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Brazil
Improving the Quality of Health Spending
Resource Management in Brazil's Unified Health System
(SUS)

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ABBREVIATIONS AND ACRONYMS

ABRAMGE	Brazilian Association of Group Medicine
ANS	National Agency for Supplementary Health
ANVISA	National Agency for Health Surveillance
CLT	Consolidation of Labor Laws
CQH	Hospital Quality Control Program
DST	Sexually Transmitted Diseases
EC	Constitutional Amendment
FAEC	Fund for Strategic Actions and Compensation
FIDEPS	Incentive Scheme for Development of Teaching and University Research
FNS	National Health Fund
FUNASA	National Health Foundation
GPAB	Primary Care 'Full Management' System
GDP	Gross Domestic Product
GPAB-A	Enhanced Primary Care 'Full Management' System
GPSM	'Full Management' of Municipal System
IBGE	Brazilian Institute for Geography and Statistics
LDO	Budget Guidelines Law
LFR	Law of Fiscal Responsibility
LOA	Annual Budget Law
MAC	Medium and High Complexity
MS	Ministry of Health
NOB	Basic Operational Norms
MOH	Ministry of Health
NOAS	Operational Health Regulation
OSS	Social Health Organization
PAB	Federal Grants for Primary Healthcare Program
PABA	Primary Health Care Funding Cap –Enhanced
PACS	Community Health Agent Program
PCCN	Program to Combat Nutritional Deficiencies
PAHO	Pan-American Health Organization
PCH	Hanseniasis Control Program
PCT	Tuberculosis Control Program
PETS	Public Expenditure Tracking Survey
PNAD	National Households Sampling Survey
PPA	Pluriannual Plan
PPI	Negotiated Programming Exercise (SUS/States/Municipalities)
PSF	Family Health Program
QDD	Expenditure Charts in Annual Budget
SADT	Auxiliary Services for Diagnosis and Therapy
SES	State Health Secretariats
SIA/SUS	SUS Outpatient Information System
SIAFI	Integrated System for Financial Tracking (Financial Administration Information System)
SIAFEM	Financial Administration Information System for States and Municipalities
SIGEO	Budget Management Information System
SIH/AIH	Hospital Information System and Authorization for Hospital Admissions
SIOPS	Public Health Budgets Information System
SMS	Municipal Health Secretariats
SUS	National (Unified) Health System
TCE	State Audit Tribunal
TCU	Federal Court of Accounts
TFECD	Epidemiology and Disease Control Financial Ceiling
UTI	Intensive Care Unit
WHO	World Health Organization

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EXECUTIVE SUMMARY

Introduction

Brazil has made significant progress in human development over the last decade, thanks to a series of policy innovations, and equity of access has increased considerably. In health, consolidation of government health financing, the organization of the sector into a country-wide system (Unified Health System, or SUS) and the greater emphasis on primary care have been critical for these improvements.

Significant challenges relating to inefficiencies and low quality of services remain, however. Given high public debt and tax burden, system affordability and sustainability may be increasingly threatened, while equity gains obtained in recent years may be difficult to sustain. Financial authorities are increasingly concerned about rising health care costs, which already represent about 11 percent of public expenditures. At current levels of health system inefficiency, by 2025 total health spending may increase from 8 to 12 percent of GDP while household spending on health as a share of income can rise from 5 to 11 percent. Increasing the efficiency and effectiveness in the use of health resources to contain rising costs is perhaps the greatest challenge facing the Brazilian health system.

In light of these concerns, this report presents systematic information about the quality of resource management in SUS based on a variant of the public expenditure tracking survey (PETS) methodology. The survey was applied to a sample of states, municipalities and healthcare facilities in the country in 2004.

The Unified Health System

The publicly financed Unified Health System (SUS) nominally covers the entire Brazilian population with a complete range of services free of charge. However, it effectively is the only health service for over half of the population (IBGE, PNAD, 1998), but is the main provider of care for the poor.

Brazil's federal structure and the decentralized nature of the SUS make the financial flows difficult to track and monitor. Despite continuous upgrading, existing information systems do not permit accurate identification of how resources are allocated within the context of SUS, nor how expenditures are executed and services provided at the health unit level. Information is lacking regarding how much SUS as a whole (including the federal, state and municipal governments) spends on hospital and primary care. The levels of efficiency in health service provision are not systematically documented.

This study assesses how the processes of allocation, transfer and utilization of resources are conducted at the different levels of the system. The study provides valuable information regarding the reality of the executing units of the system and how these relate to the central levels. It also seeks to identify problems related to financial flows, analyze how resources are used at the local level, and estimate their impact on the efficiency and quality of health services in general. In this respect, the study provides a basis for improving the entire cycle of public resource management processes (i.e., planning, budgeting, budget execution, input management, and health service production) in the health sector.

Specifically, the study seeks to survey and describe how public expenditure is allocated for each type of health unit, program or health program; assess the extent to which the resources transferred to states and municipalities are used for the purposes for which they are intended; collect evidence of delays and slippages in budget execution by state and municipal secretariats and service provider units and how these problems affect service delivery; and offer a set of policy recommendations to improve efficiency in resource management and the quality of care in the SUS.

The survey was based on a sample of six states, 17 municipalities in those six states, and 49 hospitals and 20 outpatient units in the sampled municipalities. While the sample is not statistically representative of SUS as a whole because of its small size, an effort was made to capture a variety of situations found in the Brazilian federation so that the findings would exemplify typical conditions found in SUS.

Planning and Budgeting

The planning and budgeting process in SUS – similar to that of Brazilian government institutions in general – is well structured but overly formalized. Its complexity and bureaucratic formalism limit its usefulness as an effective management tool. Its main characteristics and limitations are summarized below.

- Legally mandated deadlines for the process of planning and budget preparation and delivery are usually met with few delays. However, the use of data and analysis to identify priority problems in a given locality and as a basis for planning is rare. Plans are often made on the basis of the previous year's plan or following the guidelines from the Ministry of Health.
- States and municipalities suffer from a serious lack of capacity to develop evidence-based plans to guide their health policies and interventions. Planning at the level of health facilities is non-existent. The planning process is truncated; little consistency and articulation is evident between the various documents and stages of planning. Worse, once the plan is submitted, it is usually not consulted or used to guide decision-making.
- The plans present objectives and targets, but almost never define articulated strategies and actions to meet them. In many cases, the plans constitute declarations of intentions rather than maps of how to arrive at desired outcomes.
- Participation of the various actors involved, including governance structures such as the Health Councils, is insufficient and largely ineffective.
- Planning and budgeting are disconnected, especially at the local level. The lack of cost parameters for services to facilitate forecasting of resources required for programs results in the widespread use of past values as the main basis for the new budget. This reduces the validity of the budget itself as well as its usefulness as a management tool.
- Strategic and financial data needed to develop plans and budgets are often centralized in the Finance or Planning Secretariat and not often made available to the Health Secretariat and or unit managers.
- Managers of most public facilities (primary, diagnostic or hospitals) have limited or no authority to plan service provision, define their budgets, reallocate resources or manage inputs. They generally do not manage human resources or control their payroll, and

therefore execute only a small portion of their budgets. Smaller facilities have no internal financial information whatsoever.

Budget Execution

The weaknesses in planning and budget formulation results is further evidenced by the widespread practice observed at sub-national levels of significantly modifying allocations during the budget execution phase often ignoring priorities specified in the planning process. Therefore, it is through the analysis of budget execution that real allocation priorities become evident. In addition, budget execution also affects the efficiency and quality of service provision because it determines how the secretariats and the front-line units perform key management functions such as purchasing and distributing medicines, supplies, and equipment. The most common problems are as follows:

- Significant changes between the initial budgetary allocation and the amount actually available limit the benefits of planning and financial forecasting. The frequent delays observed in the release of budgeted funds results in their suboptimal use by managers. For example, some of the “frozen” funds can be released only at the end of the year, leaving little time for purchases. The unpredictability and delay in funding release is also applicable to federal transfers. Frequently, the “committed” expenditure is usually less than the “real” allocation due to delays in releasing funds, the slowness of the tendering process, and to the sluggish pace of financial processes in general. Payment delays raise costs and result in relatively low levels of spending.
- Municipalities have little capacity for robust budgetary execution due to a lack of qualified personnel and limited autonomy and decision-making authority of line secretariats and health facilities..
- Most of the states and many municipalities do not comply with the constitutionally-mandated minimum percentage of their funding to be spent on health, even though some spend considerably more. Federal transfers do not compensate for this inequality in spending.
- At the level of the state and municipal secretariats, the system for budget monitoring, control and reporting is well structured, but focuses on compliance with legal standards and financial control, with little concern for assessing results. At the facility level, monitoring and oversight is rare.
- A multitude of parallel reporting exists associated with programs having restricted funding and/or specific payment mechanisms. This consumes considerable resources and time, thus increasing administrative costs in the secretariats and the operational units.
- Availability of disaggregated data on budget execution is limited. This hampers tracking actual application of budgeted resources, including federal transfers, and evaluating the efficiency and effectiveness of resource use.

Management of Supplies and Medicines

In the health sector, management of supplies (e.g., from acquisition to use) consumes a substantial portion of financial resources (about 20 percent of the total) and can be a major cause for inefficiency and loss. The current norms governing the process of government purchases are effective in limiting (but not eliminating) the likelihood of misappropriation of resources, but at the same time, their strictness and lack of flexibility create significant distortions.

- The complexity and rigidity of the rules controlling the process of tendering, and the time lines stipulated, require a degree of fine-tuned planning which is rarely found in practice. Long drawn-out buying processes and extended terms of payment encourage suppliers to build additional cost into the prices they quote, and make it impossible for hospitals to take advantage of the best opportunities, frequently ending up causing a delay in supply. Delays in buying, stemming from the sluggishness of the process, are also very frequent in the service units, resulting in lower quality, interruption patient care, and a large number of costly emergency purchases.
- The inadequate control of stock combined with the existence of multiple stocks within service units and inefficient methods of dispensing drugs to inpatients, contributes to considerable waste, loss and misappropriation, possibly as high as 10 percent of the total.
- Poor planning, excessive centralization of purchasing decisions, and an overly rigid legal framework tend to result in a mismatch between the supplies required and those actually made available.

Management of Equipment and Installations

Acquisition and maintenance of equipment and physical plant is among the most costly elements of any health system. Inefficiency in this area can therefore be a significant source of cost escalation. In recent years, the Ministry of Health (MOH) and state and municipal health secretariats have attempted to achieve more rational planning of equipment purchases and distribution. Nevertheless, the findings reported herein demonstrate that most units still encounter serious difficulties in maintaining installations and equipment, with significantly negative consequences for the quality and efficiency of treatment:

- The acquisition of equipment is overly dependent on the availability of irregular federal investment funds. This impedes systematic needs assessment and capital investment planning. In many states and municipalities, there are no predefined and transparent criteria for distributing equipment that periodically becomes available.
- Due to a lack of a consistent program and sufficient funding for preventive maintenance, the frequency with which equipment breaks down results in service interruptions. In addition, to the obvious quality implications, this situation results in higher costs because poorly-maintained equipment has to be replaced sooner.
- Physical installations are often in a state of disrepair, which again undermines the quality of services and their continuity. It also contributes to increased expenditure when major remodeling has to be undertaken or new installations built.

Management of Personnel

The rigid legislation governing human resources in the health sector makes management of human resources difficult and burdensome. However, the problems identified in personnel management in the health secretariats and units – principally those of the public sector – are not solely due to limitations and distortions imposed by legislation. Many problems are related to management practices that result in inefficient use of resources, and in some cases, an absence of management. The main problems are as follows:

- Inefficient staff mix (by category and level) as well as poor staff allocation practices. Often there exists an excess of poorly qualified personnel combined with a shortage of qualified

personnel. This is principally the case in smaller service units as well as for managerial positions system wide.

- Absence of an effective system for incentives and performance evaluation, and of opportunities for professional advancement. When incentives exist, they often become generalized and incorporated into fixed remuneration.
- Low level of remuneration for qualified personnel which results in well-qualified staff seeking positions elsewhere. High rotation of personnel compromises continuity of care.

Management of Production and Quality

Service and quality management is in its infancy. Few health secretariats or units regularly collect data on productivity, efficiency, or quality. In some cases, the classic indicators of productivity (average hospital-stay, turnover of beds, occupation rate) and quality (mortality, hospital infections) are monitored, but rarely used for decision-making.

The data gathered through this survey show, for example, that doctors work fewer hours than the number of hours contracted, while still producing the same number of consultations. This situation is typical of public facilities where “real” working hours are negotiated between doctors and managers, and have little relation to “contracted” hours. The reduced time spent with patients may also compromise quality of care. In addition, 40 percent of the cancellations of scheduled surgeries reported in the survey are attributed to internal management problems and inefficient use of resources, such as the absence of medical or support staff, lack of materials, the failure to sterilize the equipment, etc.

The survey inquired about the principal problems affecting the service offered and its quality. The principal problems as identified by state, municipal and facility managers include: shortage of medical drugs, lack of personnel, limited installed capacity to deal with demand in outpatient units, and lack of medical supplies. These are all related to shortcomings in resource management practices detailed in this study. Hospitals managers also report poorly qualified personnel and low quality hygiene practices (e.g., raising the risk of hospital-acquired infections) while outpatient managers cited the lack of or unavailability of diagnostic and therapeutic equipment.

Main Challenges and Recommendations

The analysis of the quantitative and qualitative results shows the existence of various problems, which impact negatively on the quality and effectiveness of health services provided by the SUS, as well as on the cost of these services. These are grouped into four categories below, with recommendations for how to improve them.

Fragmentation of the planning and budgeting process

Synchronize and align the processes of planning, budgeting, execution, and information, and orient them toward performance. Planning should be the basis for defining performance targets. Plans should contain a limited set of easily measurable performance goals. Measurement of activity costs would be an important complement. As such, the MOH should support the installation of cost accounting systems at the facility level, particularly in hospitals.

Consolidate the transfer of funding resource-by-resource and link growth in financing to growth in performance, thereby rewarding good performance and penalizing low performance. The existing transfers can be streamlined based on broad functional/programmatic categories that are already

well-accepted in the sector (e.g., Primary Care, Hospital Treatment of Medium and High Complexity, etc.).¹ The states and municipalities could then allocate the funds received through these block transfers to specific programs, based on their own plan and budget. The formula for determining the distribution of the transfers should be guided by explicit policy criteria such as (i) attenuation of inter-regional/jurisdictional inequality in health outcomes and access to services, or (ii) performance enhancement at the unit level (i.e., greater efficiency, better quality, etc.).

Inflexibility and complexity in budget execution

Develop and introduce organizational arrangements that give the management units increasing levels of the freedom of action and authority to make decision on the management of resources. The pace of granting such autonomy must be calibrated with each unit's demonstrated capacity, however, and the capacity of the central agency (e.g., health secretariat) to monitor and control its performance. On a pilot basis, some of the large hospitals (e.g., referral units), and possibly regional health districts, can be granted full autonomy to manage its finance and human and material resources. It would be best to start with hospitals that already are official budgetary units and therefore have some experience with autonomous input management. For smaller units with more limited administrative capacity, specific aspects of decision-making authorities could be delegated. Some could become budgetary units, whereas others may need to be given less autonomy. For each case, a preparatory study should be conducted to determine the exact level of decision-making each of the authorities is to be delegated.

Lack of managerial autonomy, incentives and capacity

Strengthen and professionalize management capacity. The Ministry could promote adoption of modern management techniques by the secretariats and health units. Such techniques would include management of decentralized personnel; management of purchases and stocks that facilitates estimation of needs, programming of purchases and better control of stocks; management of equipment and installations that enables monitoring of the state of the equipment and its permanent maintenance; evaluation of activity costs and efficiency; evaluation of results in terms of coverage and performance indicators on effectiveness and quality of services. It would be necessary to revamp human resource policies (e.g., better structuring of health care and management careers, systematic training policy) to make careers in the public health sector more attractive.

Apply mechanisms to strengthen accountability, such as management contracts that make the administrators focus on specific goals and measurable results. This instrument could serve as a basic mechanism for planning, monitoring, and evaluation. Greater autonomy granted to specific facilities should be balanced with clear performance expectations (targets) and ex-post accountability. In using management contracts as a tool of accountability, a mechanistic application of "reward and punishment" should be avoided. Instead, the performance targets should be used as references around which the secretariat and the unit can develop on-going reviews, dialogue, and appropriate corrective measures to enhance the unit's performance.

Inadequate management information

Establish strong monitoring systems that aim to improve organizational performance. These systems should supply useful and clear information for internal management, including data on

¹ As this report was going to press, the MOH approved a regulation mandating the consolidation of transfers into six block grants.

program/unit performance that permit comparisons with targets as well as among the units themselves.

1. INTRODUCTION

Brazil has made significant progress in human development over the last decade, reflecting gains in health status, education attainment and social assistance. Thanks to a series of policy innovations in each of these sectors, equity of access has increased considerably. In health, consolidation of public financing, organization of the sector into a country-wide system (Unified Health System, or SUS), and the greater emphasis on primary care and control of infectious diseases have been critical for these improvements.

