Evaluation of the organizational structure of HIV/AIDS outpatient care in Brazil

Regina Melchior[a], Maria Ines Battistella Nemes[b], Cáritas Relva Basso[b], Elen Rose Lodeiro Castanheira[c], Maria Teresa Soares de Britto e Alves[d], Cássia Maria Buchalla[e], Angela Aparecida Donini[f] and Equipe QualiAids[b]

[a]Departamento de Saúde Coletiva. Universidade Estadual de Londrina.Londrina, PR, Brasil. [b]Departamento de Medicina Preventiva. Faculdade de Medicina. Universidade de São Paulo (USP). São Paulo, SP, Brasil. [c]Departamento de Saúde Pública. Universidade Estadual Paulista. Botucatu, SP, Brasil. [d]Departamento de Saúde Pública. Universidade Federal do Maranhão. São Luís, MA, Brasil. [e]Departamento de Epidemiologia. Faculdade de Saúde Pública USP. São Paulo, SP, Brasil. [f]Programa Nacional de DST/Aids. Ministério da Saúde. Brasília, DF, Brasil

Keywords
Health programs evaluation, AIDS. Drug therapy or anti-HIV agents, supply & provision. Quality of health care.

Abstract

Objective
In the context of universal access to antiretroviral treatment, the results of the Brazilian AIDS Program will depend on the quality of the care provided. The aim of the present study was to evaluate the healthcare provided by outpatient services for the treatment of AIDS patients.
Methods
The present study was carried out in seven Brazilian States between 2001 and 2002. We evaluated the quality of the care provided to AIDS patients from the standpoint of resource availability and care process organization. A questionnaire comprising 112 structured questions addressing these aspects was sent to 336 services.
Results
Response rate was 95.8% (322). Greater adequacy is seen for indicators of resource availability than for those of work organization. The supply of antiretroviral medication is sufficient in 95.5% of services. CD4 and viral load tests are available at adequate amounts in 59 and 41% of services, respectively. In 90.4% of services there is at least one non-medical professional (psychologist, nurse, or social worker). As to work organization, 80% scheduled the date but not the time of medical appointments; 40.4% scheduled more than 10 appointments per period; 17% did not have exclusive managers; and 68.6% did not hold systematic staff meetings.
Conclusions
The results indicate that, in addition to ensuring the more homogeneous distribution of resources, the program must invest in the training and dissemination of care management skills, as confirmed by the results of care process organization.

INTRODUCTION

The quality of healthcare is an important determinant of the success of programs aimed at treating chronic diseases such as AIDS.[11] In addition to its impact on patient mortality and quality of life, well conducted patient care may contribute to controlling the epidemic.[13]

In Brazil, the dissemination of the AIDS epidemic to cities distant from the large urban centers observed in the 1990's[23] led to a quick expansion of care services, whose number increased from 33 in 1996 to 540 in 2001. The institutional situation of these services is variable. Services may be linked to Primary Healthcare Units, state outpatient services in large hospitals, of to municipal, state, and university-based specialized services, among others.

The Ministry of Health, through the National Pro-

Correspondence:
Regina Melchior
Rua Comandante Carlos Alberto, 71
86039-150 Londrina, PR, Brasil
E-mail: reginamelchior@sercomtel.com.br *or* reginamelchior@uel.br

Study conducted at the Departamento de Medicina Preventiva of Faculdade de Medicina of the Universidade de São Paulo.
Supported by the Brazilian Ministry of Health, Coordenação Nacional de DST e Aids (Grant n. 914/BRA/59 - Unesco / Contract n. 092/00) and Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP - Grant n. 99/11141-5)
Based on the Doctoral thesis presented at the Faculdade de Saúde Pública, Universidade de São Paulo, in 2003.
Received on 9/7/ 2004. Reviewed on 18/5/ 2005. Accepted on 6/9/2005.

gram for STD/AIDS, established the general norms for these services and is responsible for the provision of strategic supplies such as antiretroviral drugs and viral load tests and CD4 counts. Except for these resources, the structure of services depends on the regional/local characteristics of the program and healthcare system.

The present study was aimed at evaluating the quality of services providing care to persons living with HIV/AIDS with respect to resource availability and healthcare organization characteristics.

