their introduction (DM n.178 June 20th 1997). Both the original and the 1997 DRG classifications are based on the HCFA Grouper HCFA Version n. 10.

The national DRG tariffs are set equal for all types of providers. The regions are free, however, to adopt changes if they wish to differentiate fees among various types of hospitals (e.g. between public and private hospital or between teaching and non teaching hospitals).

Sixteen regions had introduced the DRG based tariffs immediately in 1995; Emilia Romagna, Abruzzo and the Autonomous Province of Bolzano started in 1996 and Basilicata and the Autonomous Province of Trento in 1997 (table 1). Only 5 of the 21 Italian regions developed a regional DRG fee-schedule on the basis of some kind of cost assessment, while the majority adopted the national fees (with or without the allowed abatement).

Table 1 Main characteristics of the regional DRG fee schedules currently in force.

Region	**Year of introduction of the DRG system**	**Reference fee schedule**	**% abatement of national fees**	**Differentiated reimbursement among providers**
Abbruzzo	1996	national	-20	no
Basilicata	1997	national	0	yes
Calabria	1995	national	-12	no
Campania	1996	national	0	yes
Emilia Romagna	1996	regional	-	yes
Friuli Venezia	1995	national	0	yes
Lazio	1995	national	3	no
Liguria	1995	national	0	yes
Lombardia	1995	regional	-	yes
Marche	1995	national	0	yes
Molise	1995	national	0	yes
A.P.Bolzano	1995	national	0	yes

A.P. Trento	1997	national	0	yes
Piemonte	1995	national	-	yes
Puglia	1995	national	-10	yes
Sardegna	1995	national	-5	no
Sicilia	1995	regional	-	yes
Toscana	1995	regional	-	yes
Umbria	1995	national	-10	no
Veneto	1995	regional	-	no
Valle d'Aosta	1995	national	0	no

Almost all regions apply different tariffs to different providers, classified according to various criteria. In the majority of cases those criteria refer to organizational features (eg. presence of emergency room) and activities performed (eg. research, case-mix complexity). Only in few regions tariffs are differentiated between public and private providers.

A recent survey conducted by Ministry of Health shows that 10 Italian regions use the Grouper version 10, 9 regions the Grouper version 14 and only one region adopted the 19th version. This situation is constantly changing. In June 2005 the Ministry of Health and the Regions signed an agreement according to which all regions will adopt the new version of CMS (ex. HCFA) Grouper (n.19) and associated ICD-9-CM starting from January 1st 2006.

All Regional Governments adopt measures to control hospital expenditures. Measures widely adopted include(Anessi-Pessina et al, 2004)

- global funding ceilings – reimbursement claimed may not exceed the ceiling; if they do, fees for all services are proportionally reduced
- funding targets – reimbursement may exceed the targets but fees decrease with volumes to discourage excess provision

Ceilings and targets may apply to each provider or to the whole regional health-care system in order to encourage competition. Furthermore, these measures may apply only to certain type of providers: Campania, Friuli-Venezia Giulia, Piemonte and Puglia apply sanctions for exceeding volumes only to private providers.

In summary, characteristics of DRG based fee schedules for reimbursement of hospital services vary extensively across Italian regions. In the present report the case of Lombardy is presented, being one of the regions that invested the most in the development and implementation of activity based funding (DRG-based tariffs for hospital discharges and fee for per service tariffs for outpatient services).

2) *LOMBARDY REGION*

When the DRG based financing system was introduced at national level, Lombardy was one of the few Italian regions that had a significant amount of experience in collecting and processing hospital data (Agnello et al, 2003). This facilitated the implementation of the new financing system. The Region actively participated in the development of the "italian version" of the DRG fees at national level and developed its own methodology for defining regional tariffs.

The tariffs for hospital reimbursement and financing regulations were immediately recognized among the priorities of the regional healthcare system. In fact, the first regional fee schedule was introduced in December 1994, soon after the national list was approved (DGR n. 62664 December 30th 1994). In order to define tariffs for hospital care services (in-patient, day hospital, rehabilitation and long-term care), Lombardy Region had followed a specific approach for estimating standard costs of admissions. This approach varied substantially from the one adopted by the Ministry of Health. The main differences referred to the number of hospitals assessed, the methodology applied in cost estimation and, to lesser extent, the definition of some types of services.

The analysis included the majority of regional hospital centers (48 institutions, both public and private). All of them had necessary data available at a sufficient level of detail (reliable cost accounting systems in place). The final objective was to estimate the monetary value of one DRG point.

For the public hospitals, the methodology applied was gross-costing, where the total costs of each hospital was first divided in three categories: general costs (overheads), ambulatory care and in-patient care. The expenditure directly sustained for in-patient care was estimated as 78% of the overall costs of each public hospital.