Significant challenges remain, however. Social services continue to suffer from inefficiencies and poor quality. Given high public debt and tax burden, which in turn may constrain future public spending, a case can be made that without improvements in the efficiency and quality of social service delivery, system affordability and sustainability would be increasingly threatened, while equity gains obtained in recent years may be difficult to sustain. Financial authorities are increasingly concerned with the growing costs of health care, which represent approximately 11 percent of public expenditures. A recent study estimates that at current levels of health system inefficiency, by 2025 total health spending as a percent GDP will increase from 8 to 12 percent while household spending on health as a percent of income will rise from 5 to 11 percent.² Increasing the efficiency and effectiveness in the use of health resources to contain rising costs is perhaps the greatest challenge facing the Brazilian health system.

In light of these concerns, this report presents systematic information about the quality of resource management in SUS based on a variant of the public expenditure tracking survey (PETS) methodology applied to a sample of states, municipalities and healthcare facilities in the country.³ The survey was necessary because of the complex financing structure of SUS that makes tracking of fund flows difficult and the inadequacy of the existing information systems, which, despite continuous upgrading, do not permit accurate identification of how resources are allocated within SUS, nor how the expenditures are executed and services provided at the health unit level.⁴ Similarly, information is lacking regarding how much SUS as a whole (including the federal, state and municipal governments) spends on hospital and primary care. The levels of efficiency or inefficiency regarding health service provision are neither known nor documented.⁵ The PETS methodology enables systematic collection of relevant information at the secretariat (state and municipal) and facility levels to gain insights into institutional and managerial causes of inefficiencies, and their effects on the quality of health services.

Specifically, the study seeks to survey and describe how public expenditure is allocated for each type of health unit, program or health action; assess the extent to which the resources transferred to the states and municipalities are used for the purposes for which they are intended; collect evidence of delays and slippages in budget execution by state and municipal secretariats and service provider

² Marcos Bosi Ferraz (2006). "Brasil 2005: Desafios do Sistema Saúde," *Economia da Saúde On-line*, Centro Paulista de Saúde, http://www.economiasaude.com.br/new/destaques?id_destaque=8.

³ The sample includes six states (Sao Paulo, Rio de Janeiro, Rio Grande do Sul, Ceara, Mato Grosso, and Amazonas) with a variety of socioeconomic characteristics and differentiated levels of institutional development, and 17 municipalities within these six states, and hospitals and outpatient clinics in these jurisdictions. The sample is too small to be statistically representative of SUS, but is sufficiently diverse to be illustrative of its systemic problems. See the Annex for additional details of the sampling and other methodological considerations.

⁴ It is not unusual, for example, for the director of a public hospital to be unaware of his payroll costs and the total amount of resources spent in his hospital.

⁵ A forthcoming World Bank report (2007) examines efficiency of hospital services in Brazil.

units and how these problems affect service delivery; and offer a set of policy recommendations to improve efficiency in resource management and the quality of care in the SUS.

The report is divided into 5 chapters. This first chapter presents background information on SUS, its structure, financing arrangements, and planning and budgeting systems. The following four chapters report on the survey findings. Chapter 2 reports on planning and budgeting in SUS. Chapter 3 center on materials management and Chapter 4 focuses on human resource management. Chapter 5 presents the results of quality and production management. The final chapter presents summary conclusions and recommendations.

METHODOLOGY

This study applies a modified approach of the Public Expenditure Tracking Survey (PETS) methodology developed by the World Bank and applied in a number of countries. The methodology is adapted to the complexities of resource allocation in Brazil's Unified Health System. In this study, PETS was applied to a sample of states (6), municipalities (17), hospitals (49) and ambulatory units (40). Six areas of analysis were included in design: (i) planning and budget formation; (ii) budget execution; (iii) material management; (iv) equipment and plant management; (v) human resource management; and (vi) production management. Data was collected through a survey instrument that was applied in situ by surveyors, complemented by interviews with key personnel and analysis of secondary data. The annex contains an in-depth discussion of the survey design, methodology and analysis.

CHALLENGES OF RESOURCE MANAGEMENT IN BRAZIL'S HEALTH SECTOR

Health status in Brazil has significantly improved in the last 10 years: infant mortality decreased by 47 percent in 14 years (from 47.5 per 1,000 live births in 1990 to 25.3 per 1,000 in 2004). Mortality rates from vaccine-preventable diseases in children are negligible; and diarrhea diseases are the cause of less than 7 percent of all deaths among children under 5 years of age. Brazilians are living longer and are much less likely to die from communicable diseases. While Brazil has a relatively high incidence of HIV/AIDS compared to the rest of Latin America, the number of new cases annually has now leveled off due in part to improved surveillance, effective detection measures, and aggressive prevention and education campaigns.

Despite these gains, two important challenges have come to the fore. First, non-communicable diseases (NCDs) and injuries are now the leading causes of death with cardiovascular diseases, injuries and cancer the top three causes, accounting for 62 percent of all deaths. Continuing with the status quo will add US\$ 34 billion to the country's health care expenditures over the next decade, and also result in US\$38 billion in lost productivity.⁶ Without shifts in how care is provided and good health promoted, the additional cost of treatment combined with lost productivity (due to earlier death and disability) could consume an additional five percent of GDP over this period. Second, despite the fact that more than 97 percent of all births occur in hospitals, which should mean better care, neonatal mortality currently represents over 60 percent of infant mortality.⁷ Addressing neo-natal mortality requires establishment of effective care referral systems as well as quality improvement in hospitals.

⁶ Status quo refers to under-provision of health promotion and prevention interventions, weakness of referral systems, lack of dissemination and use of cost-effective treatments, and the absence of functional networks to facilitate the application of case management protocols across all levels of care. See *Addressing the Challenge of Non-communicable Diseases in Brazil*, World Bank, Report No. 32576, 2005.

⁷ Deaths occurring during the first 28 days of life.

Since the launching of Unified Health System (SUS) in 1988, change has been incremental but steady. The main strategy of Brazil's health reform (*Reforma Sanitaria*) has been the decentralization of service provision from the federal government to the municipalities, and to a lesser extent, to state governments. All states and most large urban municipalities have gained full management responsibility (*gestão plena*) for higher level care.⁸ A second key element of the reform was the establishment of a federal financing system based on grant transfers. Accounting for over 80 percent of federal health financing, this system represents an important shift away from directly paying for (and operating) services to financing programs and health care through sub-national entities. A praiseworthy achievement of decentralization and the grant-based financial systems has been the financial buy-in from states and municipalities, which currently finance nearly 45 percent of all publicly funded health care (See Table 1.1 below). The federal government finances the difference through grants transfers.

**TABLE 1.1: HEALTH EXPENDITURE,
1995 AND 2004 (IN 2004 R\$ THOUSANDS)**

Spending Indicator	1995	2004 *	Growth % 95-04
Federal health expenditure	35,138	35,611	1.3
States health expenditure	11,296	13,447	19.1
Municipal health expenditure	10,040	15,640	55.8
Total Public Health Expenditure	56,474	64,698	14.5
% of Public Expenditure	10.98	10.17	-
% of GDP	3.89	3.66	-
Private Health Expenditure	67,312	81,896	21.7
% of GDP	4.64	4.64	-
Household Health Expenditure	53,909	62,416	15.8
% of Household Consumption	6.20	6.40	-
Total Health Expenditure	123,785	146,594	18.4
% of GDP	8.52	8.30	-
% Private	54.38	55.87	-
% Public	45.62	44.13	-
* estimated.			
Health spending excludes spending on pensions and retirements of public servants, debt-related spending and health care to public servants, but includes estimates for federal university hospitals.			
Source: DATASUS, SIOPS, IBGE (for GDP)			

The health system still faces structural and organizational challenges that may compromise its ability to achieve further gains. For its level of income and spending Brazil still exhibits comparatively low health status indicators. In 2004, total health expenditure was estimated at R\$ 147 billion (US\$ 50.7 billion), or about 8.3 percent of GDP. Public resources accounted for 44

⁸ Between 2002 and 2005 all states and 667 urban municipalities signed agreements for full management of the delivery systems under their jurisdiction. This means that these sub-national entities are responsible for all publicly-financed health spending and delivery within their jurisdictions. This entails a combination of direct management of public health programs and publicly-owned facilities as well as financing of private providers under contract with SUS.

percent of spending while private spending constituted the remainder (Table 1.1).⁹ Real health spending has increased an average of 2 percent annually between 1995 and 2004. Over this period real annual government and private spending rose on average 1.6 and 2.4 percent respectively.¹⁰

As shown in Table 1.2, total health spending as a percentage of GDP and per capita total expenditure on health (at purchasing power parity rates) place Brazil in the upper fifth among Latin American countries. However, health indicators such as child and maternal mortality along with life expectancy place Brazil among the bottom fifth. Although the validity of such comparisons depends on the sample of countries and how well they are matched based on socioeconomic indicators, the data suggests that Brazil is not obtaining the best value for its money. Other countries spend considerably less but are able to achieve equal or superior health outcomes for their populations. The study aims to understand how resource allocation and management may contribute to overall system performance.

**TABLE 1.2: SUMMARY HEALTH STATUS AND SPENDING
INDICATORS
BRAZIL AND RANK IN LATIN AMERICA**

Indicator	Year	Brazil	LA rank N=20
Health			
Child Mortality <5 (p.1000 births)	2003	35	14
Maternal Mortality (p/100,000 births)	2000	75	15
Life Expectancy at birth ^a (years)	2004	67	15
Economic			
p/c GDP (PPP\$)	2004	8,140	6
Spending			
Total health spending as % GDP	2003	7.6	5
p/c total health spending (PPP\$)	2003	\$597	5
p/c govern. health spending (PPP\$)	2002	\$280	6
Resources			
Physicians p/10,000 population	2001	20.6	4
Hospital beds p/1,000 population	2002	2.6	3
^a males			
Source: WHO,2005; PAHO, 2005, World Bank			

⁹ The private sector covers around 45 million people. Between the SUS and the private sector, the system includes 7,400 hospitals (65% private), with 471,000 beds, 6,000 outpatient clinics (75% public), and 11,500 diagnostic service units (94% private).

¹⁰ Government health spending as a percent of public spending has decreased slightly during this period. However, this indicator oscillates by year depending on estimation methods and the availability of data. For example, it was estimated at 12 percent in 1997, but declined to 10 percent in 2003. As described in this report, such estimates are hampered by the poor quality of data available on health spending at the sub-national level. Between 1995 and 2004, average government health spending represented 10.8 percent of public spending.

SUS AND ITS FINANCING ARRANGEMENT

Structure

The health reform process of the 1980s and 1990s redefined responsibilities within Brazil's public health sector. SUS was established in the 1988 constitution, and subsequent basic legislation guiding its implementation and functioning, was a culmination of this reform process. The main feature of the reform was decentralization of health service delivery to the municipal level. According to the basic SUS legislation, the responsibilities within the system are divided as follows:

- Coordination and definition of policies: this is basically the responsibility of the Ministry of Health, although the states and (to a lesser extent) municipal levels of government have a complementary role to play in adapting and prioritizing the federal policies to local circumstances.
- Regulation: this is also essentially a federal responsibility exercised by the Ministry of Health and by a number of specialized autonomous agencies such as ANVISA (the National Agency for Health Surveillance) and ANS (the National Agency for Supplementary Health).¹¹ The states and municipalities can also undertake a complementary regulatory role within their spheres of influence.
- Financing: this role is shared among the three levels of government (federal, state and municipal) but the decentralization process and the changes introduced in the financing arrangements of SUS over the years have led to a reduction in the importance of federal financing and increased responsibilities of the states and mainly municipalities (See Table 1.1).
- Service delivery: as a result of the reform, service provision is currently conducted on a more rational basis with a clearer division of responsibilities. In general, primary and secondary care is the responsibility of the municipal level and management of high-level referral facilities is that of state governments. However, a number of states operate secondary-level hospitals. The federal government hardly participates in the direct delivery of health services with the exception of certain specific areas (e.g., teaching hospitals). Many SUS-financed services are in effect delivered by private philanthropic or profit-making enterprises either under contract with SUS or through special agreements known as *convênios*.

The Basic Operational Norm 01/96 defines the levels of SUS implementation in the municipalities according to the capacity and interest of the municipal secretariats to assume the different levels of services and programmatic activities.¹² These are divided between:

- “Full management (*Gestão Plena*) of primary care”, under which the municipality is responsible for all primary care activities but not for delivering higher level services; and
- “Full management of the municipal health system,” under which the municipality assumes total responsibility for managing all services and health units within its geographical area.

¹¹ The ANS regulates and supervises private health insurance plans since 1998.

¹² Equivalent classification defined for the states: State level ‘Full’ and ‘Advanced’ Management.

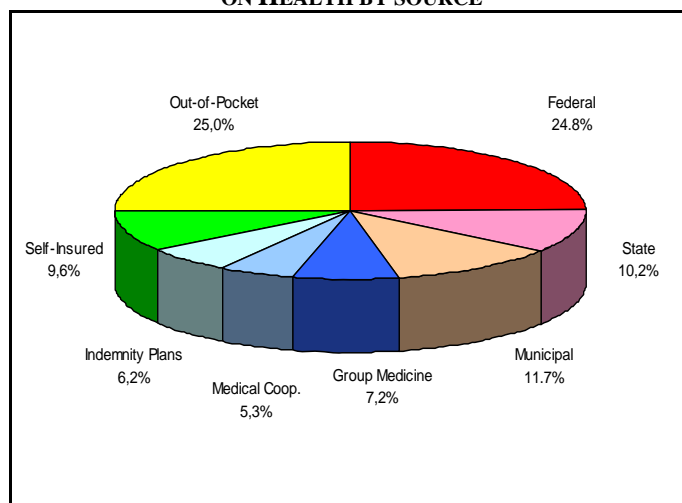
By December 2000, 10% of all Brazilian municipalities were qualified under the full management scheme of the municipal health system and 89% in the full management of primary care system, while 44% of states were qualified under ‘advanced’ or ‘full’ management regimes. However, the operation of the entire system is made highly complex by the enormous diversity of local conditions and the different levels of technical and fiduciary capacities of the sub-national (especially municipal) governments and their facilities.

Financing

The federal government, through the Ministry of Health, is the main financier of the SUS, with federal financing accounting for around 53% of the total public expenditures on health. Public resources amount to just over 45% of the total national expenditure on health, including out-of-pocket contributions by families that account for almost half of all private spending. Figure 1.1 presents a breakdown of spending by source.

Given the decentralized structure, much of federal expenditure is transferred to state and municipal governments through a variety of transfer and payment mechanisms. In total, around two thirds of the Ministry of Health expenditure is transferred to the state and municipal health secretariats or to private health providers through more than 70 different modalities.¹³

FIGURE 1.1: COMPOSITION OF NATIONAL EXPENDITURES ON HEALTH BY SOURCE



Source: SIOPS, ABRAMGE and IBGE 2002 data.

Planning and Budgeting in SUS

The Brazilian public budget system is relatively well structured, although its rules tend to be highly formalistic and complex. While the basic structure and legislation apply to all, each sub-national government can modify the details of its own budget based on its own policies and priorities. This is a natural aspect of decentralization, but the lack of uniformity in budgeting rules and classifications among states and municipalities makes facile comparison and consolidation of health spending data difficult, if not impossible.

Planning and budgeting is performed in several stages: planning and programming of actions, budget preparation and approval, budget execution, control and ex-post reporting. Each stage has to

¹³ A recent, 2006 policy initiative aims to collapse these transfers into six block grants.

comply with legal deadlines. The final budget proposal is the result of two complementary flows: a “bottom-up” flow, with budget proposals developed by the service units and programs under the coordination of the health secretariat, and forwarded to the higher levels of the system, and a “top-down” flow, resulting from the definition of policy priorities and budget caps that in turn depend on the revenue received by the public sector. This latter process is usually coordinated by the Finance Secretariat.

At the planning stage, three basic SUS documents are considered:

The Health Agenda: this is the first stage in the planning process. It defines the priority lines of intervention and action strategies in order to establish the programs, objectives, and targets of health policy. This agenda is submitted and approved by the Health Councils.¹⁴

- The Health Plan: this document is prepared annually to update the sector’s diagnosis, strategies, priorities, programs, objectives, targets and assessment indicators. The Health Plan must include a Targets Chart (*Quadro de Metas*) based on the Health Agenda, and form the basis for programming and budgeting. The Plan must also be submitted and approved by the Health Council.
- The PPI (Negotiated Programming Exercise) consolidates the health plans of the different levels of government (state and municipalities there in) in order to bring their objectives in line with the relevant targets.
- The Management Report is the final step in the planning process. Developed at the end of the budget year, this report assesses the performance of the activities carried out and the results achieved, and, in principle, should compare the results with the objectives and targets fixed in the Health Agenda and Health Plan.

Federal Transfers

The transfers from the Health Ministry to the states and municipalities and the direct payments to service providers represent the largest part of federal health expenditure and one third of the total amount spent by SUS. The three main categorical mechanisms for these transfers are outlined below. Tables 1.3 presents summary features of specific mechanisms for each category while Box 1.1 describes recent changes in SUS financial flows. Figure 1.2 schematically illustrates the financial flows in SUS.