METHODS

The seven participating Brazilian states (Ceará and Maranhão in the Northeast, Mato Grosso do Sul in the Center-West, Pará in the North, Rio de Janeiro and São Paulo in the Southeast, and Rio Grande do Sul in the South) were chosen by the Program's technical team because they represent different epidemiological and institutional scenarios. All public services in these states were included in the study, totaling 336 services (63% of all Brazilian services), which, in 2001, provided antiretroviral therapy for 92,400 patients (72% of all Brazilian patients).

The study was based on the assumption that outpatient care in the AIDS Program is integrated to the Program's other healthcare and prevention activities, and, as such, must be complex, multiprofessional, and organized according to the clinical, epidemiological, and ethical priorities on which the Program is based.* The second assumption is that, despite the regional and institutional differences between services, all of them must possess the structural and procedural characteristics necessary for displaying an acceptable level of quality.

Structural indicators (resource availability) are based on specialist opinions, on the Brazilian Antiretroviral Therapy (ARVT) Consensus,** and on the Program's human resource regulations.*** Care process indicators (care management and organization) are based on two prior studies: an in-depth qualitative analysis of the profile of care provided in five services,**** and focal groups including patients and physicians.[10] Subsidy for both sets of indicators was found in the literature.[1,3,14,18,20,*****]

The parameters used for evaluating resource availability were accessibility, staff, diagnosis and treatment support, and medication supply.

Healthcare organization was analyzed based on the following items: reception of new patients, patient follow-up, care for female patients, and care for patients at greater risk of non-adherence or dropout (patients in early stages of treatment, with adherence difficulties, frequent absentees, and non-scheduled patients). Care management was evaluated according to manager profile and planning, evaluation, and multiprofessional integration procedures.

We chose to employ qualitative expressions as a form of translating each indicator, so as to reduce the interference of service size and complexity. Whenever possible, we calculated the rate of available resources per patient – e.g., number of available lymphocyte counts per patient/year. When this was not possible, the resource was evaluated only qualitatively – e.g., presence of at least one nurse in the team. Resources usually available in more complex units were evaluated according to their general availability, regardless of whether access occurs within the service itself or by referral.

Data was collected using a structured questionnaire, which was mailed to the coordinator of each service. The questionnaire was elaborated after progressive stages of discussion and consensus among the research team and program experts.[6,12,19]

A pilot questionnaire was answered and commented upon by a sample of 46 services from different states. The analysis of the answers provided was the basis for the final questionnaire, which comprised 112 multiple choice questions describing the institutional characteristics of the service (six questions), resource availability (30 questions), and all stages of the care process and management activities (76 questions).

The present study was approved by the Ethics Committee of the Universidade de São Paulo Medical

*Nemes MIB. Avaliação em saúde: questões para o Programa de DST/Aids no Brasil. Rio de Janeiro: Editora Associação Brasileira Interdisciplinar de Aids (ABIA)/ Fundamentos de Avaliação; nº 1. 2001.
**Brasil. Ministério da Saúde. Coordenação Nacional de DST e Aids. Consenso sobre terapia antiretroviral para adultos e adolescentes infectados pelo HIV [on-line]. Brasília (DF); 2002/2003. Available on-line at: http://www.aids.gov.br [Jan 2003]
***Brasil. Ministério da Saúde. Alternativas assistenciais à Aids no Brasil: as estratégias e resultados para a implantação da rede de Serviço de Assistência Especializada. Anexo II – O perfil dos SAE. Available on-line at: http://www.aids.gov.br/assistencia/aids1/relativ_anexo2.html [23 Feb 2003]
****Castanheira ERL, Capozzolo AA, Nemes MIB. Características tecnológicas do processo de trabalho em serviços de saúde selecionados. In: Nemes MIB, organizador. Avaliação da aderência ao tratamento por anti-retrovirais em usuários de ambulatórios do sistema público de assistência à Aids no Estado de São Paulo: Coordenação Nacional DST/Aids, Ministério da Saúde, Série Avaliação No 1, Brasília (DF); 2000.
*****Castanheira, ERL, Tunala L, Donini AA, Oliveira S, Silva ER, Alves MT et al. A experiência do grupo focal na Avaliação da Qualidade dos Serviços Ambulatoriais de Assistência a pacientes com HIV/aids. In: I Forum e II Conferência de Cooperação Técnica Horizontal da América Latina e do Caribe em HIV/AIDS, 2000, Rio de Janeiro. Anais Fórum 2000. 2000. p. 110.

Table 1 - Proportion of services according to resource availability. Brazil, 2001.

