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Mechanisms of microregulation of private hospitals by health plan operators

ABSTRACT

OBJECTIVE: To analyze the mechanisms employed by health plan operators for microregulation of clinical management and health care qualification within care-providing hospitals.

METHODS: A nation-wide cross-sectional study was carried out. The universe consisted of hospitals which provided care to health plan operators in 2006. A sample of 83 units was selected, stratified by Brazilian macroregion and type of hospital. Data were obtained by means of a questionnaire administered to hospital managers.

RESULTS: Microregulation of hospitals by health plan operators was minimal or almost absent in terms of health care qualification. Operator activity focused predominantly on intense control of the amount of services used by patients. Hospitals providing services to health plan operators did not constitute health micro-systems parallel or supplementary to the *Sistema Único de Saúde* (SUS - Brazilian National Health System). The private care-providing hospitals were predominantly associated with SUS. However, these did not belong to a private care-provider network, even though their service usage was subject to strong regulation by health plan operators. Operator intervention in the form of system management was incipient or virtually absent. Roughly one-half of investigated hospitals reported adopting clinical directives, whereas only 25.4% reported managing pathology and 30.5% reported managing cases.

CONCLUSIONS: Contractual relationships between hospitals and health plan operators are merely commercial contracts with little if any incorporation of aspects related to the quality of care, being generally limited to aspects such as establishment of prices, timeframes, and payment procedures.

DESCRIPTORS: Supplemental Health, organization & administration. Health Maintenance Organizations. Contract Services, standards. Hospital Services. Hospitals, Private.

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INTRODUCTION

Microregulation is the set of induction and control mechanisms exerted by an economic agent on another, in this case, by managed care organizations on hospitals. Such mechanisms – which according to international experience constitute the essence of the managed care approach – have been the subject of countless studies[1,2] in the United States. These studies were aimed primarily at determining the effect of microregulation on health expenditure, accessibility, usage and quality of provided services, and satisfaction among customers and health professionals. A survey by Borowsky et al (1997),[1] including physicians from three different managed care organizations (two of which were offered

by HMOs (Health Maintenance Organizations), known as "network" models, and one staff model), identified factors that quantitatively and qualitatively limited service supply and influenced medical care. These included restricting access to covered services and instituting pre-approval policies.

A study carried out by Davis & Schoen (1998),[2] evaluating physician satisfaction under managed care, indicated that care provided under the auspices of such systems was considered as low-quality by the professionals involved. Two-thirds of physicians reported having problems with restrictions to length of hospital stay, and 50% admitted having difficulties obtaining authorization to hospitalize patients. Moreover, 41% of physicians stated that time spent with patients decreased in the last three years, whereas only 7% reported the opposite.

In Brazil, a recent study (*Ministério da Saúde*, ANS, 2005)[a] investigated this issue among a convenience sample of important companies in the supplementary health sector. According to this study, major points in the relationship between managed care organizations and providers were payment flow (defaults and coverage denials), orthesis and prosthesis use, and incorporation of high-cost technologies, among other issues. The authors conclude that "we may be experiencing a technological transition in the health care sector, […] now no longer characterized by the incorporation of technology into the care process, but instead by an attempt to capture medical autonomy through sophisticated managerial mechanisms that lead to the adoption of an administrative, rationalizing logic [...]".

This discussion also reflects a peculiar moment in the regulatory efforts of the *Agência Nacional de Saúde Suplementar* (ANS – National Supplementary Health Agency). During the tenure of the *Superintendência de Seguros Privados* (SUSEP – Superintendence of Private Insurance), regulation of managed care organizations was virtually restricted to monitoring, i.e., assessing whether companies had the financial capacity to fulfill their contractual obligations. The ANS introduced a wider-ranging approach to regulation of this segment, which included a concern with the extent coverage offered by health plans, recently expanded by the creation of the *Programa de Qualificação da Saúde Suplementar* (Supplementary Health Qualification Program).[b] Thus, the ANS has begun to monitor also the quality of services provided by health plans, based on indicators of the structure, process, and results of health care practice.

The relationships established between managed care organizations and service providers include form of contract, remuneration, and non-financial regulatory systems (such as presence of a gatekeeper, restricted use of certain intermediary services, adoption of pre-approval practices, among others). Such relationships interfere with the health care model by inducing or preventing more integral patient care, and may therefore influence care quality.

Clinical management is understood as "a system whose goal is to ensure that optimal clinical patterns are reached and constantly perfected in order to improve the quality of clinical practice. Noteworthy among the instruments of clinical management are: auditing of clinical procedures, clinical profiling, disease management, case management, and clinical protocols".[c]

The aim of the present study was to analyze microregulation of clinical management and health care qualification within care-providing hospitals by managed care organizations.