For the private providers, tariffs applied for their services were used as the proxy of the costs incurred for in-patient care.

The case-mix of each hospital was elaborated by using the DRG-Grouper, version 10.0. Ordinary hospitalizations were distinguished from accesses to day hospitals, one-day hospitalizations and hospitalization with extraordinary length of stay (longer than a cut-off value). Then, the DRG weights presented in the DM April 15th 1994 were used (equivalent to

US DRG weights, HCFA version 10), after being multiplied by the relative number of cases occurred in the region in 1993. Thus, for each hospital the total number of DRG points was calculated. The unit cost per DRG point was assessed by dividing the overall expenditure for in-patient care by the total DRG points in each hospital The results of this pro showed great variability in unit costs per DRG point in different hospital settings. The final “regional” unit cost per DRG point (standard cost) referred to the most efficient hospital and resulted in approximately € 2170.

The tariffs of ordinary hospitalizations (defined by the DRGs system) were assessed by multiplying the unit cost with the number of DRG points. Then, the average cost per day in each DRG (the DRG tariff divided by the average length of stay) was used to calculate the tariffs for one-day recoveries (90% of the average daily cost), and extraordinary length of stay (60% of the average daily cost for each day above the cut-off value). Tariffs for access to day hospitals were calculated as 120% and 90% of average daily cost for surgical and medical DRGs, respectively.

After the introduction in 1994, the Lombardy region has updated the DRG fee schedule regularly. Already in the mid 1996 the first updating of the tariffs was performed. In the following years, updating was conducted almost every year. Some of those updates were minor revisions of specific areas of care, while in four occasions the revision was substantial and included an ad-hoc cost assessment. The Regional Department of Health (Direzione Generale della Sanità) was the main actor involved in defining and updating the tariff schedule. Often, the regional government have relied on outside expertise (academics, consultants). The main regional laws regulating the DRG tariffs in Lombardy are listed in the table 2.

Table 2. DRG tariffs in Lombardy – main features of relevant regulations

Year	Decree (n., date)	Main purpose
1994	62664, December 30th	first definition of regional tariffs; cost assessment
1996	15084, June 27th	update (minor revision)
1997	25608, February 28th	update of all DRG tariffs; comprehensive cost assessment
1998	37597, July 24th	update of tariffs in few clinical areas (rehabilitation, mental care); limited cost assessment
1999	45079, September 13th	update (minor revision)
2000	48854, March 1st	minor visions, 3 new DRGs introduced
2000	941, August 3rd	update of all DRG tariffs; comprehensive cost assessment
2001	30052, December 3rd	minor revisions and conversion to Euro
2002	11637, December 23rd	Grouper HCFA version 19 introduced
2003	12287, March 4th	Tariffs update and system modification
2003	13796, July 25th	Minor revisions, particular attention on DRGs "at high risk of unappropriateness"
2004	18585, August 5th	Update of tariffs for DRGs and some outpatient services

The methodology applied was published for only two cost assessments (performed in 1994 and 2001-2002), while the others were briefly described in the decrees.

The 1994 cost analysis was described above. In 1996, the cost assessment was conducted on a sample of 22 regional hospitals. As in the past, a top-down approach (from total costs, to the costs of each DRG) was adopted. "Cost per DRG point" was evaluated and its distribution was assessed across all hospitals. The regional value for "cost per DRG point" was chosen as the 20th percentile of its distribution. In that way, regional tariffs were set on the basis of costs incurred in the hospitals with the most efficient production (top 20%). In 1998, for the first time cost assessment included all hospitals operating in the region (both public private). The methodology applied was similar to the one adopted in previous assessments (top-down approach, "cost per DRG point" assessed across providers, regional value set at the 33rd percentile of distribution obtained).

In 2001-2002, a new comprehensive cost analysis was performed to update tariffs. The methodology, that was recently made public, comprises the following main elements.

Data referring to 2001 were collected from *all* hospital in the region, both public and private. Cost data were retrieved from financial statements and the management accounting offices of the hospitals.

The costs of hospitalization was divided in two parts:

1) "direct cost per case" – inclusive of costs related to therapeutic procedures or interventions performed in the operating theatre, drugs and other specific resources consumed and calculated ad hoc for specific DRG (estimated from data of a major hospital in Milan)
2) "indirect cost per day of hospitalization" inclusive of the resources consumed within the specialty department and considered constant for all the cases treated in that specific department (also defined as "standard or department care costs")

Analogously, the revenue was analyzed in two parts. From each DRG tariff (total revenue per case), the value assumed as reimbursement for "direct costs per case" was subtracted. The remaining part represented the theoretical reimbursement value for the "standard or department care" and was used to calculate "revenue per day".