Resource	%
Professionals present in the team (in addition to a physician)	
Social worker	83.5
Nurse	81.2
Psychologist	77.0
Pharmacist	76.4
Dentist	54.9
Access to medical specialties (local or upon referral)	
Pulmonologist	87.9
Neurologist	90.1
Ophthalmologist	94.4
General surgeon	91.0
Access to tests for diagnosis/therapy support	
T-CD4/T-CD8 lymphocyte count	98.0
RNA-HIV (Viral load)	95.0
Simple laboratory tests (Hemogram, alkaline phosphatase, triglycerides) (mean of the set)	97.3
Complex laboratory tests (urine culture and serology for Hepatitis B and C and cytomegalovirus) (mean of the set)	87.3
Simple X-ray (thorax, sinuses, and abdomen) (mean of the set)	96.1
Complex imaging tests (Upper digestive endoscopy, tomography, colonoscopy) (mean of the set)	75.2

School and all managers of participating services provided written free informed consent.

RESULTS

The questionnaire was answered by 322 services (95.8%). The number of patients under follow-up ranged from three to 5 thousand: 50% of services followed up to 100 patients, 37% from 100 to 500 patients, and 13% more than 500 patients. Most services were included within facilities that are not exclusive for the treatment of AIDS patients (86.34%).

A total of 52.8% of the services evaluated were in the state of São Paulo, 29.8% in state of Rio de Janeiro, and 18% in the remaining states. Most services were located in cities with under 400 thousand inhabitants (66.0%).

Nonresponders came from the states of São Paulo (1 service), Rio de Janeiro (4) and Rio Grande do Sul (11). The institutional characteristics of services not evaluated in Rio Grande do Sul did not differ in general from those of the studied units.

Resource availability

Regarding physical accessibility, 93.8% considered as easy the access to the service by collective transportation, and 82.6% of facilities did not have physical barriers hindering internal circulation. The majority of services (73%) was open five or more days a week; however, 40% of services worked six or less hours per day. As to appointment scheduling, most units followed the traditional system for public services, all patients being scheduled at the same time, usually at the beginning of the shift.

There was at least one physician specializing in infectious diseases in 74% of services. All physicians had more than five years experience in AIDS in 39% of services, and less than five years experience in 9% of services.

Over 76% of local teams included all the non-medical professionals investigated, with the exception of dentists (Table 1). In 90.4% of services there was at least one non-medical professional.

The majority of professionals is not dedicated exclusively to AIDS care. Exclusive professionals account for 42.3% of psychologists, 36.6% of nurses, 36.4% of social workers, 30.5% of dentists, and 21.1% of pharmacists.

CD4/CD8 counts and viral load tests were available in the majority of services (Table 1); however, 41% of services did not perform CD4/CD8 counts, and 59% did not perform viral load tests in the amount of patients/year recommended by the Brazilian ARVT Consensus.*

Simple imaging techniques were, as a whole, available in more than 90% of services, while more sophisticated techniques had lower mean availability (Table 1).

Access to medical specialties was, in most cases, done through external referral, in general to services run by the Brazilian Unified Healthcare System (*Sistema Único de Saúde* – SUS). This leads occasionally to unpredictable waiting periods form some specialties. For instance, there are waiting periods for oncology in 21.7% of services, for proctology in 16.8%, and for general surgery in 15.8%. In a small proportion of services, certain specialties were unavailable even upon external referral (Table 1).

*Brasil. Ministério da Saúde. Coordenação Nacional de DST e Aids. Consenso sobre terapia antiretroviral para adultos e adolescentes infectados pelo HIV [on-line]. Brasília (DF); 2002/2003. Available online at: http://www.aids.gov.br. [Jan 2003]

Table 2 - Proportion of services according to supply of antiretroviral drugs and drugs for the prophylaxis/treatment of opportunistic diseases.* Brazil, 2001.