METHODS

We carried out a cross-sectional study of data obtained in a nation-wide survey. The study universe was the set of 3,817 private hospitals that provided care to managed care organizations, defined by cross-referencing the databases of the ANS and *Cadastro de Prestadores de Serviços a Planos de Saúde* (Registry of Health Insurance Care Providers) with that of the National Registry of Health Care Facilities (CNES), in July 2006.

Based on this universe, we selected a sample stratified by the five Brazilian geographical macroregions and by type of hospital (general or specialized). Allocation of the total sample size into natural strata was proportional to the number of beds in each natural stratum. In order to increase the efficacy of the sample in each natural stratum, the Hedlin algorithm (Hedlin, 2000)[3] was used to determine the cutoff point (number of beds) between a take-all and a take-some stratum, so as to minimize variance in the number of beds given a previously fixed sample size in the natural stratum. Sample size was 83 units.

We then proceeded to amplifying the sample for generalization, and given that we were working with a stratified sample, each stratum was weighted according to the size of its universe. The final result was an estimated universe of 3,799 hospitals.

[a] Ministério da Saúde, Agência Nacional de Saúde Suplementar. Duas faces da mesma moeda – Microrregulação e modelos assistenciais na saúde suplementar. Série A. Normas e Manuais Técnicos. Regulação e Saúde 4. Rio de Janeiro: Ministério da Saúde, 2005.
[b] Ministério da Saúde. Agência Nacional de Saúde Suplementar. Programa de qualificação de saúde suplementar. [cited 2009 Aug 16] Available from: http://www.ans.gov.br/portal/site/_qualificacao/pdf/apresentacao_final.pdf
[c] Mendes EV. Os sistemas de serviços de saúde: o que os gestores deveriam saber sobre essas organizações complexas. Fortaleza: Escola de Saúde Pública do Ceará; 2002.

As a data collection instrument, we constructed a questionnaire addressing the following dimensions:

- installed capacity and care productivity of the provider;
- practices and structures for assuring and monitoring the quality of provided care;
- organizational and care-related aspects considered in the regulation of providers by managed care organizations;
- mechanisms, practices, and incentives used in the process of regulation of providers by managed care organizations; characterization of the contracting process between provider and care organization, including negotiations, formalization, follow-up mechanisms, and incentives, among others;
- satisfaction of providers with the regulation practices of managed care organizations;
- perception of providers of the role of ANS in regulating the supplementary health sector.

In addition to structured questions, the questionnaire also included an open question where hospital managers were allowed to freely manifest their opinions regarding their relationship with managed care organizations.

Data collection took place between September and December 2006, by means of an interview with the directors of the 83 hospital units. Field researchers were trained for this activity. Data were entered by the researchers into an electronic form and submitted digitally to a database constructed especially for the project. Data were processed using SAS software.

The study was approved by the Research Ethics Committee of the *Escola Nacional de Saúde Pública*, *Fundação Oswaldo Cruz*.

RESULTS

The set of private hospitals that provide care to managed care organizations was composed mostly of small-scale units, almost half of which were of high complexity. The majority (72.0%) of these private hospitals also provided care to the public system.

The largest care organization concentrated on average more than half of the income of each hospital, showing a strong concentration of the income from services provided in the hands of managed care organizations.

A substantial fraction of hospitals had special areas and/or services that increased their competitiveness; among such services, the most commonly mentioned was traumatology and orthopedics. However, in most hospitals, such specialization did not translate into a role as a reference center within the service network, since fewer than half of (46.5%) the hospitals reported being part of a provider network managed by a managed care organizations. Of the hospitals that were part of a managed care organization-based network, 74.1% had some form of referral service, and 65.5% reported referring patients to other hospitals in this same network.

With regards to care practices and microregulation by managed care organizations, adoption of clinical guidelines was more frequent in hospitals that provided more complex care (general or specialized hospitals with an ICU). Guidelines were used primarily for treating acute myocardial infarction, cerebrovascular accidents, labor and delivery care, diabetes, nosocomial infections, and arterial hypertension. The presence of clinical guidelines should be kept in perspective, however, given that physician adherence to these procedures was low, as was the dissemination of these guidelines among patients.

The role of managed care organizations as managers of the care system was incipient or almost absent.

Approximately half of (51.6%) the hospitals reported adopting clinical guidelines, whereas only 25.4% of the study universe reported managing diseases, and 30.5%, managing individual cases. Such practices were not found to be induced by managed care organizations: all 1,961 hospitals which adopted clinical guidelines did so because of the hospitals own policies, independently of external demand (93.5% of cases) or in response to initiatives by specific medical groups/services (6.5% of cases).