- Payment for services delivered: this consists of payments to hospitals, outpatient departments, clinics and professionals for services provided to SUS based on a fixed rate schedule. Traditionally, payments were made directly to health care providers (e.g., to hospitals through the Hospital Information System and Authorization for Hospital Admissions systems [SIH/AIH] and to ambulatory facilities through the SIA/SUS system), depending on the quantity of services produced. However, direct federal payments to providers have been gradually replaced in recent years by “fund-to-fund” transfers, for the corresponding amount, to states and municipalities, which in turn pay providers. Public

¹⁴ Health Councils are permanent SUS entities established by law (Law 8142 of 12/28/1990) to ensure social participation in SUS oversight and policy-making. They exist at each level of government (national, state and municipal), and include representatives from health authorities (ministry or secretariat), health services providers, health professionals and users. Their role is broad, and includes reviewing, approving and monitoring health plans, overseeing and evaluating budget execution and approving annual reports, and proposing health policies and guidelines at each level of government. The councils’ decisions need to be endorsed by the executive of the corresponding level of government.

TABLE 1.3: SUMMARY CLASSIFICATION OF FEDERAL TRANSFER MECHANISMS

TYPE	MECHANISM	PROGRAM/ACTION	BASE FOR CALCULATION
Direct/ automatic Transfers (fund to fund)	Fixed PAB (Basic Care Threshold)	Tuberculosis Control Hypertension Control Diabetes Control Oral Health Children's Health Women's Health	Global value fixed on per capita basis
	Variable PAB	Health Surveillance Basic Medicines Program Nutritional Deficiencies Program Community Health Agents Program Family Health Program /PSF	Proportional value depending on production or coverage of each program
	Surveillance	Health Surveillance Epidemiology and Disease Control	Value proportionate to production or coverage
	Medium and High Complexity	Outpatient and hospital care/ medium and high complexity	Same as AIH and SIA
Payment for Services Delivered	AIH/SIH – Authorization for hospital admissions	Payment for hospital admissions according to tariff calculated on basis of procedure or treatment involved	Value per admission pre- fixed by tariff; includes fees, hospital services and special materials
	SIA – Outpatient Information System	Payment for treatment received,; - primary/basic (consultations, small cures) - high complexity (tomography, magnetic resonance, haemodialysis)	Value per procedure or treatment, pre-fixed by tariff
Covenants	Covenant system	Payment defined by object of covenant	Negotiated value/ case to case basis
Other incentives and special programs	Direct transfer	Special medicines Mental health drugs Public emergency Health campaigns, National Health Fund	Global value
	Direct Payment	Hospital and outpatient care for indigenous peoples.	Value per admission and procedure, pre-fixed by tariff

- providers are funded through state or municipal budgets, while private providers are paid by states and municipalities based on AIH and SIA bills.¹⁵
- Direct fund-to-fund transfers: these consist of regular and automatic grants transferred directly from the National Health Fund (FNS) to state and municipal health funds. These transfers are earmarked for financing SUS programs and services. Nearly all transfers for financing health services (primary, medium and high care) are channeled through this system. The funds are then used by the state and municipalities to complement their own spending to cover facility and program budgets.

¹⁵ Direct federal payments to providers through SIH and SIA decreased from 69% of MOH transfers in 1995 to 19% in 2003. These federal payments were eliminated in 2005 and merged into fund-to-fund transfers.

BOX 1.1: RECENT CHANGES INTRODUCED INTO SUS FINANCIAL FLOWS

Primary care:

The operational care norm – NOAS 2001 (Directive 95 of 26 January 2001) – created the *Gestão Plena da Atenção Básica Ampliada* (Extended Full Management for Basic Care) as one of the management modalities for the municipal health systems, modifying the basic care threshold which saw its range of activities broadened. This became known as the *PAB-Ampliado* (PABA). This new threshold takes into account actions to control tuberculosis, eliminate hanseniasis, control hypertension, diabetes mellitus, women and children's health and oral health. The PABA, similar to the PAB, consists of a fixed portion of resources (*PABA Fixo*) targeted to Primary Care with a further portion targeting variable care (*PABA Variável*), related to incentives for developing specific programs carried out at this level of care. The PABA values are defined in a band ranging from R\$ 10.50 to R\$ 18.50 (R\$ 0.50 higher than the value of the PAB).

Medium and high complexity:

In 1999, the Ministry of Health created the Fund for Strategic Actions and Compensation (*Fundo de Ações Estratégicas e Compensação*, FAEC). The purpose of this Fund is to pay for highly complex procedures for patients referred by other states. The resources originate from the National Compensation Chamber (*Câmara Nacional de Compensação*). The resources earmarked to FAEC have been increased on an annual basis. By December 2001 they stood at R\$1 billion. – equivalent of 10% of the resources made available in the “caps” (*tetos*) of the states and the Federal District – approx R\$10.2 billion (Management Report 1998 – 2001 of the Secretariat for Health Care of the Ministry of Health). Although originally targeted to high-complexity services, in recent years FAEC funds have been applied to specific initiatives unrelated to care complexity but deemed “strategic” by the MOH. These include campaigns for diagnosing cervical cancer, eye care, tobacco control, reduction of waiting time for elective surgeries, and a hospital quality survey initiative.

Reimbursing costs arising from patients with health plans

In the case patients covered by private health plans who receive care in SUS units, the value of the services rendered must be recovered by ANS in accordance with a SUS rate schedule.¹⁶ The value is reimbursed by the health plan operators to ANS and must be credited to the Health Fund (*Fundo de Saúde*), or to the unit that has provided the service.

Consolidation of Transfers

In early 2006, the Health Ministry consolidated over 70 separate transfers into a six block grants: basic care, medium and high complexity care, health surveillance, pharmaceuticals, and management. State and municipal managers can reallocate resources to activities and interventions within each block, but not across blocks. Linked the block-based allocation, sub-national entities are to sign “health covenants” (*pactos de saúde*), specifying interventions as well as compliance with performance indicators. The “pactos” are an important step to streamline the complex grant-based financing system because they eliminate the one-size-fits-all normative rigidities of the previous system. In short, they allow states and municipalities flexibility to design and organize their delivery systems to fit the local context.

- Agreements (convenios): these are specific but formal agreements drawn up between public authorities and public and non-profit, private providers. They usually fund specific activities, investment programs, or service provision in the non-profit sector. The convenio
- modality was historically used between public entities, but was extended to non-profit institutions.

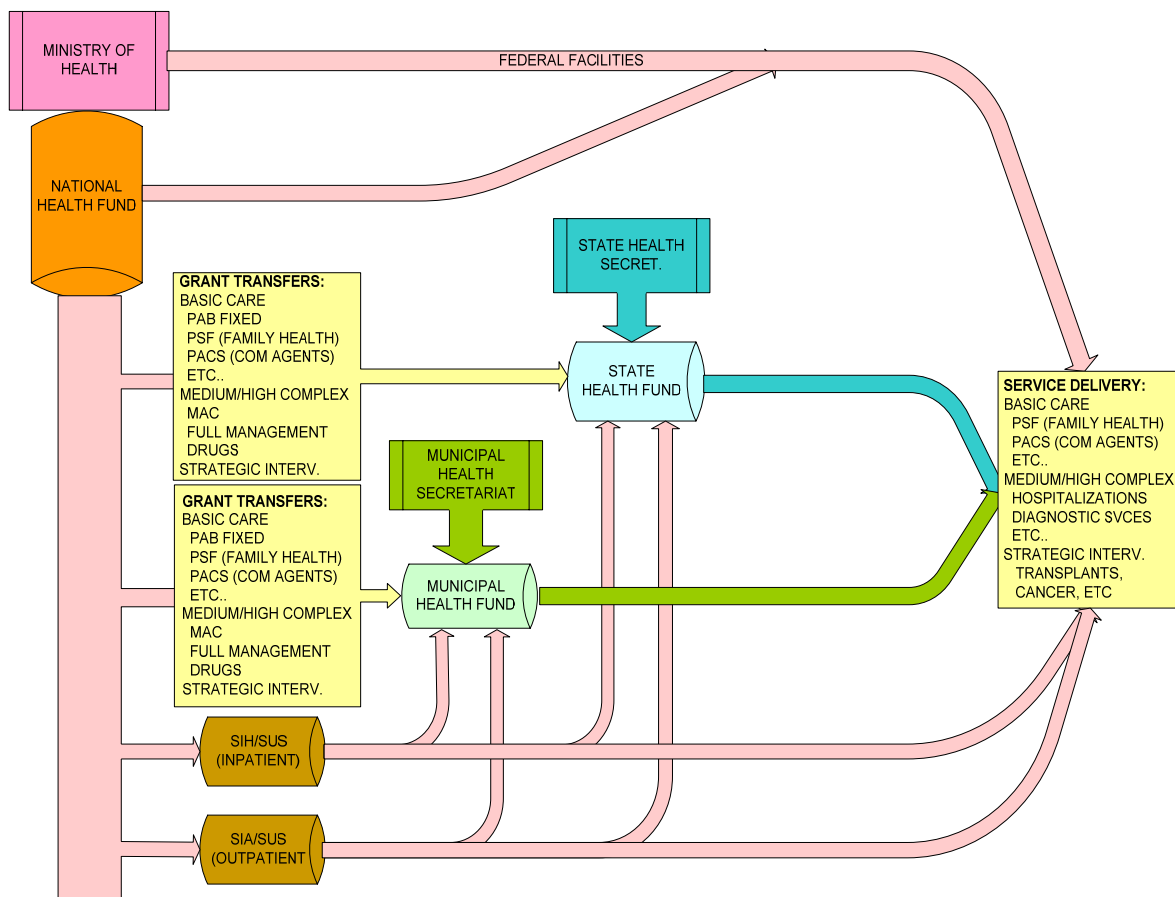
¹⁶ Law 9.656/98, Article 32, and ANS Resolution RDC 18 of March 30, 2000.

- Other special incentives and programs: these are resources for financing specific actions or health inputs defined by the Health Ministry (e.g., special drugs) or aimed at specific population groups (such as the Program to assist indigenous populations). Generally these funds can only be applied to the program to which they are linked.

The Health Ministry annually defines state-by-state caps on each type of transfer and/or payment based on a historic series of production and payments within technical parameters (e.g., one hospital admission per inhabitant/year) and targets set for specific programs. The amounts transferred to the state/municipal health funds usually have to be transacted in accounts that are linked specifically to

the program or the item of expenditure to which they are allocated. While this system is intended to reduce the scope for divert resources from their original purpose, it involves high transaction costs for the local administrators.¹⁷

FIGURE 1.2: FINANCIAL FLOWS IN SUS



¹⁷ In most cases, every earmarked fund requires a separate account, including accounting bookkeeping, and reporting procedures. Since there were until recently nearly 100 different payment mechanisms, this practice implied considerable managerial inputs..

2. PLANNING AND BUDGETING IN SUS

A key function of government planning and budgeting is to ensure that allocation and utilization of the scarce public resources are properly aligned with the government's policy priorities and that the funded activities are implemented efficiently and effectively to achieve desired results at reasonable costs. While definition of policy priorities is fundamentally a political process, the political decisions should be supported by systematic considerations of the population's needs and of the appropriate roles of the public sector, and should be disciplined by the availability of financial resources (i.e., hard budget constraint). This is what effective planning and policy analysis offer.

Once policy priorities (i.e., what social needs to be addressed) and programs (i.e., how these needs are to be satisfied) are defined, the government assigns resources through the annual budget process. Smooth integration of the planning phase and budgeting phases, including substantive consistency between the two, is a fundamental requirement of sound public policy and expenditure management. Effective integration of planning and budgeting can be compromised in a variety of ways, including the weak analytical and evidentiary basis of the plan, lack of financial considerations in the planning phase (which leads to a plan being a pure wish list), incremental budgeting where resource allocation is determined as an increment of the previous year's budget irrespective of the recognized needs and past performance, and the existence of multiple planning processes for different purposes.

A good budget should be comprehensive in its coverage and transparent in its content. For example, all revenues including non-tax revenues such as proceeds of user charges and expenditures such as grant-financed activities should be captured in the budget. The budget documents should include sufficient details to allow policy-makers and outside observers to understand the government's policy and financial intents (e.g., functional or programmatic, and economic classifications) and accountability of resource use (e.g., administrative classification). The emerging trend is to link allocation of financial resources to concrete service outputs, although this requires a fairly high level of technical sophistication, which is not always present in developing countries.

Once resources are allocated, budget management should ensure adequate control of the government's financial obligations and expenditure levels so as to prevent waste or unsustainable build-up of liabilities. A good budget system that facilitates efficient service delivery is characterized by credibility and predictability. On the one hand, a credible budget is one which limits discretionary reallocation of approved funds for other purposes during the execution phase. When lacking credibility, a budget is not able to guide activities of service delivery units in ways that are consistent with the previously defined policy priorities and operational plans, thus rendering the pre-defined policy objectives meaningless and diluting accountability of service delivery units. On the other hand, a good system maintains predictability regarding the amount and the timing of funding releases to service delivery units so that the latter could plan their operational activities and deliver the services efficiently without disruption for lack of funds.

Once the funds are spent and activities are executed, a good system leaves clear and proper records that account for the actual use of the funds, and in sophisticated systems, information of the outputs produced.

This chapter covers the process of planning, budget preparation, and budget execution among the secretariats and health units of SUS. It proceeds in four sections, examining first the current state of planning, then budget preparation, budget execution, and concluding with a summary assessment of the findings.

PLANNING

Planning is the first stage of the resource management cycle in SUS. At the planning stage, the health secretariats and units should conduct diagnosis of the main epidemiological issues facing the population, effectiveness of government interventions during previous periods, and prioritize future actions to ameliorate the existing conditions. A well-crafted plan would be based on a balanced use of top-down policy directives (emanating from the health secretariat and the Ministry of Health) and bottom-up needs assessments (conducted at the facility level).

The survey reveals that, in general, the informational and analytical bases of the existing planning tools in SUS are precarious. Planning is conducted mainly as a formal exercise to comply with the legal requirement rather than as an instrument to implement policy or as a basis for resource allocation. In a decentralized setting such as SUS, tension arises between the need to maintain a degree of consistency in policy priorities across the system (as defined by the Ministry of Health) and the purported benefits of decentralization that should be gained from letting sub-national entities define their own, locally adjusted priorities. SUS has yet to develop ways to achieve a satisfactory balance between these competing rationales of decentralized health policy management (see Box 2.1).

Planning at State and Municipal Health Secretariats

Figure 2.1 reports the survey responses regarding commonly identified problems in the health planning process. Three categorical problems are evident: (i) weak analytic bases; and (ii) fragmentation of programs and priorities; and (iii) lack of time for planning.

Weak analytical bases of sub-national health planning: All the states and most of the municipalities develop Health Agendas and Health Plans. The survey reviewed the informational bases of these planning tools, and found diverse sources being utilized by state and municipal health secretariats. At the state level, these include: a diagnostic measure developed by the secretariat (4 states), the policies defined by the Ministry of Health (3), followed by assessment of the demand and needs, compliance with the requirements of the Health Council and others (with 2 instances each). Assessing the experience of previous years appears as an important source of information in only one state (Ceará). Therefore, there is evidence of efforts to develop state health plans based on a survey of problems and the local situation, although federal policy and programmatic directives exert considerable influence.

In contrast, municipalities have not invested much in developing their own diagnoses as a basis for their health plans. Sixty percent of the municipalities in the sample reported that they simply followed the Ministry's policies and programs in developing their own plans. This is followed by the diagnosis/survey of problems conducted by the secretariat (53%), the assessment of demand and needs (35%), experience from previous years and compliance with the requirements of the Health Council (29%).¹⁸ Planning by the municipalities is therefore strongly influenced, or even directly determined, by the policies and priorities defined by the Ministry of Health at the national level.

¹⁸ The percentages do not add to 100% because of multiple answers.

BOX 2.1: THE TENSION IN A DECENTRALIZATION MODEL

The legislative underpinnings of SUS date to the 1988 Constitution, which instituted SUS and defined the general principles of universality and free services, along with the government's responsibility. Subsequent legislation and regulations defined how the system would operate, establishing a complex system of funding transfers and administrative requirements for states and municipalities. Throughout this process, two central themes were dealt with by the subsequent regulatory measures: specific designs of the decentralized system and the criteria and mechanisms for transferring federal funding to states and municipalities. There is an inherent tension in designing a federal transfer system in a decentralized context: on the one hand, decentralization implies granting greater autonomy to the lower levels of the system, and thereby freedom to determine resource use (which is substantiated in the principle of automatic funding transfers with no prerequisites); on the other hand, there is the need, on the part of the Ministry of Health, as overseer of the system, to promote national policies and priorities, provide incentives for their implementation, and to motivate the states and municipalities to more efficiently allocate and apply federal resources. Naturally, this tension has generated heated debates, which have yet to be adequately resolved in SUS regulations. The main points are summarized below.