Finally, "indirect cost per day of hospitalization" were compared with theoretical "revenue per day". On the basis of this comparison, conclusions are made regarding the necessity for updating the specific tariffs (increase or decrease of existing fee levels). In this particular case, DRG tariffs in Cardiology, Psychiatry, Thoracic surgery, Oncology, Oculistic, Obstetrics and Gynecology resulted below the necessary levels to cover the costs. In other areas-eg. Orthopeadics, Cardiosurgery- DRG tariffs resulted more than sufficient.

In addition to direct comparison of daily costs and revenues, analysis also included the length of stay variable. For each DRG, the distribution of cases was assessed. For those DRGs for which the majority of cases had a short length of stay (2-3 days), the difference between tariff and cost resulted positive (eg. DRG 225 Interventions on foot). Conversely, for DRGs for which the majority of cases experienced long length of stay (eg. psychiatric patients, AMI), the difference was increasingly negative with increasing number of days.

In addition, analysis also considered appropriateness as one of the criteria for updating tariffs: particular attention was given to 43 DRGs identified in the "health basket"national legislation as at a high risk of inappropriateness. In short, specific DRG tariffs were decreased for both medical and surgical DRGs if provided in ordinaru admission regiome. The objective

was to encourage the provision of services for these cases in alternative settings (DH, out patient).
In the light of these assessment exercises, in 2002 tariffs were updated in order to make them more adherent to costs and to assure the overall financial equilibrium of the regional health care system. The updating included not only the changes in the monetary value of specific DRG tariff, but also the number of days considered as a “cut-off” above which hospitals receive additional reimbursement on a daily basis.

The most recent cost assessment for hospital care services in Lombardy was conducted in 2003. The methodology used has not been published yet. In the following paragraphs we outline briefly its main “logical blocks”, as described by a senior regional officer. In summary, a gross-costing methodology was applied; cost assessment started with detailed analysis of hospital financial statements. The first objective was to assess the cost of each department, inclusive of direct and indirect (allocated) costs. For each department, it was created the list of the most frequent DRGs so to calculate its prevalent activity. The cost of department and data on its prevalent activity was the used to calculate the “cost per DRG point”. Finally, cost per DRG point and weights assigned to each DRG (US Medicare) were multiplied in order to calculate the “potential” tariff for all DRGs.
Once the potential tariff for each DRG was assessed, several elements were considered before determining the final tariffs. These elements included:

- comparison with existing reimbursement fees
- incentives (tariffs could be increased in order to promote clinical activities in certain clinical areas)
- impact on the overall health expenditure

The update of tariffs may be requested by all actors of the healthcare system: hospital providers, scientific communities, health authorities and the regional government. In some occasions, changes claimed by providers are backed by cost assessments based on detailed analysis (micro-costing). They are generally based on relatively sophisticated cost accounting procedure aimed at directly attribute costs to each DRG .
At regional level, microcosting has never been performed and, apparently, there is no interest in this type of methodology; we were reported that hospital cost accounting systems currently

in place cannot sustain such sophisticated type of analysis. At present, the current objective appears to be that of improving the techniques for calculating department costs (for example methods for allocating general costs to departments), rather then investing in more accurate cost assessments on "per case" basis.

In addition to "standard" DRG tariffs, extra reimbursement fees are available for particular medical devices provided in the hospital. In 1998, when the extra reimbursement was introduced, the tariff was set at 25% of average acquisition price for some types of knee, hip prosthesis and drug eluting coronary stents and at 80% for endoprosthesis (defribrilators) used for interatrial and interventricular interventions. Recently (DGR 18585 August 8th 2005) these fees were increased at 45% and 100% respectively.

One important change in the regional tariff system was introduced in 2003 (DGR 12287/03) when the fee schedule was updated and tariffs were differentiated among different types of providers. Up to then, all providers in the regions received the same reimbursement DRGs tariffs.
Currently all providers and relative reimbursement levels are defined according to a "complexity level criterion":

- for hospitals with emergency and high specialty departments, standard DRG tariffs are increased by 5% for particularly complex cases;
- for hospital with emergency room – standard DRG tariffs are applied;
- for hospitals without any emergency departments – standard tariffs are decreased by 3%.

"Non reimbursable" hospital activities

The list of services/activities not included in the cost assessments for definition of hospital tariffs is defined broadly at national level. Regions are free to determine autonomously the specific list of activities for which healthcare providers receive extra-tariff funding. This is also called "function financing" in the Italian legislation.