Medication	Services with supply without failure %	Services with failure in supply >15 days %	Services where drug is unavailable or not used %
Antiretrovirals			
Didanosine/100	95.8	1.6	2.6
Efavirenz	84.0	8.5	7.5
Stavudine/ 30	76.3	5.3	18.4
Stavudine/ 40	91.3	1.9	6.8
Indinavir	91.4	4.8	3.8
Lamivudine	98.0	1.0	2.8
Nelfinavir	90.0	4.5	5.5
Nevirapine	84.5	5.5	10.0
Ritonavir	79.0	8.4	12.6
Saquinavir	81.6	2.0	16.4
Zidovudine/pill	97.7	1.3	1.0
Zidovudine/suspension	79.0	2.0	19.0
Control of opportunistic infections			
Azythromycin	47.1	15.9	37.0
Ampicillin	60.9	14.7	24.4
Amoxycillin	42.0	25.6	32.4
Sulfadiazine	57.2	21.4	21.4
Sulphamethoxazole-trimetoprim	80.4	14.2	5.4
Fluconazole	58.9	23.4	17.7
Pyrimethamine	46.4	23.6	30.0

*As informações se referem aos seis meses anteriores à pesquisa.

Drug availability was high and homogeneous among services that reported routine use of the different ARVs (Table 2). Some services reported not using stavudine 30 mg, saquinavir, ritonavir, nevirapine, and efavirenz. This was more frequent in services with less than 100 patients.

The availability of drugs for the prevention and treatment of opportunistic diseases was generally much lower (Table 2). Only sulphamethoxazole-trimetoprim, used in primary prophylaxis, was more frequently available, but its availability was still lower than that of ARVs. As to drugs for secondary prophylaxis (fluconazole, pyrimethamine, and sulfadiazine), some services reported not using these drugs. The lack of such drugs was also associated with smaller number of patients.

Care organization

Table 3 presents selected indicators of service organization. The reception and incorporation of new cases is a common task to various university-level professionals, being carried out by nurses in 52%, social workers in 48%, and psychologists in 42% of services.

The activities most frequently reported by nursing assistants are checking of vital signs and orientation for sample collection (67%). Activities such as orientation regarding the use of medication were reported as the task of nursing assistants by 48% of services.

Regarding internal referral among team members, 51% of services reported mutual referral among pro-

Table 3 - Proportion of services according to the type of routine for the reception of new patients and patients in follow-up. Brazil, 2001.

Routines performed	% services
Pre-test counseling	93.5
Post-test counseling	96.3
Assistance on the first day the patient seeks the service	74.0
Medical appointment on the first day the patient seeks the service	20.8
Reduction in the interval between appointments early in ARV treatment	58.1
Scheduling of appointments at set times	20.0
Pre-appointment assistance	53.4
Scheduling of <10 appointments/physician/4h period	59.6
Mean ≥45 min per medical appointment for new cases	46.3
Mean ≥30 min for follow-up medical appointments	47.4
Pre-definition of number of new cases/day/physician	32.2
Protocol for first visit to the service	34.8
Protocol for first medical appointment	44.4
Protocol for follow-up medical appointments	20.5
Protocol for assistance by other professionals	18.9
Scheduling of appointments always with the same physician	86.3
Scheduling routine gynecological appointments	37.0
Summoning of absentees	65.0

fessionals, that is, all professionals could refer patients to each other.

Few services reported the use of protocols (Table 3). Thus, services that answered positively as to the existence of any type of protocol probably referred to the consensual adoption of very generic norms for the standardization of conducts or even the adoption of the ARVT Consensus.

Women are routinely scheduled gynecological appointments, even in the absence of specific symptoms, in 37% of services (Table 3).

When questioned about the procedures adopted when patients expressed the desire to have children, 49% of services reported discussing the risks and orienting the patient as to the best moment for conception. However, of these, 55% also reported discouraging conception.

Different return appointment routines for patients under ARVT were absent in 32% of services. Return appointments after the onset of ARVT took place on a weekly basis in 22.7%, and every 15 days in 35.4% of services.

Most actions adopted for patients with difficulties with the treatment schedule were medical in nature (87.9%), including shorter intervals between appointments. 49.4% of services reported referring patients with adherence problems to other university-level professionals. Adherence groups were present in 18.3% of services.

Regarding the summoning of absentees, 65% of services reported doing so according to various criteria: 39% for patients under ARVT, 37% for more severe cases, 35% when dropout is characterized, and 39% when there are alterations in test results.

In 56% of services, the most frequent reason for unscheduled appointments was a patient missing a scheduled visit. Whereas 46% of services have some mechanism to ensure care for absentees, 17.4% reported seeing these patients only when there were gaps in the daily appointment schedule. On the other hand, 38% of services reported that patients were seen regardless of gaps in the schedule.