Decentralization

The successive regulatory directives defined levels, stages and methods for decentralizing SUS. NOB/93 defined three levels of voluntary participation in SUS for the municipalities (Initial Management, Partial Management and Semi-complete Management) – each tied to a set of official requirements. Many municipalities (and even states) had trouble meeting these requirements and/or were only able to comply in a formal, bureaucratic sense. Operationally, many of the requirements remain partially implemented. As a result, four years later, only 2.9% of the municipalities were qualified under Semi-complete Management, 12.4% under Partial Management and 47.6% under 'Initial Management', with the rest (37%) not eligible at all. A year earlier, NOB/96 had already defined other methods for insertion in the system – Full Management of Basic Services and Full Management of the System – as a replacement for and improvement on those stipulated in NOB/93. Ten successive steps are required for a municipality to become qualified, implying 14 to 20 requirements (all procedural) with 29 justifying documents. In 2001, a new set of regulations, NOAS 01/01, altered the management methods defined by NOB/96, introducing 'Full Management of Extended Basic Services,' and proposed a new model for regionalization of High-Complexity Services, thus creating new administrative procedures and controls. In sum, what it means to be an officially certified sub-national entity in SUS has shifted resulting in considerable confusion among states and municipalities.

Transfer Mechanisms

A municipality's or state's official decentralization status in SUS was always tied to types and amounts of federal funding transfers. In the 1980's, a typical method was agreements (*convenios*) between the federal government and the sub-national governments. Since the 1990's, these have increasingly been replaced by direct and automatic transfers. Depending on differences in the municipalities' and states' conditions and capacities, and on the methods for their incorporation into the system (NOB/93/ NOB/96, N0AS/2001), there was always a coexistence of different transfer mechanisms, which made management of the system even more complex. NOB/96 heightened this complexity when it increased the number of specific transfers for certain programs and actions. Each type of funding was required to be handled using a specific account within municipal and state health funds, created for the purposed of receiving the transfers. Many of the 70 or more payment and transfer mechanisms that exist today are restricted, meaning the funding may only be used in the programs for which it is intended. If, on the one hand, these restrictions contributed to the expansion of basic services programs (such as the Family Health Program - PSF) with positive effects on the health indicators, on the other hand, they require separate and parallel systems for monitoring, control and reporting, which substantially increases the work and manpower devoted to these essentially administrative tasks and thus reduces the system's efficiency overall.

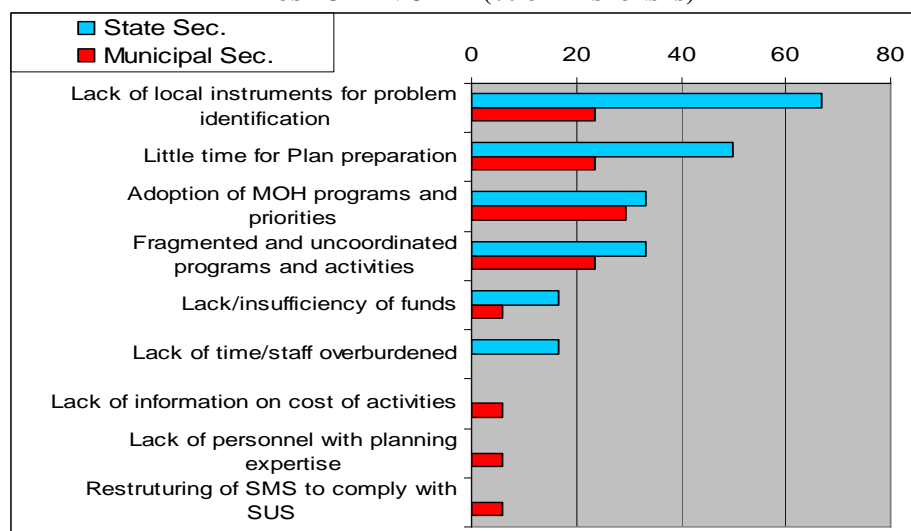
Except for a few municipalities, Health Councils have little influence on the definition of priorities and allocation of resources, which contradicts one of the basic principles of SUS.¹⁹

Finally, in half the states and over one-fifth of the municipalities, respondents report having little time for planning. This suggests that planning may be low-priority activity in these sub-national entities.

Fragmented prioritization: The survey also shows a wide dispersion and fragmentation of priorities. The five programs and five interventions that were defined as priorities by the states and municipalities seldom coincided, resulting in a total of 25 different programs and 19 interventions.

Two of the 25 programs were mentioned by only two states, whereas none of the 19 priority actions was mentioned by more than one state. Similarly, among the 17 municipalities in the sample, 59 programs and 60 actions were mentioned, with only seven programs and one action cited by two or three secretariats. This dispersion suggests considerable autonomy in dealing with the local situation and needs, but it also shows that nationally-defined priorities are not often respected in the sub-national planning efforts. Besides, the actions and programs defined as administrative priorities in the survey do not always figure in the Health Plan or Agenda (one state and several municipalities identified priority programs and actions "forgotten" in the plans, and in general the correspondence is not clear), which suggests autonomy is not used to draw up credible plans to guide the states' and the municipalities' health policy interventions. .

**FIGURE 2.1: PROBLEMS IN THE PLANNING PROCESS
MOST OFTEN CITED (% OF RESPONSES)**



Note: The total exceeds 100% due to multiple responses.

Planning in Health Facilities

As expected, planning is weak at the facility level. Although a large share of the hospital units (75%) – especially larger units – in the sample develop some sort of plan, only around 30% of the outpatient clinics do so. When a plan is prepared, this is frequently late vis-à-vis the legal deadlines. Once again, the analytic bases of these plans seem limited: among those hospitals that develop a plan, 69% base it on the previous plan as the main source of information. The plans'

¹⁹ See footnote 12 for the role of health councils.

value in guiding the facility's performance management also seems limited: 36% of the hospitals use only production or physical targets (e.g., number of consultations and admissions, coverage indicators, etc.);²⁰ 20% apply only financial targets; and 32% use both physical targets and financial ones (expected expenditures). Half of the hospitals surveyed perform technical and financial planning without correlating physical targets with the resources required.²¹

BUDGET PREPARATION

In the budget preparation phase, the substantive content of the sector plans is translated into an action-oriented framework with specific amounts of resources allocated to each budget category. The extent to which annual budgets are well-linked to the problem identification and policy prioritization in the planning phase determines the adequacy of the annual budget in addressing important problems in the sector (as opposed to continuing to allocate resources to low-priority areas because of inertia). Budgeting is also a domain of financial specialists. In a highly technical sector such as health, the risk exists that a budget proposal is drawn up by financial specialists without sufficient regard to the technical content that would have been developed by sector specialists in the prior planning phase. The survey results suggest that this divorce between the financial and technical budget formation processes is common at the sub-national level.

Budget Preparation in Health Secretariats

Compliance with legal calendar and requirements: Budget preparation follows a strict calendar. With only a few exceptions, the states and the municipalities in the sample usually meet these legal deadlines in preparing their budgets. In addition, SUS mandates that the budget proposal be approved by state or municipal health councils. The majority of the states and the municipalities in the sample report not having their budget proposals approved by their health councils, however.²²

Linking planning and budgeting: All of the states reported using the Agenda and Health Plan as a basis for preparing their budget, along with previous iterations of the budget itself. In the municipal secretariats, the budget preparation process faces greater difficulties. Few municipalities use the Agenda and the Health Plan as a source of information for preparing their budget (only 5 of 17: São Paulo, Parintins, Sobral, Resende and Ivoti), and instead turn to the previous year's budget as the source of information.

A review of the documentation reveals that programs defined as priority in the plan often have no resources directed to them in the budget. This is partly due to the government's strategic posturing whereby it attempts to keep the allocation at an aggregate level and avoid the fragmentation of resources and facilitate re-allocation across programs and actions during the implementation phase. In some cases, however, the very detailed budget classification structure hinders flexibility during execution. For example, the State of São Paulo lists 41 programs, which apparently represent temporary priorities of the government as well as specific parliamentary amendments that "pulverize" resources.

Figure 2.2 reports the main difficulties in budget preparation: lack of information on costs (cited by 67% of the states and 29% of the municipalities) and the absence/insufficiency of baseline financial

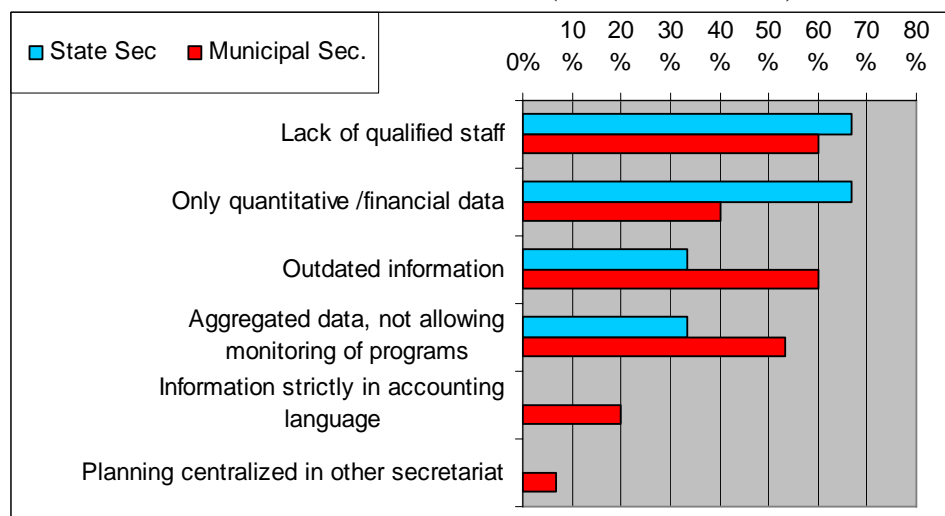
²⁰ but without linking them to financial execution

²¹ The main problems observed in the planning process, classified by order of importance, are: financial limitations (73% of the hospitals), little autonomy in running the unit (48%), vague goals including those without quantification (30%), and excessive red-tape or bureaucracy (27%).

²² Only the States of Rio Grande do Sul and Ceara and the Municipalities of São Paulo, Resende, Sobral, Cuiabá and Assis have had their budget proposals approved by the Health Councils. Mato Grosso had only its Multi-year Plan (PPA) approved by the Health Council, but not the budget proposal.

data to guide the detailed budget preparation process, due to poor communications among the planning and budget/accounting sectors and the health secretariat (67% of the states and 35% of municipalities).

FIGURE 2.2: PROBLEMS IN BUDGET PREPARATION
MOST OFTEN CITED RESPONSES (AS % OF RESPONSES)



Note: The total exceeds 100% due to multiple responses.

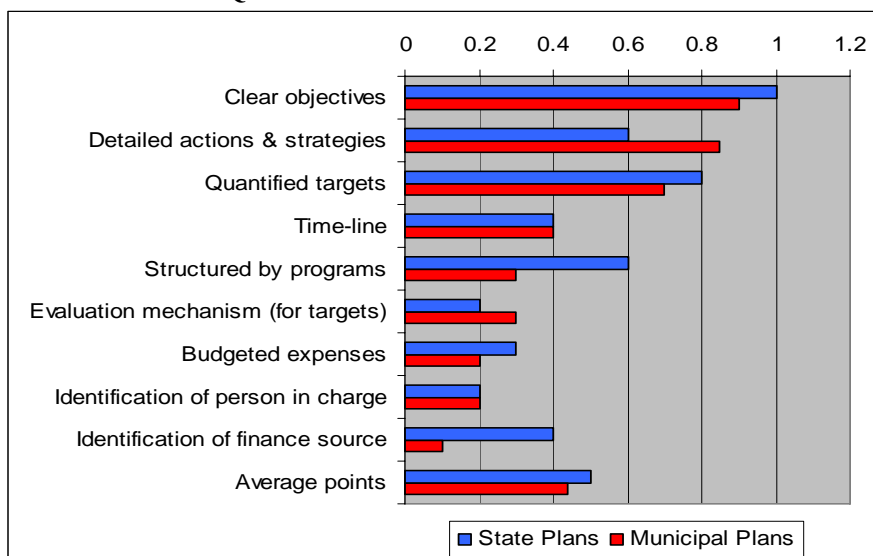
In order to deepen this assessment of quality of, and consistency in, the planning and budgeting process, a case study was conducted based on those secretariats that had attached their plans and budgets to their survey responses.²³ This assessment uncovered more serious problems than those noted by the interviewees. As shown in Figure 2.3, the most common problems are the failure to identify the source of funds and the entity responsible for each action or program (80% of the plans), the failure to estimate the cost of the actions (77%), and the absence of mechanisms or criteria designed to evaluate the plan's implementation (or achievement of the goals). One of the plans was 82 pages long, but 73 pages were spent describing the current situation; others included some quantified targets but with no relation to the main content of the plan and the expected actions.

Overall, the planning and budgeting process for the SUS is fragmented, and inconsistent between the various stages of the planning process. Also noteworthy was the lack of attention paid to detailed concrete action plans. A critical problem – though one not emphasized by the interviewees – is the absence of data on the costs of the proposed actions and programs. In this situation, the budget or the plan, or both, run the risk of becoming a piece of fiction, useful only to comply with a legal requirement.

²³ The case studies analyzed the quality of the planning and budgeting process through assessing the following features: inclusion of clear objectives for the plan, the itemization in programs and delineation of strategies, the definition of quantitative targets, the definition of deadlines for each activity, identification of a person responsible for the activity, the identification of the source of funding and estimation of the cost or expenditure tied to the activities, the inclusion of a mechanism for evaluating plan execution, and the correlation between the plan and the budget. For each of these items, the plan received a score of 0 or 1 depending on its fulfillment of the criterion. The sum of the scores was converted in a 0-1 scale, as displayed in Figure 2.3.

In sum, the planning and budgeting process proves to be sophisticated in its formality and its instruments, but truncated and poorly integrated in practice due to the inconsistency between the documents and the stages that comprise the whole process. The structure of the budget in general is limited to general items/headings, thus hampering the identification of priority programs and actions. This limitation makes it hard to follow and assess systematically the allocation of resources and the process of implementing the budget.

FIGURE 2.3: QUALITY OF STATE AND MUNICIPAL HEALTH PLANS



Budget Preparation in Health Facilities

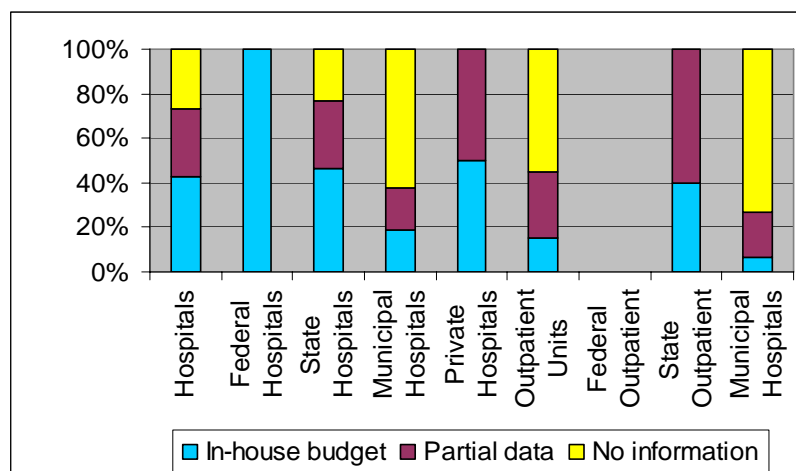
Lack of autonomy and haphazard budgeting: At the facility level, the availability of financial-budgetary information varies depending on their status as a Budgetary Unit²⁴ and the degree of administrative and financial autonomy they enjoy. Most small-scale hospitals and outpatient clinics have no budget of their own, nor do they manage most of the financial resources they consume. In addition, management's ability to monitor and control units' expenditures varies. In the sample, only 43% of the hospitals and 15% of the outpatient units possess their own budget. However, an additional 30% of these facilities have some internal financial information. This usually entails petty cash for urgent and small purchases for emergency maintenance, small supplies, etc. Twenty-six percent of the hospitals and 55% of the outpatient units have little or no financial information at all (Figure 2.4). Hospitals with the greater administrative autonomy generally have a much higher level of financial information since they are formally deemed a Budgetary Unit and are responsible for implementing their own budget.

Even in facilities that are budgetary units, managers consider as "their" budget only that portion they execute directly. For example, most larger facilities manage – at most – the budget for supplies (but usually excluding drugs) and small contract services (eg. maintenance, cleaning and surveillance) but not their payroll.

²⁴ A budgetary unit is an administrative unit (e.g., a facility) that receives its own budget allocation, and manages at least part of this budget. Facilities that are not a budgetary unit have no budget of their own, and nearly all inputs are purchased and paid for centrally. In the latter case information on the total spending for the facility is unavailable or difficult to access.

Lack of information on personnel is particularly problematic at the facility level. The majority of the facilities have no budgetary or financial information about their expenditures for personnel, because these are managed and paid by a central level secretariat, with little or no involvement by facility managers. For this reason, managers commonly deem personnel expenditures as external to their budget and of little concern regarding managerial responsibilities. In general, managers possess little information about their staff. This situation clearly limits the facility's responsibility for management and expenditure control. Despite the fact that payroll represents about 60% of total costs, managers tend to regard their production costs as excluding personnel spending. Of equal concern, they tend to use these grossly underestimated values when generating cost information.