In the case of Lombardy, these “functions” are defined by regional law and are updated annually. The last decree (n.370 July 20th 2005) defined the list of functions for which all providers (public and private) are allowed lump-sum funding. In order to assess the amount for each “function”, organizational profile, quantity and unit costs of inputs for specific activities were evaluated. In addition, amounts for certain “functions” are increased in order to encourage provision of services of particular importance for regional health policy.

The most relevant functions are:

1) emergency-urgency activities

- additional funding is granted for organization and management of emergency call-centers; patient transportation (including helicopter transfers); transfer of newborns; management of emergency departments; intensive care services for low-weight newborns; other emergency services such as for for extended burns and toxic poisoning

2) activities related to organ transplantation

- in addition to DRG tariffs for transplantation, extra-funding is available for hospitals conserving explants, performing transplantation of specific organs and for the management of specialized centers

3) research, university teaching and education of auxiliary healthcare professionals (nurses and technicians)

In addition to these three “historical” functions, hospitals in Lombardy receive lump-sum funding for a list of activities of “regional importance” (eg. specialised centres for tuberculosis, haemophilia, cancer, eating disorders, epilepsy, etc). Furthermore, extra funding is available for “high quality providers” and “case-mix width”, assessed according to specific criteria.

OUT-PATIENT CARE (SPECIALIST AMBULATORY SERVICES)

1) ITALY

The list of specialised out-patient services provided by the NHS is defined by the Decree of Ministry of Health (DM July 22nd 1996). The benefits are classified in three different sections:

1. specialist out-patient care (inclusive of clinical laboratory and diagnosting imaging) provided under NHS coverage (positive list of services, explicitly defined and enumerated, generally without specific links to clinical conditions)
2. specialist services available only for specific clinical-diagnostic indications (positive list of services limited to special patient categories)
3. specialist out-patient care not covered by NHS (negative list)

In the first section (positive list) the document defines the tariffs used for reimbursement of providers of specialist care services. Regions are allowed to set up their own reimbursement rates (using national rates as maximum). Regions, are free to deliver additional specialist out-patient services for which they are financially responsible.
The general structure of the catalogue and the fees were decided through political negotiations at central level. There is no publicly available data on the methodology applied in defining those tariffs. It was informally reported to us, that some sort of cost assessment was conducted on a limited number of providers across national territory. In short, the method applied was that of gross costing approach where the total costs for ambulatory care services was first allocated to different specialty areas and then to specific services.

Since its approval in 1996, the national fee schedule defining out-patient specialist services has not been updated. Almost all regions, however, have been continuously updating their regional fee schedules .

2) LOMBARDY REGION

In September 1996 the Lombardy region adopted integrally national fee schedule for outpatient services. The first update was performed few months after, but it included minor revisions (only the costs of specialist visits were modified), without any cost assessment.
The first regional fee schedule was adopted in 1999 (DGR n.42606 April 23rd 1999). . Since then, updates were performed regularly every two-three years and included not only the new tariffs but also the list of services available under regional coverage. These updates were not planned in advance and were carried out for various reasons (pressures from the scientific community, overproduction of some types of services, ecc.).
In 1997 a special technical committee for "cost analysis and updating of tariffs for out-patient specialist services" was established (DPGR 1301/334 March 28th 1997; DDG 51734/85 February 5th 1998). The first comprehensive cost analysis was conducted in 1998 on a sample of different types of institutions that provide out-patient specialist care and diagnostic services.
In the decree following the cost assessment, it was stated that "final objective of updating the tariffs for out-patient specialist services is to cover their production costs in order to promote their provision as the alternative to in-patient settings". The major driver was to ensure, through adequate tariffs, that services that can be provided in ambulatory settings are adequately reimbursed and that they do not generate inappropriate hospitalisations. Actually, the monitoring and control system that was in place in the region showed that this phenomenon was rather frequent.
The methodology applied was that of gross-costing. The total costs sustained by a provider were allocated to each specialty branch (cost object). The cost distribution for each specialty branch was analyzed across different providers. The results showed that in few specialty areas (hematology, cardiology and radiotherapy) tariffs in place were adequate to cover the costs. In most of the areas, however, tariffs resulted insufficient to cover the production costs (e.g. laboratory exams, radiology, neurology..ecc).
Regional experts are aware that in this area of care there are significant economies of scale. Typically, the same reimbursement level may generate relevant margins to large providers (laboratories, ambulatories), while may be insufficient to cover costs of small providers. We

were reported that tariffs were set at intermediate level between breakeven points of two provider categories.
Thus, the cost assessment was the basis upon which the tariff system was defined. However, other criteria were taken into consideration. The financial impact that the new tariffs would have had on regional and patients out-of pocket expenditure was accurately assessed and evaluated. In addition, the tariffs were increased for those services for which there were very long waiting lists.
In several occasions, the update of tariffs was not motivated by any kind of cost assessment but was strictly related to a specific policy measure. For example, when there was a significant increase in the utilisation of diagnostic imaging services (caused simply by a greater availability of innovative technologies like CT, NRM), the region substantially decreased their tariffs.