The role of managed care organizations in terms of inducing disease management was also minor, these companies accounting for 7.9% of hospitals that adopted this practice. In the majority of cases (73.2%), presence of disease management was due to internal policies and independent of external demand, whereas in 30.4% of cases it was a response to initiatives by specific medical groups or services. These two scenarios were not mutually exclusive.

Case management, in its turn, was adopted by 1,158 hospitals, and was likewise not induced by managed care organizations: 93.8% of hospitals adopted this practice due to their own policies, regardless of external demand, and in certain cases, also by initiative of specific medical groups or services.

Other clinical management tools were also found not to be subject to any form of induction by managed care organizations. For example, hospitals that required a second opinion before carrying out specific procedures did so as a result of their own policies (60.5% of cases) and/or by initiative of certain medical groups or

services (50% of cases). The same was true for studies of variations in medical practice: of the 842 hospitals that adopted such practices, only one did so as a result of induction by a managed care organization. In the majority of cases (86.6%), this practice was adopted because of the hospitals own policies, and/or (less frequently) in response to initiatives by specific medical groups or services.

Moreover, more specific indicators of the quality of care management revealed a low frequency of practices such as recommending coronary reperfusion during acute myocardial infarction and follow-up after breast cancer diagnosis and after cervical and prostate cancer screening.

Thus, care qualification practices were a result primarily of initiatives by the hospital management or by specific medical groups, without the interference of managed care organizations.

Table 1 presents data on the extent to which selected structures and practices for assuring and monitoring care quality are induced by managed care organizations. In the majority of cases (ranging from 73.4% to 100.0%), such practices were adopted by the hospital's own initiative, with organizations playing a minimal role, if any, in this process.

Substantial induction by managed care organizations was only detected with respect to establishment of infection control committees, with (8.1%) or without (13,2%) active search, and or committees for systematically auditing hospital deaths (7.6%). There was a low but detectable level of induction with respect to the establishment of systematic medical ethics committees (4.5% of hospitals), systematic user satisfaction surveys (4.4%), and, pharmacy and therapeutics committees (4.1%).

Table 2 presents data on the influence of managed care organizations on the health care information systems available to the hospitals. The overwhelming majority (98.0%) of hospitals that had information systems for managing health care data had implemented such systems by their own initiative. Likewise, none of the 142 hospitals with electronic patient charts reported having implemented these systems by recommendation of a managed care organization. Patient registries, available in 3,578 hospitals, were predominantly implemented by initiative of the units themselves; in only 2% of these cases was there an influence of a managed care organization in this process.

As to the contracting of services, 91.2% of hospitals had formal contracts with all managed care organizations; of these, 76.4% were by prior negotiation and 18.5% were by technical visit (Table 3). These two mechanisms were not mutually exclusive. Few hospitals had verbal agreements or no contract with managed care organizations (alternatives presented as distinct in the questionnaire), corresponding to a very small fraction of the organizations to which services were provided.

Table 4 shows that 94.5% of hospitals drew formal contracts that included all hospital services; of these,

Table 1. Distribution of hospitals with structures and practices for assuring and monitoring care quality according to induction by managed care organizations. Brazil, 2006.

Structures and practices for assuring and monitoring health care quality	Hospital					
	Induced[a]		Non-induced[b]		CNA[c]	
	n	%	n	%	n	%
Pharmacy and therapeutics committee	77	4.1	1818	95.9	0	0.0
Systematic medical records review committee	0	0.0	1722	87.5	247	12.5
Non-systematic medical records review committee	0	0.0	631	100.0	0	0.0
Infection control committee with active search	191	8.1	1722	73.4	433	18.5
Infection control committee without active search	131	13.2	795	79.8	70	7.0
Systematic death review committee	76	7.6	741	73.7	188	18.7
Non-systematic death review committee	0	0.0	526	93.4	37	6.6
Systematic bioethics committee	76	4.5	1433	84.5	187	11.0
Non-systematic bioethics committee	0	0.0	782	86.2	125	13.8
Systematic user satisfaction committee	77	4.4	1667	95.6	0	0.0
Non-systematic user satisfaction committee	0	0.0	1120	99.9	1	0.1

[a] Induced corresponds to the total number of hospitals that implemented the committee due to demand from one of the 5 main managed care organizations and demand from another organization.
[b] Non-induced corresponds to the total number of hospitals that implemented the committee independently of external demand and by initiative of medical groups or services.
[c] Could not answer.

Table 2. Distribution of hospitals with health care information systems according to induction by managed care organizations. Brazil, 2006.