FIGURE 2.4: LEVEL OF FINANCIAL INFORMATION IN THE HEALTH UNITS²⁵



Cost management: At the facility level effective cost management is essential for efficient management of the allocated resources and for determining optimal allocation of resources at the budget phase. Several major hospitals (24% of the sample) set up a system for auditing costs, but only two municipalities have cost or expenditure data itemized by health unit: Cuiabá possesses a general cost auditing system installed in the units, and Rio de Janeiro uses a one-time analysis that estimated the expenditures per facility). All of the Social Organization hospitals in the State of São Paulo have installed cost auditing systems.²⁶ These systems are standardized, allowing inter-facility service cost comparisons. Nevertheless, these are the exceptions to the general practice, evident the vast majority of hospitals. Most “cost” systems in these facilities record only the direct, global expenditures on materials and personnel.

²⁵ Partial information is characterized by the unit's recording or having information on part of its expenditures, for example involving some cost items but not others; the unit may have information on the material acquired directly but not on purchases made centrally.

²⁶ A Social Organization in Health (OSS) is a new organizational form developed for delivery of certain public services through a variant of a contracting-out modality. Under this OSS model, the government provides budgetary transfers to cover the costs of running the hospital, but responsibility for day-to-day administration is delegated to pre-certified, non-profit organizations. The State Secretariat of Health (SES) negotiates and signs a performance contract with each of these hospital managers, granting them greater flexibility than their counterparts in traditional state hospitals to run the hospital in the manner they consider best-suited to meet their performance targets. In 2004, 16 public hospitals in São Paulo were administered as OSS.

BUDGET EXECUTION

High variance in budget execution by the Secretariats: The data collected through the survey show variations in execution ratios measured at different points of the budget execution process. On average, the states in our sample over-executed their current expenditures by 3% between the initial and final allocations. The variation was much larger for the capital expenditures mainly because of the in-year approvals of additional expenditures (expressed as “Final” in Figure 2.5).

Some states recorded substantial unbudgeted expenditures for paying doctors and staff contracted to provide basic care through the Family Health Program (PSF) and the Community Health Agents Program (PACS). However, on average, the level of budget execution in the aggregate was reasonable: 91% of funding spent and paid during the fiscal year, despite evidence of large variations across cost items. However, it is worth noting that due to delays in tendering processes and budget execution, spending the entire allocation for the fiscal year's in that same year is difficult.

Budget execution by the sampled municipalities shows much greater volatility than the states (Figure 2.6). There is an increase of almost 15% between the initial and final allocations for current expenditures. But the final execution (payment) was noticeably less than the allocation in most of the municipalities (except for São Gonçalo and Cuiabá). The most frequent reasons for this difference are delays in the release of funds by financing agencies (often the Finance Secretariat), and the fact that the amount for the last two months is released too late to realize tenders. Some municipalities also reported having difficulty committing all of the available funds due to insufficient administrative capacity, which results in delays in procurement and payment.

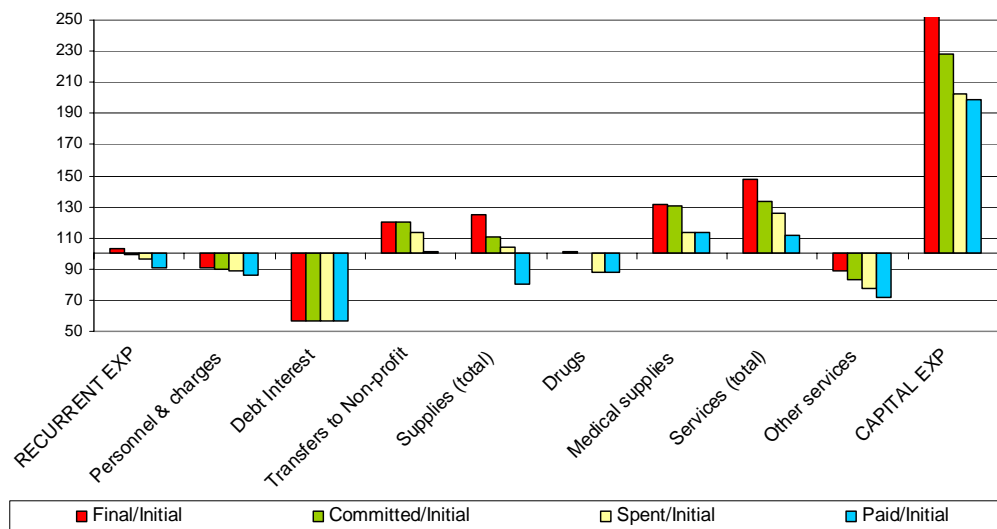
In many municipalities (including some large ones, such as Manaus), procurement and budget execution is mostly centralized outside the Health Secretariat. The latter manages little if any budgeted funds; all obligations and liquidations are handled by the city's Finance Secretariat. Since the purchasing agent (i.e., Finance Secretariat) is unfamiliar with the needs of the service provider, centralization of procurement increases the risk of shortfalls or delays in material purchases contributing to emergency purchases that usually cost much more.

The survey also uncovered large variations among cost items, with large increases between the Initial and Final allocations for staff (19%) and Transfers to Private Philanthropic Institutions, -- payments to private non-profit service providers under contract with SUS (more than 2000%). In contrast, the allocations for inputs necessary for direct delivery of medical care (e.g., medical and hospital materials, medicines) were reduced by as much as 14%.²⁷ Overall, the items directly related to attending patients show the lowest levels of expenditure execution: medicines (78.7% liquidated), medical and hospital materials (84.1%) and subcontractors (90%) for service provision.

The variation in the case of capital expenditures is often quite large and even more so in the case of the municipalities. In the city of São Paulo, for example, there was a large difference between the initial amount (R\$91 million), the final allocation (R\$31 million) and commitments (R\$13 million), respectively. These fluctuations are due to their dependence on international funding (usually

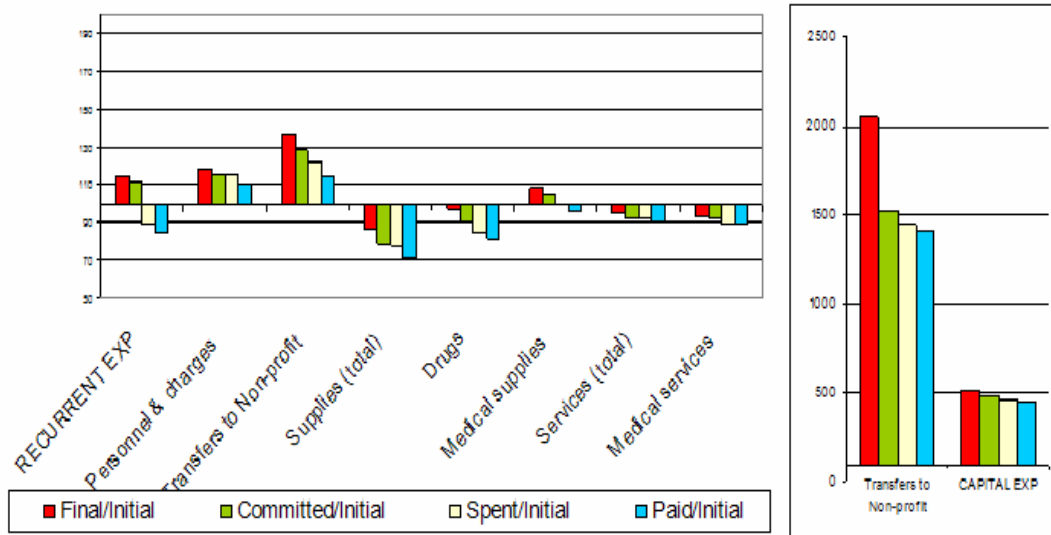
²⁷ The items included in these categories encompass payments for hospitalizations/AIH and outpatient services/SIA and for programs such as the PSF and PACS

FIGURE 2.5: VARIATION IN BUDGET ALLOCATION AND IMPLEMENTATION FOR THE STATES BY COST ITEM



Note: Initial Allocation = 100

FIGURE 2.6: VARIATION IN BUDGET ALLOCATION AND IMPLEMENTATION FOR THE MUNICIPALITIES BY COST ITEM 2002



Note: Initial Allocation = 100

managed centrally), poor planning, and the tendency to reallocate or cancel investment funding during the fiscal year.

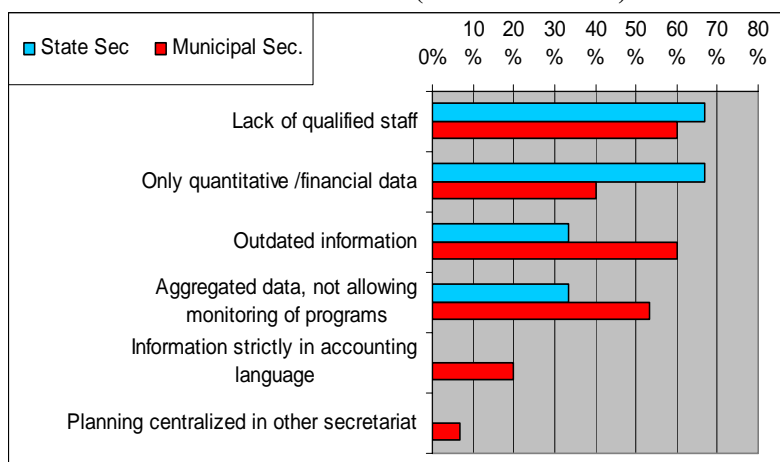
Taken together, these fluctuations indicate:

(i) inadequacy of the original budget to meet planned activities as evident in the fluctuations in the allocation (“Final”) itself. This tends to confirm a certain degree of arbitrariness in budget preparation – this appears more pronounced for inputs directly related to providing services; and

(ii) difficulties, especially for municipalities, in realizing expenditures, which results in under-execution of the budget.

The observed difficulty in spending the budget is indicative of inefficiency in the budget execution process. The reasons mentioned in the survey vary, but they are due as much to the cumbersome requirements of the budget execution and procurement procedures as to the managerial weaknesses of the health secretariats, including the divorce between planning and budgetary formation processes. Specific factors include: (i) cuts or contingencies related to a shortfall in revenues collected; (ii) delays in tendering processes; (iii) delays in issuing the authorization for payment once expenditure is confirmed; (iv) weakness in monitoring budget execution in relation to plan; (v) delays in the release of funds for payments by Finance Secretariat;²⁸ (vi) lack of adequate planning; and, (vii) the inability of many secretariats to set up a timely system for budget planning and execution. Finally, the survey identified several institutional and informational limitations for effective budget execution, including lack of qualified staff, inadequate or outdated data, and inadequate budget structure (Figure 2.7).

**FIGURE 2.7: PROBLEMS WITH BUDGET EXECUTION
MOST OFTEN CITED (% OF RESPONSES)**



Note: The percentage of the state and municipal secretariats' responses: N= 3 states and 15 municipalities. The total exceeds 100% due to multiple responses.

Limited availability of financial information at the facility level: The way the health units execute their budget depends first of all on the degree of financial and administrative autonomy they enjoy. The availability of relevant financial information varies considerably depending on the type of hospital, its level of autonomy, its size and the existence of a mechanism that would allow it to receive private funding. In addition to weakening the informational base to construct robust budget

²⁸ All the states mentioned this problem, which may reach two months or more in Amazonas.

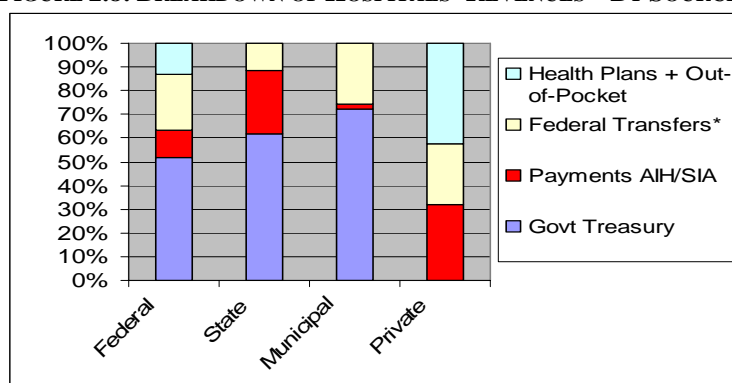
proposals, the lack of facility-level data on the real costs of procedures and services hampers robust analysis of hospitals' financial status.

The varying importance of federal funding: The revenue pattern of public and private SUS hospitals varies significantly across hospitals (Figure 2.8). Revenues from government budgets are more important for municipal hospitals but less so for the federal facilities. Federal payments through the AIH and SIA transfers correspond to 35% of revenue received by federal hospitals, 38% and 28% in state and municipal facilities respectively, and 58% in private, non-profit hospitals under contract with SUS.

Private hospitals under contract with SUS are more dependent on federal funds than sub-national public hospitals. The latter receive revenues from sub-national budgets. Among public hospitals, forty percent of federal hospitals derive revenues from private health plans and patients, whereas none of the state or municipal hospitals do.²⁹

Because SUS payments (AIH and SIA) do not cover the costs of most services³⁰ The high dependence of non-profit hospitals on SUS payments leaves them in a vulnerable situation. For example, a gynecological sonogram costs R\$45, but SUS reimbursement is only R\$7. Some non-profits are several months in arrears on payments to suppliers, social security contributions and taxes. In part to make up for this shortfall, non-profit facilities derive nearly half of their revenue from private patients.³¹

FIGURE 2.8: BREAKDOWN OF HOSPITALS' REVENUES - BY SOURCE³²



COMPARING SUB-NATIONAL HEALTH SPENDING

Unequal distribution of per capita health spending: Reflecting each jurisdiction's fiscal capacity, degree of prioritization of the health sector, the amount transferred by the MOH, and population

²⁹ This is due to two factors: (i) the high proportion of federal hospitals that attend to civil servants (covered by private health insurance plans), and (ii) most federal facilities are referral facilities which are often used by patients covered by private health plans.

³⁰ Such payments, however, may cover the full cost of complex procedures. See De Matos, 2002: RFP n° 003/99 Projeto REFORSUS e CNPQ - Apuração dos custos de Procedimentos hospitalares: Alta e média complexidade"; Dias et al., 2004, World Bank, 2007, Forthcoming).

³¹ A large portion of public hospitals receive AIH and SIA payments indirectly. These are embedded in budgetary allocations whenever these payments are made via transfers to sub-national Health Funds. Information on the breakdown of financial sources (i.e., federal vs. sub-national) cannot be determined at the level of the unit or the Fund. Consequently, available data overestimate the revenues from local revenues and underestimate the size of the revenues from federal sources.

³² Private includes 10 non-profit and 1 for-profit facilities, all under SUS contract.

size, per capita expenditure on health varies considerably across the states and the municipalities in our sample (Figure 2.9). The observed variations are much greater among municipalities (Figure 2.10).³³ Expenditure funded through their own revenues sources varied between R\$24.23 (Parintins) and R\$123.63 (Porto Alegre), a 510% variation. But the per capita value of federal transfers varies still more, from R\$16.69 in São Paulo to R\$225.55 in Sobral, a 1350% variation.

These variations demonstrate a substantial level of inequality in the per capita health expenditure as well as the distribution of federal transfers. On average, federal transfers represent 27% of state expenditures and 45.2% of municipal expenditures.³⁴ Because federal transfers are intended to reduce existing inequalities, one might expect that the proportion of the transfers would be greater in small and generally poorer municipalities with limited tax collection capacity, but this is not borne out by the survey. The data indicate that several municipalities, regardless of their size, receive more federal support since they manage to scale-up the programs subject to federal transfers.