In 2000, the Lombardy region introduced an additional list of tariffs for out-patient Neuropsychiatry Pediatric services (DGR December 22nd 2000). This was because the national classification of these outpatient services (DM July 22nd 1996) was deemed inadequate and the tariffs indicated at national level were not sufficient to cover their production costs. It is stated in the decree that the new tariffs are based on a cost assessment exercise. The mean cost per services was estimated on the basis of working time of the health professionals involved for providing the service and standard unit costs (calculated on the basis of salaries set in national contracts for the different categories of health professionals).

The reimbursement tariffs for out-patient care are equal for all patients regardless of their place of residence.

As reported above, at present providers in Lombardy region act under volume constrains. They are expected not to exceed target/ceilings agreed with the region. In case providers do exceed the amount of services agreed (in terms of values) sanctions apply. The system of sanctions is sophisticated and it basically foresees progressive penalties for over-production. The penalties may result very relevant in the overall funding of hospitals (historically the maximum reached was -15%).

As in inpatient care services, all providers can require an update of the fee-schedule for outpatient services. The most frequent requests refer to the introduction of new technologies and the modifications of reimbursement levels. In fact, after an accurate evaluation of numerous and pressing requests coming from the scientific community, the Region has recently introduced a new fee schedule for innovative laboratory services (DGR n. 18585 August 5th 2004).

Special area-mental care

The tariffs for inpatient (DRGs) and outpatient (fee for service) mental care services in Lombardy regions have always been updated concurrently with other areas of care. Thus, everything described above in regards to updating of the DRG and out-patient regional fee schedule applies also for this area of care. Only once, (DGR 37597 July 24th 1998), a the region put particular attention on community psychiatric care services. In that occasion, ad hoc fees were defined for mental care services provided in:

- residential homes (per day tariff differentiated in three classes according to number of hours expeted to be used for assistance)
- domiciliary visits (fixed tariff per visit)
- community care services: psychiatric visits- individual and group, interviews to family members, reintegration to work place, social support..etc (each services is given a weight according to time (minutes) consumed for its delivery; reimbursement tariffs are calculated as the product of the weight and fixed cost per minute)

The peculiarity of this clinical area is more evident in the “ad hoc measures” adopted in tariff definitions. In the last decade, the tariffs for mental care services have been substantially increased in Lombardy without any “justification” based on their production costs. The update was mainly due to the regional decision to increase funding for psychiatric care and to sustain private and public institutions complaining that the tariffs were absolutely insufficient to cover costs.

In regards to providers, in the following paragraphs we present few examples of studies conducted in order to assess the production costs of mental care services at this level.

Naturally, methodology adopted varied between studies and over time. In one of the first cost assessments conducted in Lombardy, Fattore and colleagues evaluated the full costs of services in Magenta Psychiatric Service using a top-down approach. Cost object were hospital days in psychiatric ward of general hospital, days in residential facilities and services provided by the Magenta community mental health center classified in sixteen items. Cost per hospital day were derived from the cost of management system of Magenta Local Health Authority. The sum of costs directly attributable to psychiatric and residential facilities (personnel, goods and services, maintenance) and costs allocated indirectly (administrative services and central facilities) was divided by the number of days provided in these facilities. For the services provided by community center, the total cost attributable to this provider was assessed from various sources. Total costs incurred to run the community center were than divided by the number of sixteen types of services (weighted in order to take into account the variability observed in labor time and cost per hour across services). Other studies that used the similar approach include: Percudani et al, 2003, Tansella 2001, Amaddeo et al, 1998.

In a study conducted on cost of schizophrenia in community psychiatric services in Italy (Tarricone et al, 2000), authors used a bottom-up approach. The community healthcare centres' informative systems were questioned to collect patients' data. Costs of interventions provided were valued, according to their long-run marginal opportunity costs, estimated on the basis of revenue costs in the short-run, with the addition of capital costs and overheads. As to mental care services, full costs were elicited for interventions by identifying, measuring and attributing to single interventions resources used (e.g. personnel, utilities and overheads) in addition to capital costs. Transportation costs borne by community mental healthcare centre were added whenever interventions were provided in distant places (e.g. patients' home, CRFs, other settings).