We also inquired which activities were performed during unscheduled appointments. Clinical evaluation and reestablishment of treatment were reported by the majority of services (symptom evaluation, 94%; test requests 74%; and drug prescription, 85%). Actions related to the reinsertion of the patient into routine follow-up were less frequent: 71% reevaluate ARV use, 42% verify previous absences to appointments, and 57% identify difficulties in showing up for scheduled appointments.

Table 4 - Proportion of services according to Management indicators. Brazil, 2001.

Management activities	% services
Planning activities	59.8
Systematic evaluations	25.5
Control patient exit from the program (deaths, dropouts, and others)	24.0
Control of patient absences to appointments	25.0
Systematic meetings of the technical team	31.4

In 17% of services, no one is directly responsible for care coordination. In 33%, coordination is the task of a general manager, and in 22.7% of the Municipal Program Coordination.

Of the coordinators interviewed, 11% perform only managerial activities, 23% dedicate more time to patient care than to management, and 31% perform both activities simultaneously or to the same extent. Of the managers, 33% had worked as such for at least three years, and 33.5% of coordinators reported having no training in management.

When inquired about management planning, 20% of services reported not carrying out any type of planning activities, and 20.2% reported only repeating previous plans (Table 4).

Proportions are similar with respect to evaluation activities: 28% of services do not conduct any evaluation activity, and 34% report sporadic evaluations whenever necessary.

The routine information most frequently recorded were number of medical appointments (82%) and number of registered patients (72%). A total of 25% of services systematically registered absences to follow-up appointments. Only 24% of services reported systematic control of patients who leave the service (deaths, dropouts, or transfers).

Of the 31.4% of services that held periodic team meetings, only 67.0% included the participation of physicians.

DISCUSSION

The Brazilian STD/AIDS program includes a network of outpatient services of heterogeneous institutional characteristics and infrastructure.

Despite such heterogeneity, the wide majority of

services possesses the minimal resources needed to supply some level of healthcare – physicians, assistants, antiretroviral drugs, and essential laboratory tests – in easily accessible facilities.

Aspects considered as positive include the presence of at least one specialist in infectious diseases in most services and the experience of physicians in the treatment of AIDS, most teams including at least one physician with more than five years of experience. The specialization of services[4,14] and clinical experience[9,22] have been emphasized as important attributes for quality healthcare from the very beginning of the AIDS epidemic.

However, such positive findings concerning medical resources should be regarded with care. For example, one can assume that the duration of medical appointments for new cases and follow-up patients it too short in many services, since 19.2% of services schedule 16 or more appointments per period. It is likely that, in some of the services, the main problem is the insufficient number of physicians, which forces the reduction of appointment duration to the minimum necessary to cover the demand. However, another explanation is that, even with an adequate number of physician-hours, the service may include professionals whose appointment durations are usually very short. This may indicate the presence of a pattern of appointments lacking technical content and with insufficient space for listening and dialog.*

The role of the remaining team members in patient care has been strongly emphasized since the very beginning of the AIDS Program.** At least one non-medical professional is available in most services. However, it is a matter of concern that almost half the services report that access to these professionals occurs only upon referral by the physician. The mutual referral routine, reported by little more than half the services, expedites patient access to these professionals. In addition, it allows for an integration between the team's professionals, which provides a counterpoint to the more traditional procedure of delegating to the physician alone the identification of referral requirements.

Nursing assistants have a limited role, and their work potential is underutilized, as previously shown.* Trained assistants can deal with specific issues in HIV/AIDS, such as treatment adherence and nutrition, among others, using the proper content and language. However, only about half of the services include pre-appointment activities, and nursing assistants, traditionally in charge of this activity, perform mostly generic tasks, such as the checking of vital signs, necessary for the appointment.

The availability of ARV medication is high and homogeneous. The absence of some ARV drugs in a small proportion of the services occurs mostly in services with few patients, where the presence of patients with severer immunodeficiency is less likely.

The high availability of ARVs stands in contrast to the important problems in the provision of other types of drugs. According to the medication distribution policy, it is the responsibility of Federal Government to purchase ARVs, and of the Municipal and State Governments to purchase other types of medication.*** The commitment to maintaining universal access to ARV therapy, a positive hallmark of the struggle against AIDS in Brazil, seems to play an important role in this scenario. On the other hand, the provision of other drugs and of the remaining resources that depend on the healthcare system is diluted within the entire body of local healthcare needs, and is thus fulfilled based on heterogeneous structures and priorities.