FIGURE 2.9: PER CAPITA STATE HEALTH EXPENDITURES - BY SOURCE

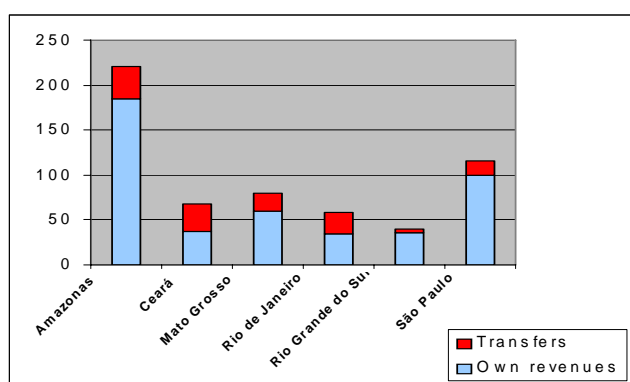
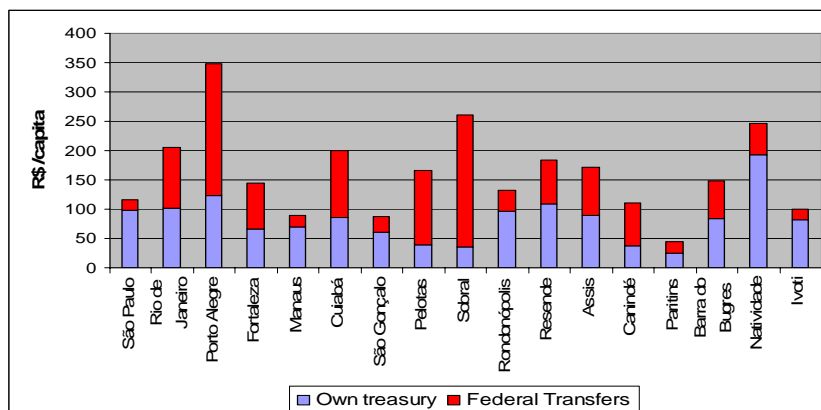


FIGURE 2.10: PER CAPITA MUNICIPAL HEALTH EXPENDITURES - BY SOURCE



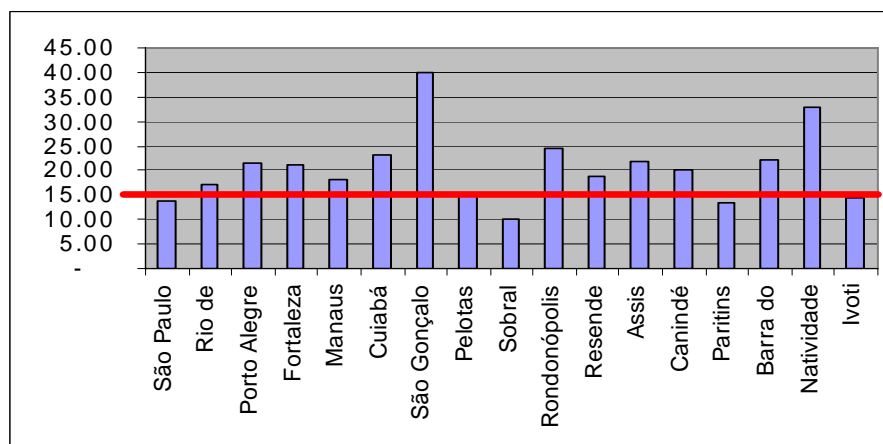
Non-compliance with the Constitutional Amendment 29: Brazil's solution to addressing the society's long-standing concern that the public sector was not spending enough on health was to

³³ In the states this varies between R\$58.54 (Rio de Janeiro) and R\$225.69 (Amazonas); the own resources vary between R\$34.29 (RJ) and R\$185.50 (AM) and federal transfers varies between R\$16.46 (SP) and R\$35.19 (AM). The variations at the municipal level range from R\$45.04 in Parintins to R\$349.00 in Porto Alegre (2002 data) for the total expenditure, a 770% variation.

³⁴ Unweighted average based on 5 states and 17 municipalities.

enact a Constitutional Amendment (in September 2000) mandating states and municipalities to spend 12% and 15% respectively of their revenues on health. The legislation called for incremental increases over 1999 levels. Nevertheless, many states and municipalities have yet to comply with the amendment. In 2003, for example, the minimum percentage the states should have spent, on average, was 10.5%, according to this amendment. But the real mean level was 8.6% (below that of 9.9% mandated for 2002).³⁵ Only seven states complied with or surpassed their target levels, whereas in nine others the deviation was more than two percentage points. Among the states in the sample, the average was 11.5% in 2002, led by the State of Amazonas, which reported spending 25% of its revenues on health. All the other states of the sample fell short of the Amendment-mandated target for that year. In the case of the sampled municipalities, the average share of health spending was 20.5% of their revenues, with 12 municipalities spending more than the mandated 15% minimum and five spending less (Figure 2.11). São Gonçalo and Natividade were big spenders in health, allocating 39.8 and 33.1% respectively of revenues.

FIGURE 2.11: PROPORTION OF TOTAL MUNICIPAL EXPENDITURES ON HEALTH IN RELATION TO CONSTITUTIONAL AMENDMENT NO. 29



ALLOCATION OF BUDGETARY RESOURCES

While the approved budget is supposed to indicate government priorities in resource allocations, the deficiencies in budget preparation and the significant variance during execution, as discussed above, signifies that the true composition of the budget becomes apparent only after the budget is fully executed. The data on the composition of the executed budget are reported in Figures 2.12 (for states) and 2.13 (for municipalities). Not surprisingly, a large share of the executed expenditures is consumed by personnel (44% on average for states and 40% for municipalities).³⁶ Expenditures on consumables and medicines are the second largest item. Nevertheless, the high proportion of costs not allocated – and classified as “Other Recurrent Expenditures” in budgetary ledgers– shows that many sub-national governments keep a significant share of their sectoral budgets under general items, facilitating possible reallocations throughout the fiscal year. This is especially true for the municipalities where 44 percent of spending is classified in this line item.³⁷ In two states, São Paulo and Rio de Janeiro, this line item accounts for 60 percent of spending.

³⁵ Source: MS/SIOPS 2002 and 2003; these are means for all states.

³⁶ This percentage goes up to 50-60% if the cost of outsourced services is included.

³⁷ Also, some of the differences noted between the states can be attributed to the lack of standardization in classifying items by line item.

FIGURE 2.12: DISTRIBUTION OF STATE EXPENDITURES - BY LINE ITEM, 2002

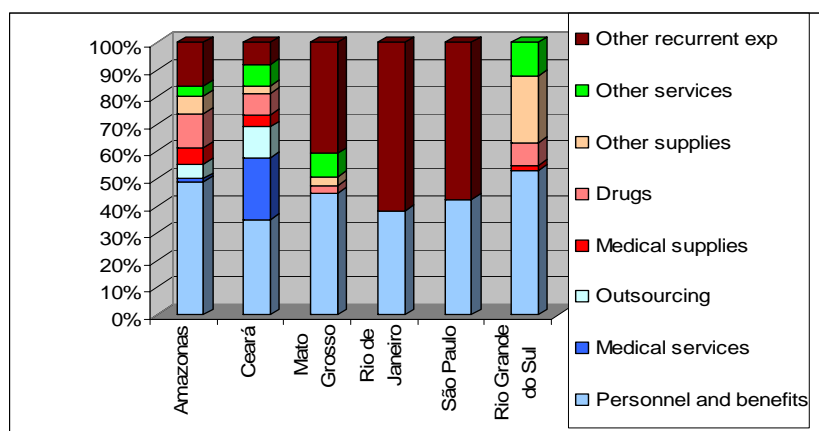
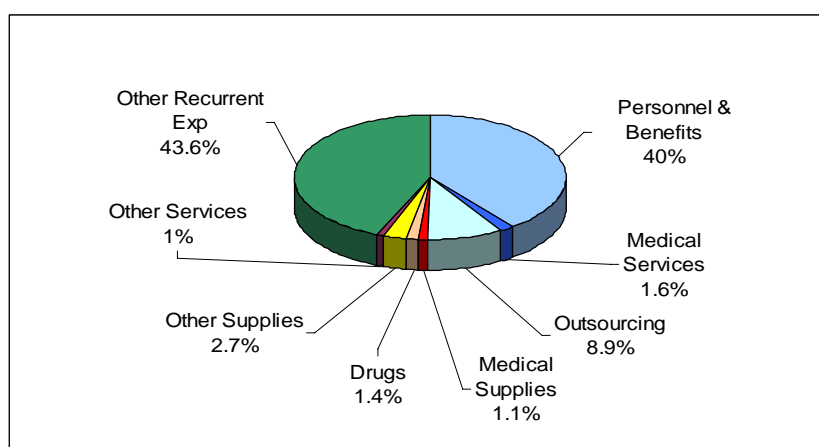


FIGURE 2.13: DISTRIBUTION OF MUNICIPAL EXPENDITURES - BY LINE ITEM, 2002



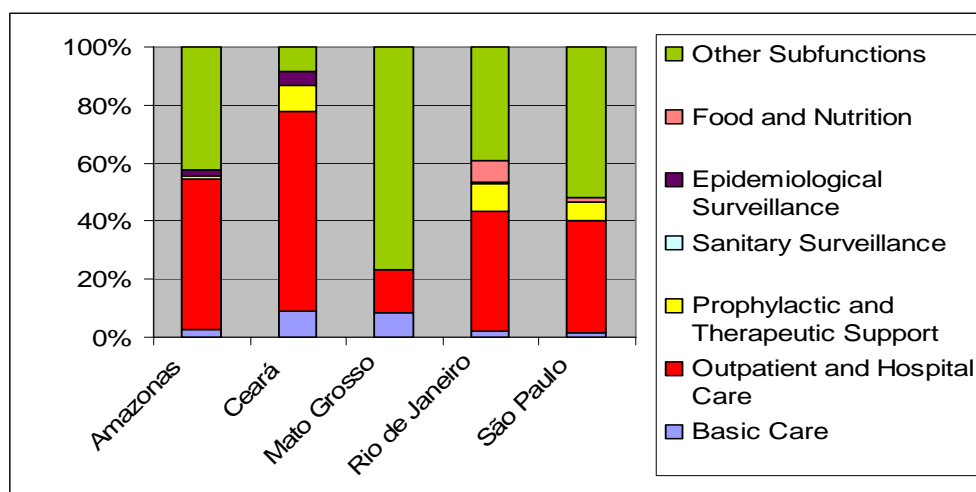
Analysis of the distribution of the executed expenditures by activity or program, target population or other end-use criterion is difficult because budget documents do not break down expenditures in sufficient detail to do so. Only in the case of state secretariats was it possible to assess the expenditures in the main sub-functions (Figure 2.14). This data reflects the predominance of “Hospital and Outpatient Care” and of “Other Sub-Functions” (nearly 43% each).³⁸ Both are apparently catch all categories whose content can vary across states.

The data reveal the inadequacy of the current classification. For example, two broad categories - one ambiguously denominated “other” and the other is a catch all for outpatient and hospital services - are responsible for nearly all expenditures. Moreover, the separation of the activities and programs between the sub-functions of the budget classification is imprecise. For example, the expenditure for personnel involved in basic care by municipalities is not usually recorded in the sub-function denominated as “basic care.” Rather, this spending is registered in broader categories

³⁸ Primary care receives much lower spending shares (between 2% and 9%) in part because states are not responsible for the organization and provision of primary care. This is a municipal function.

that capture all personnel spending. In short, the broad level of aggregation of expenditures by sub-function together with the lack of standardization in program classification makes rigorous tracking expenditure impossible for basic care, programs, and many facilities, and therefore does not permit evaluation of the effectiveness of resource allocation.

FIGURE 2.14: DISTRIBUTION OF THE STATES' EXPENDITURES ON HEALTH - BY SUB-FUNCTION



Composition of executed budget at the facility level: Expenditure composition varies considerably among hospitals of different types and characteristics (Figure 2.15). Expenditure on personnel is always predominant, representing about 50% of overall expenditures, but rising to 60% if outsourced services are included. The proportion of expenditure for in-house personnel is greater among municipal (61%) and federal (59%) hospitals, and less in the state facilities, where the degree of outsourcing is higher. This may reflect the generally tighter fiscal conditions of the states.³⁹

Expenditure for supplies and medicines consists of the second largest item, accounting for about 20% of total spending. Its proportion in relation to overall expenditure varies between 17% in federal and municipal hospitals, and 24% in philanthropic hospitals. This value does not usually include medicines and other supplies provided to the hospital free of charge by the Ministry of Health or other levels of government.⁴⁰ Depending on the year, these allocations can be substantial.

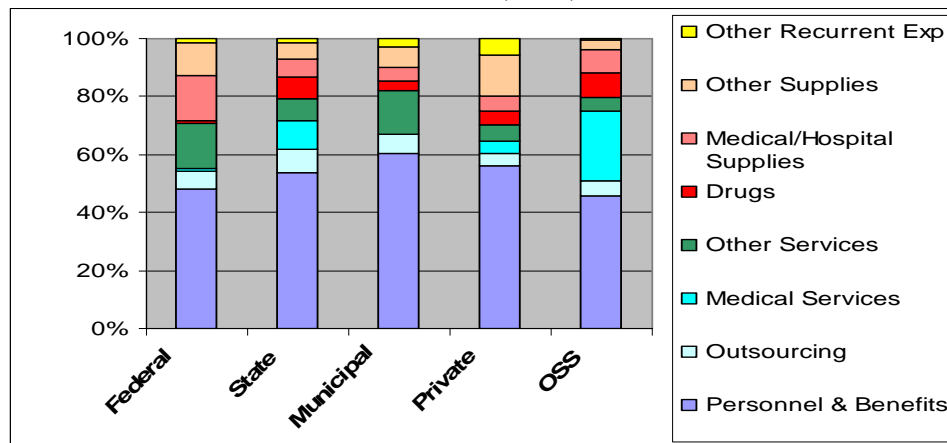
MONITORING AND CONTROL

Weak monitoring and control by the secretariats: States and municipalities use different, though comparable, information systems for monitoring the budget. The purpose of these systems is basically the same: ensure compliance with current legislation and track budget execution through its various phases. Some states and municipalities innovate, creating new instruments or modifying

³⁹ States may face legal limits on personnel expenditures (as a share of net current revenues) as specified in the Law of Fiscal Responsibility (LFR, 2000). The LFR seeks to establish new, more transparent and responsible patterns in public management and especially fiscal management. Among other things, the law forbids public institutions from overspending their revenue over three years, and limits federal, state and municipal governments' personnel expenditure to a maximum of 50% (for year 1) and 60% (for years 2 and 3) of net recurrent revenue.

⁴⁰ In most cases these are not registered as expenditures.

**FIGURE 2.15: MAKE-UP OF THE EXPENDITURES OF HOSPITALS IN THE SAMPLE
BY COST ITEM, 2002, IN %**



the standardized systems. The city of São Paulo, for example, has developed a *Health in Numbers* – instrument that makes the Health Secretariat’s results public.

In general, the effectiveness of monitoring and control of budget execution is limited, often due to poor capacities of health secretariats (e.g., lack of qualified manpower as mentioned by half of the municipalities in the sample). As suggested above, the formats of data presentation are inadequate (e.g., highly aggregated and barely quantified with no assessment activities or services produced or of factors affecting their production). Monitoring, if done at all, is often not performed in a timely fashion. In general, the secretariats display limited focus on financial and accounting control and little use of the available data for administrative purposes or internal evaluation.

Required budget reporting involves multiple overseers, which can lead to redundancy and high administrative burden.⁴¹ The use of reporting as an instrument for internal management review is not a common practice among the states or municipalities.⁴² SUS legislation identifies the Management Report (*Relatório de Gestão*) as one of the main documents for accountability. However, these reports usually do not itemize the priority programs and actions, and show only quantitative results on service volume. The only exception at the state level was the state of Rio Grande do Sul, where achievements regarding performance and impact indicators (e.g., infant mortality or other health status indicators) are mentioned. However, these indicators are not associated with the objectives and targets defined in the Health Plan/Agenda

During the 1990’s SUS required states and municipalities to create auditing, control and evaluation departments. The stated objective of these units is to ensure the effectiveness of the health activities and services. All of the states in the sample have an agency responsible for these functions. Among the sampled municipalities, five have yet to establish such units: Parintins, Resende, Barra do Bugres, Pelotas and Ivoti.

⁴¹ In the case of the states, reports are issued for the SIAFI; Balance Sheets for Accounts and Payment Processes are issued monthly for the Finance or Treasury Secretariat and/or State Court of Accounts (TCE) and for the Legislative Assembly, and Administrative Reports and others for the Health Council and the Ministry of Health. The General Balance of the Municipal Health Fund is presented annually to the Federal Court of Accounts (TCU).

⁴² Only Rio Grande do Sul and Mato Grosso reported possessing a review process to assess managerial practices and results.

If operational, these departments almost always limit themselves to reviewing and auditing medical bills (AIH's) and/or financial accounts, and rarely, if ever, assess results in terms of impact or effectiveness of the interventions. Moreover, they face their own operating problems such as insufficient number of or poorly qualified auditors, the inexistence of quality control at the facility level, and inadequate financial resources. A 1999 report by the Department of Control, Evaluation and Audit of the Ministry of Health also outlined problems with geographic access in some states, fragmentation of the data systems, non-prioritization of these activities by the various divisions of the State Health Secretariats, and the lack of appropriate monitoring instruments. In general, the units' responsibilities are usually defined in a broad, all-encompassing fashion. For example, in the case of Amazonas the functions include control, evaluation, supervision and auditing.

Expenditure control at the facility level: Generally, the level of control that the health units have over their expenditure is very limited, and based largely on the formal documents and reports required by the budgetary system. In most cases, little use is made of this information internally and often the unit's director is not familiar with, and does not use, available financial reports. In some health units, especially the small ones, the unit's director is often totally oblivious to expenditure on personnel which is managed centrally (by the administrative or financial secretariats). As mentioned above, whenever the hospital is not an official Budgetary Unit and therefore has no budget of its own, little data is kept on its expenditure since nearly all spending is executed centrally.

The level of financial information available for health units varies depending on the level of government. Because they are Budgetary Units, all federal hospitals in the sample have budgetary data. Among the state hospitals, 46% have their own budget, but 23% report having no financial information. The remaining state-managed facilities possess only partial information on costs. At the municipal level, 62% of the hospitals have practically no information on revenues or expenditures. This is because in many municipalities nearly all spending is centrally managed. All the private hospitals of the sample, as one might expect, have total, or at least partial, financial information.