Special issue- interregional mobility

One of the fundamental healthcare rights of Italian citizens is the “freedom of choice of provider and place of care”. This right may be exercised within or outside the region of residence. Thus, regions have to pay for the treatment provided to their residents by providers located in other regions (outward mobility) and, in turn, they receive payments for health care provided to patients coming from other regions (inward mobility). The payment flows include a wide spectrum of healthcare services:

- inpatient and day hospital care
- primary care
- specialist outpatient care
- pharmaceutical care
- thermal care services
- patient transportation (including helicopter transfer)

In regards to inpatient and day hospital services, special agreements apply for interregional compensations. Since July 1st 2003, a so-called “uniform tariff” (TUC-tariffa unica convenzionata) applies to hospital treatments provided outside the region of residence. This tariff is DRG specific and is equivalent to national fees defined in 1997 (Grouper version 10). Specific adjustments apply to:

- DRGs classified as “high complexity cases” (national fees are increased by 10%),
- DRGs defined “at high risk of inappropriateness ” (national fees are decreased by 20% for medical and by 40% for surgical DRGs)

transplantation (special tariffs apply)

PRIMARY CARE

ITALY

All patients in Italy are registered with a general practitioner (GP) or a paediatrician who is in charge for providing most primary care, for referring to specialists and for prescribing drugs. Patients are free to choose their primary care physician (or paediatrician) provided that the physician's list has not reached the maximum number of patients allowed. Italian GPs and primary care paediatricians work as independent contractors, mainly paid on an age-adjusted per capita basis.

The National Contract is negotiated by the State and the representatives of general practitioners organized in various trade unions. Once reached, the agreement is legally enforced through a Decree approved by the Ministry of Health (i.e. the agreement is a binding by law).

The categories of services that primary care doctors are obliged to provide are defined broadly, without specific tariffs assigned.

According to the National Contract for General Practitioners, primary care services are reimbursed through three main channels:

1) per capita fee (age-adjusted), negotiated and fixed at national level
2) extra funding linked to performance targets set at national/regional/organizational level
3) fee for service for additional services defined by the contract

Each of the three components is further specified bellow:

1) Per capita fee is a fixed part of GPs funding. In addition to fixed amount per patient, GP receives funding in relation to their age, years of experience, and number of patients enrolled in the list (per capita fee significantly decreases with higher number of patients). There is no empirical evidence of any kind of cost assessment conducted in order to define these fees.
2) Recent reforms introduced extra funding to incentivize group practices and to promote integration between primary care physicians and services directly offered by health authorties such as specialised medicine, social care, home care, health education and environmental health. In addition, extra funding is available for upgrading the quality of

service provision by improving, for example, physisicians' practices information systems.

3) A special section of the National Contract (Appendix D) defines "additional services" that can be provided by General Practitioners and for which specific tariffs are applied. For their provision GPs are paid individually, on top of their basic remuneration. These services are classified in three categories: (i) services not requiring NHS authorization (first and subsequent medication, superficial wounds suture, threads removal, urethral catheterization (men and women), phleboclysis (only in emergency cases), tetanus vaccination);(ii) services requiring NHS authorization (phleboclysis cycle curative cycle of endo-venous injections, aerosol curative cycle, non obligatory vaccination) and (iii) services defined by additional regional agreements.

Primary care physicians may provide their services under public coverage only to patients on their list. Occasional visits to patients not included in the list are paid directly by the patient (the fee is defined for ambulatory and domiciliary visit). The same fees apply to foreign patients who temporally reside in Italy.

Regions are autonomous to negotiate further agreements (*Accordi Integrativi Regionali)* that may define additional services to be provided in primary care (for residents, non residents and foreigners) and set specific conditions for extra funding.

In summary, there is no tariff system in place for primary care services in Italy. The services provided by primary care physicians are mainly paid (70% of total funding) through per capita financing, set at national level and is uniform across country.
We are not aware of any kind of cost assessment for services provided at this level of care.

HC.2. SERVICES OF REHABILITATIVE CARE

1) ITALY

National tariffs for in patient and day hospital rehabilitative care were defined and updated concurrently with other areas of care (see above). In short, national tariffs are established on a "per day" basis and are uniform for all cases inside a particular MDC. Tariffs applied for periods no longer than 60 days; beyond this limit tariffs are reduced by 60%. In 1994, daily tariffs for rehabilitative care were calculated on the basis of a cost assessment conducted on 8 hospitals. So far they have been updated only once in 1997.. Many regions, however, have extensively worked to improve and update the national system.