The provision of non-ARV drugs seems to be an example of such a scenario. Although the lack of drugs for secondary prophylaxis in small services may in part be explained by the likely absence of severe patients, the lack of these and other drugs for the treatment of general infections occur to a much greater extent.

Laboratory test availability follows a similar pattern: simpler tests, for which the services are more independent, are more widely available, while other tests, dependent to a greater extent on the SUS referral network, show lesser availability.

The most important markers for determining the course of treatment (CD4/CD8 and viral load) were available in almost all services, although the recommended number of tests per patient/year was not reached. This may be due to the still insufficient number of tests distributed to each service, which is defined based on the number of patients under ARVT plus the estimated number of HIV-positive patients for whom ARVT is still not indicated. Other contributing factors include difficulties in the logistics of

*Castanheira ERL, Capozzolo AA, Nemes MIB. Características tecnológicas do processo de trabalho em serviços de saúde selecionados. In: Nemes MIB, organizador. Avaliação da aderência ao tratamento por anti-retrovirais em usuários de ambulatórios do sistema público de assistência à Aids no Estado de São Paulo: Coordenação Nacional DST/Aids, Ministério da Saúde, Série Avaliação No 1, Brasília (DF); 2000.
**Brasil. Ministério da Saúde. Coordenação Nacional de DST e Aids. Serviço de Assistência Especializada -SAE. (Unpublished technical document)
***CIB resolution 107/2002.

test distribution, collection, processing, and return, and the failure to request tests within the recommended time periods.

Although the majority of service coordinators considered the physical accessibility of the service as adequate, a large proportion of services do not work all day. Restricted work periods may be problematic for the user, by, for instance, forcing him or her to justify monthly absences from work during business hours. The predominant type of scheduling, in which all patients are scheduled at the same time, further complicates this inadequacy.

Pre/post-test counseling, a target of substantial investment by the Program, is performed in the great majority of services. Widely divulged, the implementation of counseling has received substantial resources for training and for the elaboration and divulgation of publications.*,** The incorporation of counseling was connected to the early detection of HIV policy through the implementation of Testing and Counseling Centers.

The issue of adherence, which is a point for criticism of the Brazilian universal access to treatment policy by the international community, received greater emphasis in the Program's investment agenda after the implementation of high-potency therapy.[5]

Adherence requires the articulation of different technologies.[10] The holding of adherence discussion groups, highly encouraged by the Program, is an interesting technology,[2] despite its being used in a complementary fashion, and that coverage of all patients is not feasible. Its effective incorporation into the care process will require wider-ranging changes, that must be guided by the evidence already established in the literature and by the Brazilian experience.

Studies conducted in São Paulo have shown the critical importance of the early stages of treatment to adherence.***,**** Reducing the interval between appointments in the beginning of treatment beyond clinical requirements is an important mechanism for detecting and dealing with adherence problems.

Patients who frequently miss follow-up appointments are at greater risk of non-adherence. A study conducted in 2003 with patients from the same services included in the present survey showed that absence to appointments is a predictor of non-adherence,[16] corroborating the results of a previous study***** carried out in São Paulo. For the same reason, the adequacy and promptness of care for unscheduled patients who missed previous follow-up appointments gain in importance. The results indicate that, during extra appointments, physicians often fail to investigate the reasons for the patient's demand. Being restricted to the classical emergency care centered on the patient's principal spontaneous demand,[15] the care for the 'extra' case is construed more as a technologically impoverished care alternative than as a priority activity for reestablishing contact with patients at risk.

The most important 'extra' demand identified was related exactly to absentees searching for prescriptions and medication, which reflects the inadequacy of routine care and the lack of alternative forms of entry into the service. The reorganization of the care process may return emergency care to its most important role, which is to provide care during emergencies and clinical intercurrences.******

The typical activity of managers is to maintain flow charts and process organizations that ensure the necessary conditions for adequate patient care, especially in the case of high-risk patients. Rivaling in importance with as the technical training of team members, the adequate technical management of the care process contributes to enhancing the effectiveness of the specific approaches of the different professionals and to improving communication within the team.[7] Likewise, the monitoring of processes and results provides subsidy for management interventions aimed at making actions more effective, integrated, and coherent with the Program's technical and ethical agenda.

Unfortunately, the management characteristics evaluated in the present study showed the lowest proportion of positive indicators.