Type of information system	Hospital			
	Induced		Non-induced	
	n	%	n	%
Information system for health care production	55	2.0	2,931	98.0
Electronic patient charts	0	0.0	142	100.0
Patient registry	73	2.0	3,505	98.0

73.3% did so with all organizations. Few hospitals drew contracts for only some services, such as only outpatient (17%), only inpatient (13.7%), or only for certain procedures (9.8%). Therefore, roughly 80% of hospitals did not draw formal contracts with organizations for only part of their services.

For the majority of hospitals, the fraction of claims denied coverage by organizations was below 10%, with an average of 8%; 30% of hospitals could not recover over half of the denied claims in 2006.

Regarding price increases, 43% of hospitals would adjust the prices of services provided to managed care organizations on an annual basis.

The form of payment most often employed by organizations was by individual medical procedure or by a per service fee. Other modes – such as global budgets, capitation, or treated case (package) – were found to occur only rarely. Thus, only a few hospitals (131) were paid by all organizations on a "per treated case" basis, and only 77 hospitals (not necessarily exclusive of the former 131) were paid by capitation by only a few managed care organizations. Moreover, 303 hospitals reported being paid by most organizations based on global budgets.

DISCUSSION

Analysis of the contractual relationships between hospital providers and managed care organizations showed a strong tendency to formalize these relationships. However, these are merely commercial contracts, with little if any incorporation of aspects related to the quality of contracted care. Contracts were limited, in their almost entirety, to the definition of values, timeframes, and procedures for payment or payment units. Thus, hospitals reported an inexistence or low prevalence in contracts of criteria for denying coverage, requirement for qualitative and quantitative indicators, criteria for indicating certain procedures (use of clinical guidelines), curricular information on health care professionals, and other indicators that are fundamental for organizations to exert health care regulation that is beneficial to their clients.

Similarly, managed care organizations seemed unconcerned with the infrastructure of provider hospitals, or with the quality of the provided care. Thus, there was an almost complete absence of basic committees necessary for ensuring appropriate health care quality (bioethics, death auditing, infection control). Little importance was given to legal requirements, such as those of the National Registry of Health Care Facilities, Sanitary Surveillance, and the Qualification System of the National Supplementary Health Agency.

Our present data should be placed in context, given that they express only the perceptions of managers of hospitals that provide services to managed care organizations. However, our data indicates that microregulation of provider hospitals by organizations ranges from very low to virtually absent with respect to quality of health care. Formation of care networks was also given little importance, since fewer than half of hospital providers were part of an organization-established network.

The findings of the present study agree with the results of a study carried out by the Brazilian Ministry of

Table 3. Distribution of hospitals according to status and type of commercial relationship with managed care organizations. Brazil, 2006.

Mode of commercial relationship	All organizations		Most organizations		Some organizations		No organizations		CNA[a]	
	n	%	n	%	n	%	n	%	n	%
Formal contract	3465	91.2	263	6.9	0	0.0	0	0.0	71	1.9
Prior negotiation	2903	76.4	297	7.8	132	3.5	321	8.5	144	3.8
Technical visit	703	18.5	597	15.7	1720	45.3	565	14.9	214	5.6
Verbal agreement[b]	0	0.0	0	0.0	261	6.9	3467	91.2	71	1.9
No contract[b]	0	0.0	0	0.0	154	4.1	3574	94.1	71	1.9

[a] Could not answer
[b] These two alternatives were presented as distinct answers in the questionnaire

Table 4. Distribution of hospitals according to the coverage of formal contracts with managed care organizations. Brazil, 2006.

Coverage of formal contracts	All organizations		A most organizations		Some organizations		No organizations		CNA [a]	
	n	%	n	%	n	%	n	%	n	%
Total (all services provided by the hospital)	2785	73.3	597	15.7	209	5.5	125	3.3	83	2.2
Outpatient only	37	1.0	0	0.0	609	16.0	2974	78.3	178	4.7
Inpatient only	67	1.8	132	3.5	317	8.4	3116	82.0	167	4.4
Selected procedures/services only	96	2.5	125	3.3	153	4.0	3247	85.5	178	4.7

[a] Could not answer.

Health/ANS,[a] which found microregulation of hospitals by managed care organizations to be centered on controlling or enforcing hospital and medical practice, directing the clientele towards preferred providers, and controlling excessive use of the "system" by insurance holders.

Likewise, we conclude from the present study that hospitals that provide services to managed care organizations do not constitute health care microsystems parallel to SUS. In effect, what seems to exist is an extensive body of hospital providers – most of which are affiliated to SUS – that are not perceived as belonging to a network of private providers, but which are subject to extensive regulation by managed care organizations when it comes to service usage.

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