2) LOMBARDY

When the first regional DRG tariff schedule was introduced in Lombardy (DGR n. 5/62664 December 20th 1994), reimbursement fees for inpatient rehabilitative care were defined on a "per case" basis. The level of reimbursement was set for specific MDC and the same tariff applied to all DRGs included in those MDCs. The same decree also defined the "cut-off" value for the length of stay (above which tariff "per hospital day" applied) and tariffs for day hospital accesses.

Since 1997 tariffs for inpatient rehabilitative care in Lombardy have been defined on "per day" basis, as set at national level. The major difference between nationally set daily tariffs and those applied in Lombardy is that regional schedule tariffs are not uniform across specific MDC (they vary according to DRGs particularly for nervous and respiratory system MDCs). Those tariffs have been continuously updated together with other inpatient care services. In several occasions, the updating followed more or less comprehensive cost assessments (see above).

In 2004, the network of regional rehabilitative care services has been reorganized. The old classification introduced in 1998, composed of three categories of healthcare services ("recovery and functional rehabilitation, neurorehabilitation and long-term care") and one category of social care services ("extra-hospital rehabilitation") was abandoned. The new regional system classified rehabilitative care in three new areas:

1. specialist rehabilitative care
2. general and geriatric rehabilitative care

3. maintenance rehabilitative care

Box 1. New classification of rehabilitative care services in Lombardy

1. Specialist rehabilitative care is provided:
−in the immediate post-acute phase, following the traumatic event when high intensity medical care may positively influence the recovery of the patient by reducing disability;
− in case of recurrence with high probability of functional recovery
− to adolescents
2. General e geriatric rehabilitative care is provided:
− in the "consolidation phase" following the traumatic event and/or when the general conditions of patients do not allow high intensity rehabilitative intervention
− in case of recurrence with low probability of functional recovery
− in adolescent age, for disabilities that require long-term rehabilitative care
− in geriatric age in case of unstable multipathologies (high risk of exacerbations)
3. Maintenance rehabilitative care is provided in the period prior to discharge (to home, nursing home or social care institution), with the objective of maintaining functional stability of patients. The intensity of care is lower than for previous categories and is classified in "stabilization" (for acute patients who require short-term care) and "re-integration" (for chronic patients with disabling multi-pathologies).

The tariffs that currently apply for these three categories of services were introduced in February 2005 (DGR n. VII/20774). The updating was done on the basis of results obtained from comprehensive cost assessment conducted in all regional hospitals in 2003 (see above). More specifically, in regards to rehabilitative care services, all rehabilitative care departments (in both public and private hospital providers) were included in the analysis. The objective was to assess average daily cost for inpatient and day hospital regimes, across different clinical specialties (cardiology, neurology, neuromotoric, motoric and respiratory rehabilitation).

The methodology applied was top-down, i.e. the average daily cost was assessed on the basis of the overall cost of a single department and number of hospital days provided (inpatient and day hospital).

The overall costs of specialty rehabiliation departments were classified in five cost components (production factors): personnel, supplies, auxiliary services (provided by other departments), department overhead costs and general costs of the hospital. The cost of personnel was assessed accurately mainly by the measurement of time used by the different categories healthcare professionals (doctors, nurses, rehabilitators, technicians).

The incidence of various cost components was assessed separately for each clinical specialty (only for hospital general costs a fixed percentage was applied to all department). The tariffs were calculated for each specialty branch and these values were compared to rehabilitative care "per day" tariffs in force.

It is important to specify that this cost assessment was performed directly only for services categorized as Specialist rehabilitative care (see above). The tariffs for General and geriatric and Maintenance rehabilitation were derived on the basis of assumptions regarding the consumption of resources (production factors) in other settings. More specifically, assumptions were made on the incidence of different cost components. For example, it was assumed that medical doctors would spend less and nurse would spend more time for geriatric rehabilitative care than for specialist care, so to perform relative adjustment.

The current decree defines tariffs for in-patient, day hospital, out-patient and domiciliary rehabilitative care services.

In-patient rehabilitation

1) Specialist rehabilitative care is reimbursed on a "per-day" basis for each DRG. Unlike the national fee-schedule that defines daily tariffs for rehabilitation at MDC level, regional fees differ across DRGs in the same MDC (particularly evident in MDC 1). The reimbursement level is defined as the product of number of days in hospital and daily tariffs, up to a "cut-off" in terms of days above which the daily tariff is reduced by 40%.

2) General and geriatric rehabilitative care is reimbursed on a "per-day" basis according to the number of days and a fixed daily tariff (common to all DRGs). A Maximum length of stay criteria apply (60 days for general rehabilitation, 90 days for geriatric rehabilitation); above them the daily tariff is decreased by 40%.