Part of the services do not even have formal managers; in the remaining services, managers dedicate only a few hours to coordination activities,

*Brasil. Ministério da Saúde. Aconselhamento em DST, HIV e Aids: diretrizes e procedimentos básicos. Brasília (DF): Coordenação Nacional de DST e Aids; 1997.
**Capozzolo AA, Castanheira ERL, Nemes MIB. Antiretroviral adherence in São Paulo, Brazil: a qualitative analysis of medical care. In: Proceedings of the 13th International AIDS Conference; 2000 July 9-14; Durban (SA). Durban; 2000.
***Nemes MIB. Avaliação da aderência ao tratamento por anti-retrovirais em usuários de ambulatórios do sistema público de assistência à Aids no Estado de São Paulo: visão geral dos resultados. In: Brasil. Ministério da Saúde. Coordenação Nacional de DST e Aids. Aderência ao tratamento por anti-retrovirais em serviços públicos de saúde no Estado de São Paulo, Brasília (DF): Ministério da Saúde; 2000 p. 17-21.
**** Nemes MIB, Melchior R, Jordan MS, Okasaki E, Komatsu CL Análise qualitativa de entrevistas semi-estruturadas com usuários. In: Brasil. Ministério da Saúde. Coordenação Nacional de DST e Aids. Aderência ao tratamento por anti-retrovirais. Brasília: Ministério da Saúde; 2000.
*****Nemes MIB, Marinho MFS, Kalichman A, Granjeiro A, Alencar RS, Lopes JF. Prevalência da aderência e fatores associados. In: Aderência ao tratamento por anti-retrovirais em serviços públicos no Estado de São Paulo.1ª ed. Brasília (DF): Ministério da Saúde/ Secretaria de Políticas de Saúde/ Coordenação Nacional de DST e Aids; 2000. p. 65-101.
******Nemes MIB. Avaliação em saúde: questões para o Programa de DST/Aids no Brasil. Rio de Janeiro: Editora Associação Brasileira Interdisciplinar de Aids (ABIA)/ Fundamentos de Avaliação; n° 1. 2001.

and most managers have no specific management training.

An evidence of this deficiency is the lack of knowledge of the number of patients followed by the service. The most simple and traditional evaluation indicators, such as coverage and activity concentration, could not be calculated due to the lack of registration data. In this scenario, even the prediction of the demand for material resources, such as ARV drugs and viral load tests, is imprecise.

The Brazilian policy of universal access to AIDS treatment has been justly acknowledged. In addition, care for persons living with AIDS in Brazil has led to the emergence of ethical commitments and technologies that are an example to the Brazilian healthcare system as a whole. Investing in the development of more complete, high-quality care is a great challenge, as it is for the entire public healthcare system, represented by SUS.

Thus, policy makers play an extremely important role. However, it is in rendering actions operational within services that directives are transformed into actual healthcare, and this process is what defines the quality of the care provided. The concretization of this process is dependent on the commitment of local managers.

The present study addressed the first level of analysis of the results of a survey that is the first wide-ranging evaluation of the quality of AIDS care in Brazil.[17] The results of other levels of analysis are currently being submitted for publication and may contribute to a better understanding of the determinants of this situation. Advancing the study of care quality will require novel and wider-ranging methodological approaches.

ACKNOWLEDGEMENTS

We would like to thank Mary Franklin Gonçalves, from the Faculdade de Medicina of the Universidade de São Paulo, for her help in management and in the organization of fieldwork.

REFERENCES

1. Acurcio FA, Cesar CC, Guimarães MDC. Utilização de cuidados de saúde e sobrevida entre pacientes com Aids em Belo Horizonte, Minas Gerais, Brasil. *Cad Saúde Pública* 1998;14(4):811-20.

2. Adão VM, Merighi IM. Grupo de adesão: centro de referência e treinamento DST/AIDS. In: Teixeira PR, Paiva V, Shimma E, oraganizadores. Tá difícil de engolir?: experiências de adesão ao tratamento anti-retroviral em São Paulo. São Paulo: Nepaids; 2000. p.129-34.

3. Aiken LH, Sloane DM, Lake ET, Sochalski J, Weber AL. Organization and outcomes of inpatient Aids care. *Med Care* 1999;37(8):760-72.

4. Asch SM, Sa'adah MG, Lopez R, Kokkinis A, Richwald GA, Rhew DC. Comparing quality of care for sexually transmitted diseases in specialized and general clinics. *Public Health Rep* 2002;117(2):157-63.