In the case of state and municipal outpatient units, 85% do not have a budget and 55% do not keep financial data in a systematic way. Most of these units do not prepare budgetary and financing reports. Interesting exceptions are the cases of the municipality of Cuiabá, which set up a cost system in each health unit in its network (Box 2.2) and the OSS hospitals in the State of São Paulo, which set up a similar cost accounting system.⁴³

⁴³ The OSS hospitals are public facilities managed by private, non-profit organizations. An evaluation of the model is available in World Bank, 2007 (forthcoming).

BOX 2.2: A SYSTEM FOR VERIFYING COSTS AT THE MUNICIPAL LEVEL: CUIABÁ

Cuiabá is the only municipality of the sample – and one of the few nationwide – to have set up an integrated system for verifying costs in the health units that it directly manages. The system offers detailed information on direct expenditures by cost item for each health unit in the network and for the main departments at the central level. The summary of these results is presented in the table below. The system permits analysis that is impossible in most states and municipalities: expenditure allocation by facility and between support and final activities. The central level represents 27.5% of the secretariat's expenditures, of which 15.7% correspond to administrative support units and 11.8% to the activities of coordination and technical supervision, including technical activities performed at a central level. The data suggest a heavy load of support activities at the central level. The outpatient activities represent 40% of spending, with the major share attributed to basic care. Not shown in the table, 18 Family Health units account for about one-third of the cost of the basic network (7.5% of total expenditures). The sole municipal hospital represents another one-third of total expenditures. Secondary and tertiary-level services, including hospital and outpatient diagnostic care, receive almost 50% of the municipality's total expenditures. This is a high level of spending considering that in the distribution of responsibilities for SUS, the municipalities' main responsibility is for basic service.

	TOTAL	%	PERSONNEL	CONSUMABLES	OUTSOURCING
Central Administrative Level	8.897	15.3	86.14%	6.09%	7.76%
Coordination and Technical Areas	6.887	11.9	84.39%	11.16%	4.34%
Basic Care Outpatient Units	14.423	24.8	77.07%	18.60%	4.33%
Referral Outpatient Units	9.207	15.9	81.22%	12.52%	6.26%
Hospital	18.626	32.1	66.13%	20.40%	13.47%
Total	58.039	100.0	76.48%	15.40%	8.07%

Data in R\$ Thousands, 2001. Source: Cost reporting from the Cuiabá Municipal Health Secretariat.

EXECUTION OF FEDERAL TRANSFERS

Unpredictable flow of federal transfers: Federal transfers to sampled states and municipalities also exhibit fluctuations in budgeted amounts, displaying significant differences at the level of allocation (“updated” versus “budgeted”) and in the amount effectively received. Table 2.1 shows that in the case of the State Secretariats, the “updated” revenues for 2002 (equivalent to the final allocation) represent only 66% of what was originally budgeted, and the “actual” or received amount was 50% more than the “updated” amount, almost equal to what was initially budgeted. This wide dispersion in allocations suggests that it may be very difficult for states to plan, allocate and monitor funds received from the federal government.

TABLE 2.1: AVERAGE VARIATION IN STATES' BUDGET ALLOCATIONS – REVENUE FROM FEDERAL TRANSFERS IN 2002, IN %

Average Variation in % *	Updated / Budgeted Revenues	Actual / Budgeted Revenues
Average for the States*	66.42	98.42
Amazonas	100	100
Mato Grosso	13.90	67.90
Rio de Janeiro	59.80	61.31
São Paulo	91.97	164.49
Source: States' 2002 reports and SIOPS, taking into consideration only the total of regular and automatic transfers; Ceará did not report transfer revenues and Rio Grande do Sul did not file the SIOPS report that year.		
* Average not weighted, among the states that presented non-zero values.		

Data on transfers to municipalities are more readily available and allow a better analysis of the performance in implementing the federal transfers. The transfers to the Municipal Health Funds represent an important source of funding available to the municipalities, especially for those less favored by the criteria for automatic revenue-sharing between tiers of government. Only in the municipalities of Resende, São Paulo, and Cuiabá do own revenues represent more than half of the resources managed by the Municipal Fund.⁴⁴

As depicted in Table 2.2, almost all the federal programs financed through transfers showed a drop in their “updated” revenues in relation to the “budgeted” revenues, which in most cases was less than 15%.⁴⁵ The “actual” revenue (funds actually received during the year), in turn, varied more depending on the program: between 108.3% of what was budgeted (in the case of AIHs intended for the local population⁴⁶ and 46.4% (for the Program for Combating Nutritional Deficiencies).

The level of execution of the funds transferred also varied considerably across municipalities and programs (Figure 2.16). Even though the mean level of fund execution varied within an acceptable 80-100% range, the observed dispersion across municipalities was wide, with a standard deviation of 25-40%. Overspending means that the municipality spent some of its own funds on the program, while underspending means that either the original amount was cut short, or that the municipality was not able to execute available federal funds. For some programs “actual” transfers received were greater than what was budgeted. In general, underspending was explained by budget cuts and freezes (Rio Grande do Sul), delays in federal transfers (Rio Grande do Sul, Mato Grosso and Ceará), and difficulties in revising the time-line of the Work Plan (Rio Grande do Sul).

⁴⁴ As illustrated in Figure 1.2, a Municipal Health Fund is a fund established by law where all financial resources spent in the municipality on health should be consolidated and managed, irrespective of their source (own revenues and transfers from federal or state governments).

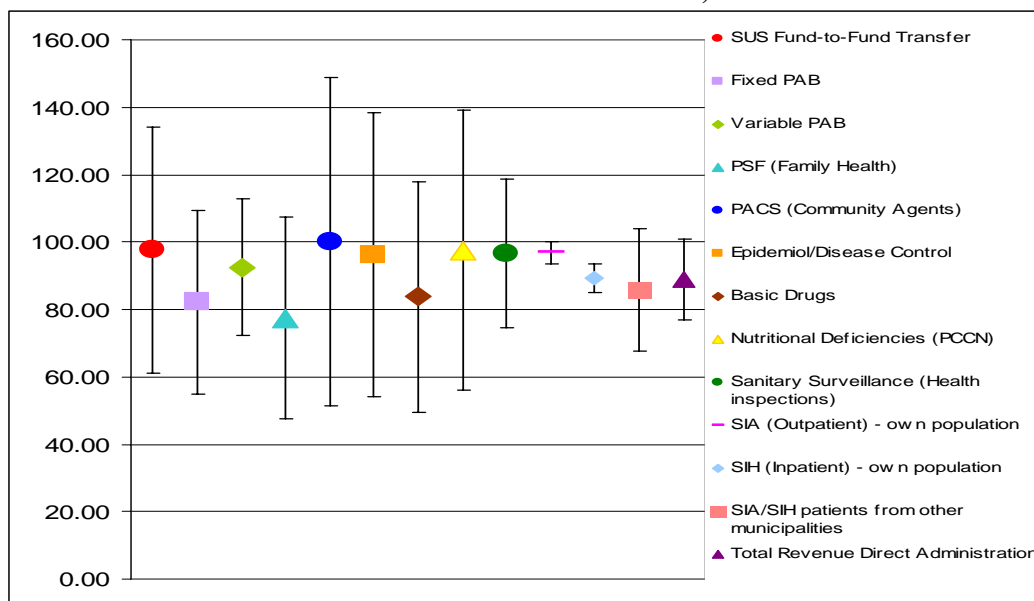
⁴⁵ State and municipal expenditures on federal programs are financed not only by federal transfers but also by state transfers (for some municipalities) and by own revenues from the state or municipal revenues.

⁴⁶ The AIH quota allocated to a particular municipality (or state) includes two components: one calculated from the local population (i.e. the population residing in that municipality) and the other based on patients living in other municipalities (whether formally referred or seeking care by their own initiative).

TABLE 2.2: AVERAGE VARIATION IN MUNICIPALITIES' BUDGET EXECUTION – REVENUES FROM FEDERAL TRANSFERS IN 2002, IN %

Average Variation in % *	Updated / Budgeted	Actual / Budgeted
Total SUS Fund-to-Fund Transfers	98.55	92.99
Minimum Level of Fixed Basic Services (fixed PAB)	80.98	84.06
Minimum Level of Variable Basic Services (Variable PAB)	92.05	92.39
Family Health Program (PSF)	76.05	80.28
PACS – Community Health Agents	100.77	106.20
Epidemiology and Disease Control	95.49	92.36
Basic Pharmacies	78.19	81.86
Nutritional Deficiencies	66.05	46.40
Health Inspections	98.92	97.33
Local Population SIA	96.82	90.60
Local Population SIH	89.25	108.28
SIA/SIH of municipalities not eligible under the NOAS	85.74	89.86
Source: 2002 SIPOS of the municipalities, based on only the regular and automatic transfers.		

FIGURE 2.16: VARIATIONS IN THE IMPLEMENTATION OF MUNICIPAL REVENUES FROM TRANSFERS –BY PROGRAM, 2002



Note: Average and Standard Deviation of the % of implementation of the transfer revenues.

Weak monitoring of federal transfers and program spending: The wide dispersion observed in fund execution reflect a broad range of problems : (i) diversity in the status of states and municipalities in terms of SUS qualification (“full system management” vs “basic care management”); (ii) inadequacy of the planning and budgeting process, leading to substantial variations during the fiscal year; (iii) states’ and especially municipalities’ low capacity for executing available resources; (iv) frequent delays and changes in Ministry of Health transfers; and (v) weak communication between the MOH and the local Health Secretariat. Regarding this last point, funds are often received by another secretariat or by the mayor’s office and this is not communicated to the health secretariat. In addition, some municipalities complained about not being informed of cuts or contingencies on the part of the Ministry of Health, even though these cuts would force a revision of plans and sometimes a modification of the objectives of MOH-municipal agreements underlying the funds transfers.

An additional factor relates to the availability and quality of the data. Data on particular program transfers was missing for several states and municipalities sampled on a given fiscal year. These difficulties are in part due to inadequate budget itemization by program. Any attempt to track federal transfers by specific programs and estimate the total expenditure on these programs is hindered by the fact that the budget structures of states and municipalities do not usually include the federal programs and interventions covered by these transfers.⁴⁷ Moreover, inconsistency is evident among data obtained from different information sources (budget, SIOPS, reports, etc.). Part of this inconsistency is due to the recording of financial flows either on an accrual basis (in accordance with the period of reference or of acquisition), on a cash basis (based on payment), or without specification of the accounting method used. Also observed was a lack of consistency and clarity regarding the accounting definition of the data reported for revenues or expenditure (“budgeted” versus “updated” versus “actual” versus “obligated” versus “liquidated” versus “paid out”). In short, these difficulties make it virtually impossible to know with precision the consolidated expenditure on a given program.

A more detailed analysis of execution of four national programs in five municipalities (for which more data was available) confirmed the above findings.⁴⁸ In the case of the PSF and PACS programs, municipal spending is recorded in the budget, allowing for estimation of total expenditure on the programs consolidated across municipals and federal levels. That is not the case for other programs, which do not receive specific appropriations; the available information thus refers to execution of federal transfers only.

In the municipalities that have information on their expenditures for the PSF, Figure 2.17 demonstrates that the actual amount spent on this program is most often much greater than the amount received from the federal government: from 150% in Rondonópolis to 810% in Cuiabá. This is in line with federal policy in which federal transfers are meant to only partially finance the program while providing an incentive to municipalities to contribute with their own revenue sources. In the case of the PACS, only Cuiabá and Fortaleza show expenditures greater than the “actual” revenue, and even then the proportion is quite small. This indicates that many municipalities tend to view the PSF program as a good investment and a central strategy for structuring their basic care network. But as shown in Figure 2.16 above, execution rates display important variations across programs and municipalities.

⁴⁷Exceptions include the Family Health Program (PSF) and the Community Health Agents Program (PACS), and isolated cases of some other specific programs.

⁴⁸ This analysis focused on four programs (Family Health/PSF, Community Agents/PACS, Combating Nutritional Deficiencies/PCCN and Primary Care/PAB) in five municipalities (Barra do Bugres, Cuiabá, Manaus, Fortaleza and Rondonópolis), chosen based on the greater detail of their data.

Finally, Figure 2.18 shows that expenditure per capita for these programs vary significantly.⁴⁹ In the case of the PSF spending ranged from R\$3 in Manaus to R\$50 in Cuiabá, and varied even more in the case of the PCCN (from R\$0.30 in Cuiabá to R\$270 in Barra do Bugres). The variation in per capita expenditure is due to several factors: the scope of services provided, program population coverage, efficiency in its implementation, and discrepancies in the data or in the unit of measurement.⁵⁰ Again, missing data and the lack of uniformity in the definition and measurement of variables complicates attempts to evaluate and compare the performance of programs financed with federal resources.

FIGURE 2.17: RATIO OF TOTAL EXPENDITURE /TRANSFER REVENUE, SELECTED PROGRAMS AND MUNICIPALITIES

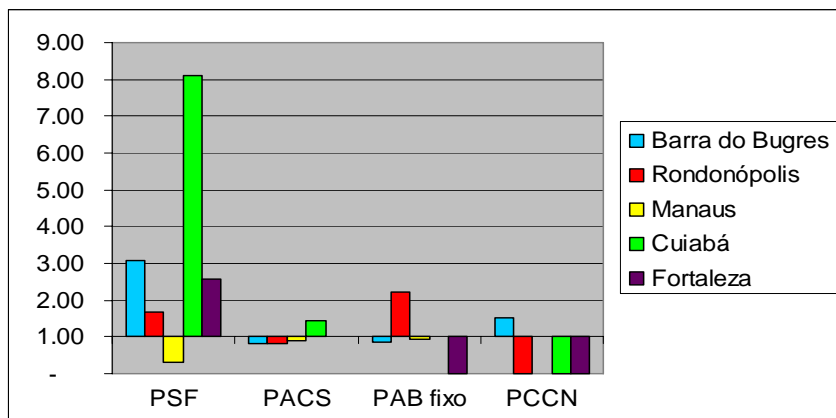
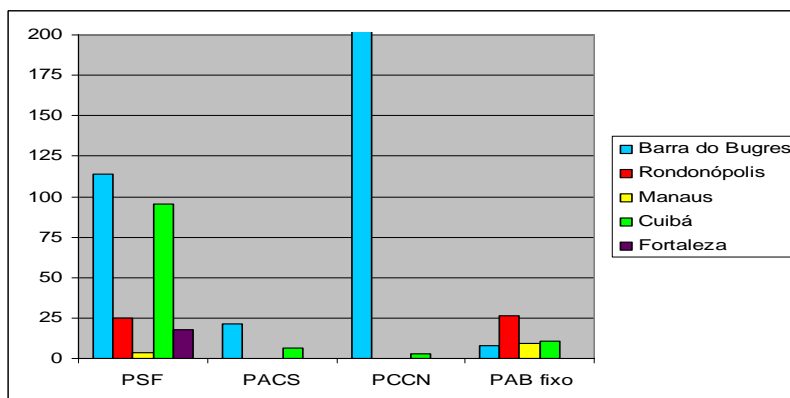


FIGURE 2.18: MUNICIPAL EXPENDITURES PER CAPITA, SELECTED FEDERAL PROGRAMS AND MUNICIPALITIES



SUMMARY ASSESSMENT

Similar to other Brazilian sectors and institutions, the planning and budgeting process in SUS is structured and formalized, and is based on plentiful legislation and detailed regulations. However,

⁴⁹ In many cases, the registered population is based on a standardized metric of coverage per team rather than the number of people actually enrolled by the teams. The latter may be larger or smaller than the standard metric.

⁵⁰ For example, some municipalities report spending per population enrolled in the program, while others consider the population served through regular visits and program activities.

its complexity and burdensome paperwork limit the usefulness of these functions as effective management tools. Box 2.2 below outlines some of the issues inherent to SUS and the broader public administration apparatus that detract from more effective planning and budgeting.

All state and municipal health secretariats prepare an annual health plan; however, these are more for the sake of meeting legal requirements than for planning *per se*. The usefulness of these plans is therefore limited. There is considerable disconnect between the priorities established by SUS and those of the state and municipal health secretariats. The most frequently cited reasons for the deficiencies in health planning are: lack of local instruments for problem identification, little time for plan preparation, direct adoption of the Health Ministry's programs and priorities even though these may not be the most critical priorities of the states and municipalities themselves, and fragmented and uncoordinated programs and activities. As a result of weak planning at the secretariat level, planning is also weak at the facility level.

The precarious nature of health planning, both at the secretariat and facility level, complicate effective budget preparation. Since the content of sector plans is translated into an action framework with specific amounts dedicated to each budget category, the weakness in planning implies that annual budgets are not well-linked to priority areas. In addition, previous years' budgets often serve as the guide for the formulation of current year budgets, allowing for a continuation of inefficient resource allocation to low priority areas simply because of inertia. Even when plans define specific programs as priorities, these often have no resources dedicated to them in the budget, due to the fact that budget allocation is often at an aggregate level. The main difficulties in budget preparation as identified by the states and municipalities are: lack of or outdated information on costs, lack of qualified staff to prepare budgets, and insufficiency of baseline financial data to guide the detailed budget preparation process.