3) Maintenance rehabilitative care is reimbursed on a "per-day" basis according to the number of days and a fixed daily tariff (common to all DRGs). Maximum length of stay criteria applies, above which daily tariffs are decreased progressively:

- 30 days (no repeatable) for stabilization
- 90 days for re-integration (except some special patient groups)

Day hospital rehabilitation

Rehabilitative care in day hospital regime are available only for the first two categories of services; maintenance rehabilitation can not be provided through day hospital activities.

Day Hospital (DH) tariffs for both specialist and general and geriatric care are set at 75% of their relative in-patient tariffs. Repeated DH accesses (i.e "treatment cycles") are allowed for general and geriatric care only. Tariff (daily amount) and maximum cycle duration are differentiated according to three levels of intensity of care.

Out-patient rehabilitation

1) For Specialist rehabilitative care provided in out-patient settings (specialist ambulatory), the regional fee schedule applies (see section on outpatient specialist care).
2) For General and geriatric rehabilitative care, out-patient tariffs are defined on "per visit" basis and differ across three levels, according to intensity of care required (time duration of the visit). For each level of intensity a maximum number of outpatient sessions per patient is set (low intensity-max 30, medium intensity- max 40, high intensity-maximum 60 services), above which the daily tariff is progressively decreased.

Rehabilitative home-care

Home care is available for General and geriatric care. The tariff is set on a "per-service" basis and a maximum of 30 interventions are reimbursed.

HC.3 SERVICES OF LONG-TERM NURSING CARE

1) ITALY

All long-term nursing care services as defined in the OECD classification (in-patient, out-patient, day cases as well as home care) are included in the Italian health basket within the special "on the edge" area between health and social care.

Integration and improved coordination of health and social care have been strongly promoted by the central government for years. The emphasis on integration is aimed at fostering the move from long-stay institutional care to community. This is particularly important for special

categories of patients who may require help over long periods of time (elderly, chronically ill, severely disabled).

The first set of national tariffs for inpatient long term care services was introduced in 1994, concurrently with fees for other hospital services. The daily tariff was set uniform for all cases discharged from long-term departments and corresponded to the lowest value of average daily cost across all DRGs. This tariff apply to the first 60 days of stay, beyond which a 60% reduction is in force. The tariffs were updated only once in 1997.

As in other areas, Italian regions are autonomous in defining their own tariffs. Once again, the case of Lombardy is presented here as an example of regional activism .

2) LOMBARDY REGION

Most of long-term nursing care in Lombardy region is provided in a residential regime, i.e. nursing homes (Residenza sanitaria assistenziale-RSA). Tariffs for services provided in RSAa are defined on "per day" basis and differentiated according to patient characteristics. More specifically, until May 2003 patients were classified in three categories: NAT (completely self-insufficient), NAP (partially self-insufficient) and patients affected by Alzheimer.
On May 1st 2003, a new classification was introduced. Patients (and relative daily tariffs) are classified in 8 categories according to the assessment of three clinical variables: mobility, behaviour /cognition , and co-morbidities. These 8 classes are designed to be homogenous in terms of severity and psico-physical conditions of the patient and are expected to result in a similar pattern of resource use. Daily tariffs are determined for each class and are cover: general (not specialist) medical care, nursing care, rehabilitation services, prosthetic and auxiliary care (aids for incontinence), drugs and medical supplies.

A major comprehensive cost assessment exercise for long term care was recently performed by the region (Regional Institute for Research and Education) in collaboration with a group experts. The main objective of the analysis was to assess production costs of long term services in a sample of RSAs operating in the region and to evaluate to which extent tariffs set by the Region cover these costs. The analysis was conducted on five RSAs, in different

provinces selected in order to include different types of ownership (public, private non profit and private profit), size (n. of beds) and case-mix (±10% of mean regional values).

Overall costs for each RSAs were classified in: 1) direct healthcare costs (personnel, drugs, supplies), 2) “in between” social and healthcare direct costs (personnel); 3) overhead costs (overnight stay, laundry, cleaning, food) and 4) general management costs (administrative staff, maintenance, transportation, taxes).

Costs were assessed using a gross-costing method in which the overall cost of the institutions were allocated to each category. The allocation procedure was essentially based on personnel data (staff number, working hours in period observed). On the other hand, revenues were distinguished between various funding sources: 1) regional fees; 2) patient out-of pocket expenditure; 3) revenues coming from municipalities (social care funding); 4) other sources.

Finally, the costs in each category were compared to regional fees in order to assess to which extent prices reflected these costs. Results show great variability among different providers (35-50% coverage of total costs, 50-110% coverage of direct healthcare and social care costs). These findings are expected to be used in the next update of tariffs for long term care planned in the near future.

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