5. Bastos FI, Kerrigan D, Malta M, Carneiro-da-Cunha C, Strathdee SA. Treatment for HIV/Aids in Brazil: strengths, challenges, and opportunities for operations research. *AIDScience* [periódico on-line] 2001;1(15). Disponível em URL: http://www.aidscience.org/Articles/aidscience012.pdf [2004 mar 30].

6. Campbell SM, Braspenning J, Hutchinson A, Marshall MN. Improving the quality of health care: research methods used in developing and applying quality indicators in primary care. *BMJ* 2003;326(7393):816-9.

7. Castanheira ERL. A gerência na prática programática. In: Schraiber LB, Nemes MIB, Mendes-Gonçalves RB, organizadores. Saúde do adulto: programas e ações na unidade básica. São Paulo: Hucitec; 1996. p. 222-33.

8. Ferreira MPS, Silva CMFP, Gomes MCF, Silva SMB. Testagem sorológica para o HIV e a importância dos Centros de Testagem e Aconselhamento (CTA): resultados de uma pesquisa no município do Rio de Janeiro. *Ciênc Saúde Coletiva* 2001;6(2):481-90.

9. Hecht FM, Wilson IB, Wu AW, Cook RL, Turner BJ. Optimizing care for persons with HIV infection. *Ann Intern Med* 1999;131(2):136-43.

10. Jordan MS, Lopes JF, Okazaki E, Komatsu CL, Nemes MIB. Aderência ao tratamento anti-retroviral em Aids: revisão de literatura médica. In: Teixeira PR, Paiva V, Shimma E, organizadores. Tá difícil de engolir?: experiências de adesão ao tratamento anti-retroviral em São Paulo.São Paulo: Nepaids; 2000. p. 5-22.

11. Kitahata MM, Tegger MK, Wagner EH, Holmes KK. Comprehensive health care for people infected with HIV in developing countries. *BMJ* 2002;325(7370):954-7.

12. Malin JL, Asch SM, Kerr EA, MacGlynn EA. Evaluating the quality of cancer care: development of cancer quality indicators for a global quality assessment tool. *Cancer* 2000;88(3):701-7.

13. Marins JR, Jamal LF, Chen SY, Barros MB, Hudes ES, Barbosa AA et al. Dramatic improvement in survival among adult brazilian Aids patients. *AIDS* 2003;17(11):1675-82.

14. Markson LE, Turner BJ, Cocroft J, Houchens R, Fanning TR. Clinic services for persons with Aids: experience in a high-prevalence state. *J Gen Intern Med* 1997;12(3):141-9.

15. Nemes MIB. Prática programática em saúde. In: Schraiber LB, Nemes MIB, Mendes Gonçalves RB, organizadores. Saúde do adulto: programas e ações na unidade básica. 2ª ed. São Paulo: Hucitec; 2000. p. 48-65.

16. Nemes MIB, Carvalho HB, Souza MFM. Antiretroviral therapy adherence in Brazil. *AIDS* 2004;18 Suppl 3:S15-20.

17. Nemes MIB, Castanheira ERL, Melchior R, Alves MTSSB, Basso CR. Avaliação da qualidade da assistência no programa de Aids: questões para investigação em serviços de saúde no Brasil. *Cad Saúde Pública* 2004;20(Supl 2):S310-21.

18. Pan American Health Organisation - PAHO. Building blocks: comprehensive care guidelines for persons living with HIV/Aids in the Americas. Cancun; 2000. p. 1-11.

19. Rubin HR, Pronovost P, Diette GB. From a process of care to a measure: the development and testing of a quality indicator. *Int J Qualit Health Care* 2001;13(6):489-96.

20. Shapiro MF, Morton SC, McCaffrey DF, Senterfitt JW, Fleishman JA, Perlman JF, et al. Variations in the care of HIV-infected adults in the United States: results from the HIV cost and services utilization study. *JAMA* 1999;281(24):2305-15.

21. Szwarcwald CL, Bastos FI, Esteves MAP, Andrade CLT. A disseminação da epidemia da Aids no Brasil, no período de 1987-1996: uma análise espacial. *Cad Saúde Pública* 2000;16 Suppl 1:7-21.

22. Valenti WM. The HIV specialist improves quality of care and outcomes. *AIDS Read* 2002;12(5):202-5.

23. Wilson HS, Hutchinson SA, Holzemer WL. Reconciling incompatibilities: a grounded theory of HIV medication adherence and symptom management. *Qual Health Res* 2002;12(10):1309-22.