Box 2.3: Public Administration and SUS Management

Many of the problems highlighted here result from Brazil's public administration system of planning, budgeting and management, and health officials have little power to resolve them. Others are specific to the organization and operation of SUS, whose organizational complexity and burdensome regulation contribute to the difficulties mentioned. First, municipalities need to comply with the many bureaucratic requirements for qualification under the conditions stipulated in the NOAS of 01/01. Many small municipalities (which make up the majority of the country's 5500 municipalities) have little managerial capacity and face enormous difficulties in meeting these requirements. Partnering with other municipalities (establishing municipal *consorcios*) has been a strategy used in several regions, but difficulties arise from political rivalries and the autonomous character of municipal management. Second, human resource policies and management are inadequate, both because of the rigid general legislation regulating it, and because of its centralization, leading to the lack of incentives for performance. Third, political influence in planning and priority setting is frequent, as reported by municipal managers. Fourth, municipalities are required to offer and catalogue certain medical equipment, but in many cases have no qualified personnel to operate them. Fifth, several state health secretariats, which should take over the responsibilities of municipalities not yet qualified under some form of "full management" have trouble in fulfilling that role. Finally, the role of regional authorities (such as the Regional Coordination for Basic Care) is unclear and little understood.

Without proper budget preparation, budget execution is also inefficient and of low quality. There is high variance in budget execution among the state secretariats. Although almost all funding (over 90%) is spent and paid out during the fiscal year, there are large variations across items. This problem is more severe among municipalities, with some even reporting difficulty in committing available funds due to lack of sufficient administrative capacity. Variation in capital expenditures is greater due in part to dependence on external funding, which is centrally administered, and suffers from poor long-term planning. The outcome is very unequal distribution of per capita health spending and quality of service across jurisdictions, regardless of the attempt of federal transfers to equalize the availability of health funding. Even when funding is adequate, the lack of monitoring and control mechanisms leads to waste, loss of purchased medical equipment and medicines, and ultimately, even lower and more unequal quality of health service.

More specifically, the survey revealed the following shortcomings in planning, budgeting and budget execution processes:

- The planning process is truncated, displaying little consistency and articulation between the various documents, between the stages of planning, or between the different actors located in public administration apparatus. The planning exercise and corresponding products are usually shelved once they have served their legal purpose (i.e., submitted by the deadline). Strategic and financial data needed to develop plans and budgets are often centralized in the Finance or Planning Secretariat and not often made available to the Health Secretariat and hence to the unit managers. In short, plans and budget proposals are not well-linked with each other.
- The plans present objectives and targets, but rarely define articulated strategies and actions to meet them. In many cases, the plans constitute declarations of intents rather than guidelines or roadmaps on how to achieve desired policy objectives.
- The lack of cost parameters for services on which to base the resource forecasts for programs implementation is essentially based on previous year's spending. This practice calls to question the validity of the budgetary process.
- Significant changes between the initial budgetary allocation and the funds finally made available limit the usefulness of planning and financial forecasting. Budget execution does not correlate with the plan because of the reduction between initial and final allocations due to cuts and withholding of fund release (*contingenciamiento*). The frequent delays in release of financial resources make it difficult to optimize the use of the available funding (when the latter is known). Some of the "frozen" funds can be released only at the end of the year, leaving little time for their effective application. In practice, the release of budgetary resources during the current fiscal year starts in March and ends in November. The unpredictability and delay in funding release is also applicable to federal transfers.
- Municipalities report having little capacity for executing expenditure due to a lack of qualified personnel. Health unit managers have limited authority for and knowledge of spending in their units.
- At the level of the secretariats, the system for budget monitoring focuses first and foremost on compliance with legal requirements, standards and financial control. There is little concern for assessing the results obtained. At the facility level, monitoring is nearly non-existent.

- Because of the multiple payment mechanisms in SUS, a multitude of parallel reporting and account rendering exists, some of which associated with programs having limited funding. This consumes considerable resources and time, and therefore increases administrative costs.
- Availability of sufficiently disaggregated data on budget execution is limited, which makes it difficult to track actual use of budgeted resources, including federal transfers, and evaluate their efficiency and effectiveness.

Any attempt to improve the efficiency of health spending and increase the quality of health services must begin with improved planning and by linking plans, budget preparation, and budget execution. Deficiencies in these areas trickle through the entire health system and jeopardize service quality, leading to Brazil having relatively high per capita health spending for an upper-middle income country, but low health quality. With improved planning and budgeting, Brazil can leverage its current amount of health resources to achieve far better health outcomes.

3. MANAGEMENT OF MATERIAL INPUTS

Materials management, the management of supplies and medicines, equipment and installations involves getting materials from their source (manufacturer) to the user (facility, ward, operating theater) and their ultimate disposition (by a patient, program or service). Materials management aims to: “provide the right items, in the right quantity, to the right place, at the right time, for the right (lowest) price.”⁵¹ Material management involves procurement, inventory, distribution storage, budgeting, control and processing.

Materials management serves a dual purpose. First, it promises more efficient use of budgeted resources. Second, it provides feedback to budget preparation and planning, and can help guide policy decisions as to more efficient purchasing and distribution of supplies and medicines, better maintenance, use, and purchase of equipments and installations, and more effective use of human resources. Coupled with stronger planning and budgeting, better materials management can contribute to improving the quality and efficiency of health services, and in a virtuous cycle, better materials management can itself provide the tools for stronger planning and budgeting.

Quality of care depends critically on availability of adequate material inputs that include medicines and other medical supplies and equipment. Supply and quality of these inputs in turn is determined by the adequacy of forward resource planning, the efficiency of the public procurement process, and the capacity at the facility level to manage these inputs, including maintenance of equipment.

A guiding principle of public procurement is economy: the acquisition of goods (and services) of defined specifications on a timely basis and at the lowest cost. A private firm that operates on the basis of profit maximization has a built-in incentive to ensure “economy” of its procurement. But such an incentive tends to be weaker in public sector agencies. Since public procurement creates opportunities for corruption, governments develop an elaborate set of rules and regulations in order to minimize corruption that can result in undesirable outcomes such as higher bid prices and lower-quality of goods and services for a given price paid. In many cases, however, these elaborate rules tend to delay an average length of procurement process, sometimes discouraging potential suppliers from participating in a bidding process. Similar to human resource management discussed in the next chapter, the legitimate desire to limit waste and abuse of public resources through procurement often leads to rigid and cumbersome processes that severely compromise efficiency and timeliness of service delivery.

The complexity of a typical procurement process raises the importance of forward planning. Yet, this is typically an area of weakness among governments in developing countries that lack timely information on inventory conditions or facilities’ needs for new materials and equipment. Strengthening this capacity, as part of overall planning capacity development, would thus contribute to making procurement of goods and services more efficient as well.

This chapter analyzes the main areas of material input management: supplies and medicines, equipment and installations.⁵² Each section presents the main issues uncovered in each area of material management in the survey. The final section provides overarching conclusions regarding the entire input management framework, and by extension, the efficiency of the health care system.

⁵¹ Kowalski-Dickow Associates and the Association of Healthcare Resource & Materials Management, *Managing Hospital Materials Management*. Kowalski-Dickow Associates 1997, p.5.

⁵² Personnel management is the subject of Chapter 4.

SUPPLIES AND MEDICINES

In the health sector, management of supplies – from their acquisition to their use – consumes a substantial portion of financial resources (around 20% of the total). It is therefore critical to ensure effective control of this process to avoid unnecessary cost and maintain adequate quality of care. This section reviews the process of purchasing and tendering, inventory management and control, and the use of cash advances used for small purchases.

Purchasing and Tendering

Health Secretariats

In general, the responsibility for authorizing the purchase of supplies and medicines belongs to state and municipal health secretariats, along with the contracting of services and, to a lesser degree, the purchase of equipment. In the case of equipment, the authorizing responsibility is often situated in another agency such as the Finance or Administrative secretariats. As for general procurement, in only one case among the sampled municipalities is the purchasing authority provided by another secretariat (in Barra do Bugres, by the Finance Secretariat). Nevertheless, the actual purchasing may be the responsibility of the Health Secretariat (São Paulo, Parintins, Porto Alegre, Manaus, Cuiabá and Ivoti) or another secretariat such the Administrative Secretariat (Barra de Bugres, Sobral, Rondonópolis and Assis).

Procurement legislation stipulates various methods for the acquisition of supplies and the contracting of services. The total cost determines the specific procedures and deadlines:

- Public tender: this is the most complete and rigorous method of tendering, requiring prior qualification of the competitors and longer deadlines. This method is mandatory for purchases and contracts for amounts greater than R\$650,000 (US\$302,300)
- Price surveys: this is an intermediate method, reserved for amounts between R\$80,000 and R\$650,000.
- Letter of invitation/call for bids: this is a simplified form of tendering, in which at least three suppliers are invited to present bids; it is used for purchases between R\$8,000 and R\$80,000.
- Direct purchase: this is the simplest method, reserved for small purchases and services (valued at less than R\$8,000).
- Reverse auction (*pregão*), used mainly for large-scale purchases of relatively standardized goods.

Tendering methods: Table 3.1 presents the breakdown of the various procurement methods used by the municipal secretariats in our sample. The data, based on the 699 procurement processes reported by the sampled municipalities, indicate that the secretariats perform a large number of small purchases but spend the largest share of available funding on the most rigorous method, tendering.

**TABLE 3.1: DISTRIBUTION OF HEALTH SECRETARIAT PURCHASES
BY TENDERING METHOD**

METHOD	AVG. NUMBER PER SECRETARIAT	TOTAL VALUE (R\$)	AVERAGE VALUE (R\$)
Direct Purchase	576	5,152,400	2,233
By Invitation	93	17,966,334	38,554
Price Survey	21	14,892,784	141,836
Tendering	9	57,884,269	226,318

Delays in the tendering process: The time needed for the purchasing processes varies considerably depending on the method (the most rigorous ones have longer legal deadlines and require more time in preparation and execution), on administrative capacity, and on quality of planning by the secretariats themselves, along with other factors. On average, these processes usually take between 1.5 and 5.5 months, according to the survey results. In Mato Grosso, for example, it takes 4 months for acquiring office and cleaning supplies; in Ceará, 1 to 2 months for purchasing hospital equipment; and 2 months (Cuiabá and Ivoti) to 5 months (Resende) for hospital supplies in municipalities. The long duration of the procurement processes delays budget execution.

As reported by the secretariats, the delays in the tendering process also tend to create tardiness in the signing of contracts and in the provision of services. Such delays are most common for medical and hospital supplies (1 state and 3 municipalities) and for general supplies (1 state and 2 municipalities), and medicines and maintenance services (1 municipality each). Among the municipalities, the incidence of delays in acquiring supplies was 47%, being most frequent for medical and hospital supplies (Table 3.2). These delays in turn result in partial or temporary shortages, difficulties in dispensing medicines to patients, poor quality/effectiveness of the services offered, suspension of these services, or emergency purchases.

The deadlines and requirements of the more complete tendering methods, and the frequency of these delays provoke the units to adopt strategies to circumvent these difficulties, for example, by dividing one purchase into several of lesser value (which is illegal but a common occurrence), or by seeking a waiver when faced with an emergency situation (which allows the use of direct purchasing methods). In the survey, the most common reasons for waiving tendering were: delay in the tendering, an emergency situation, a cancellation of a previous tender due to lack of bidders, a irregularity, or compliance with a court order. The latter usually is the result of a legal challenge from “losing” bidders, and can hold up completing the tendering process for months, if not years.

TABLE 3.2: INCIDENCE OF DELAYS IN THE PURCHASING OF SUPPLIES BY MUNICIPAL SECRETARIATS

TYPE	%
General Supplies	17.7
Medical Supplies	23.5
Medicines	5.8
No report of delays	53.0

The standardization of supplies and medicines⁵³ is adopted by two state (Mato Grosso and Ceará) and eight municipal secretariats. Standardization seems to be more common among larger municipalities. All of the secretariats that report using standardization also claim that control of the receipt of the goods and services is performed according to the standard list. Many states and municipalities adopt, either entirely or as a reference, the Ministry of Health's list of essential medicines.

Health Units

Autonomy for purchasing: Most hospitals (75%) directly purchase supplies and contract services; for the remaining 25%, a central secretariat (not necessarily the health secretariat) makes these purchases. This is mainly the case for federal, state and private hospitals, but not so for municipal hospitals where purchases are performed elsewhere in the municipal bureaucracy. In the case of equipment, direct purchasing is considerably reduced; only 39% of the hospitals in the sample have the authority to acquire equipment. Table 3.3 shows that this responsibility varies greatly depending on hospital ownership: all federal and private hospitals directly purchase supplies and services compared to 85% and 24% of state and municipal facilities, respectively. This demonstrates the high degree of administrative and financial centralization that is prevalent in most of the municipalities.

Most facilities tend to make frequent purchases of limited size or amount to simplify procurement processes. Among the hospitals that make purchases during the fiscal year, the methods most used were direct purchase (53%), price survey (24%) and letter of invitation/call for bids (18%). These figures suggest a large number of small purchases. In terms of value, the letter of invitation and price survey each represent 38% of the total while direct purchase represents 13%. Eighty-two percent of the hospitals work with standardization of supplies and medicine, which facilitates quality and cost control since it permits reducing the number of items in stock and makes the purchasing process more competitive due to greater economies of scale.

TABLE 3.3: RESPONSIBILITY FOR PURCHASING SUPPLIES AND SERVICES IN HOSPITALS

WHO AUTHORISES	FEDERAL	STATE	MUNICIPAL	NON-PROFIT	FOR-PROFIT
External Entity/Sector	0.0	30.8	76.5	0.0	0.0
General Director	50.0	76.9	35.3	61.5	50.0
Administrative Director	0.0	38.5	11.8	38.5	0.0
Purchasing Dept.	0.0	0.0	11.8	15.4	50.0
End-User Sector/Unit	0.0	0.0	0.0	0.0	0.0
Other	0.0	15.4	5.9	15.4	0.0
No Response	50.0	0.0	0.0	0.0	0.0
Note: The columns do not add up to 100% due to multiple responses.					

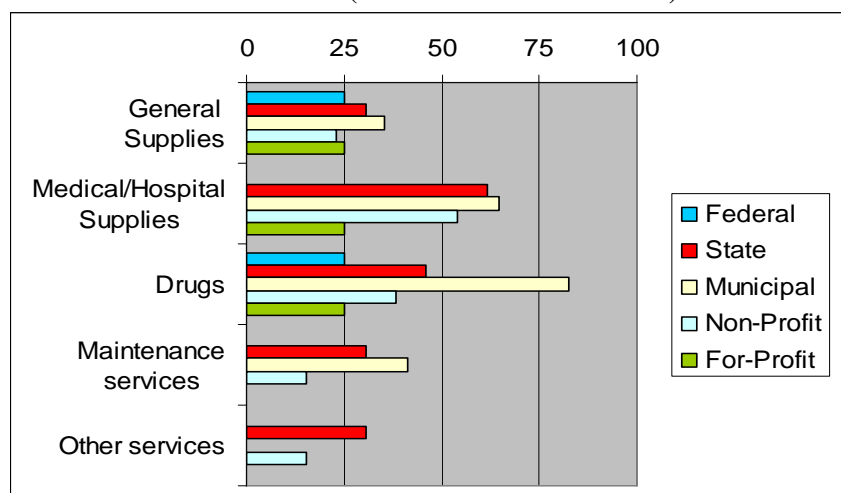
Delays in the purchasing process: The effects of the sluggishness of the purchasing process and the subsequent delays are most evident at the level of the health units than the health secretariats since the units are directly responsible for providing services. Among the hospitals in the sample, the frequency of delay in the purchasing or delivery of supplies was 71%: 61% for medicines, 57%

⁵³ Standardization implies the definition of a list of frequently purchased supplies and drugs, including volume and packaging. This reduces the number of items and types of packaging, and therefore simplifies stock management.

for medical and hospital supplies, 32% for other supplies and 27% in maintenance services. These problems are most frequent among municipal and state hospitals when compared to private for-profit hospitals in the sample.⁵⁴ In particular, 82% of the municipal hospitals report delays in supplying medicines throughout the year while 65% report delays in purchasing medical and hospital supplies.

Among those hospitals where it was possible to identify the reason for the delays, for most (54%) the main reason was related to the tendering process itself (pre-fixed times, tardiness, red-tape, difficulty in meeting requirements); in 23% of the reported cases delays were related to inadequate management (with inadequate forecast of needs and a lack of inventory control); and in another 23% the problem was payment delays or failure to pay the suppliers.

FIGURE 3.1: FREQUENCY OF DELAYS IN THE PROVISION OF SUPPLIES AND SERVICES IN HOSPITALS (% OF HOSPITALS SURVEYED)



Consequences of the delays: Not surprisingly, delays in purchases bring undesirable consequences for service delivery. Of those hospitals reporting delays in the purchasing and delivery of supplies or services, 89% had resorted to emergency purchases in small volumes and but at higher prices. Interestingly, 48% also reported seeking missing items from other units (which have to be returned in kind once the stocks were received). The main consequence of these delays were stock outs of supplies (in 88% of the cases), which, in turn, resulted in postponement or suspension of services (e.g., cancellation of surgeries in 20% of the cases), or a decrease in the quality of service. The latter was reported by 23% of the hospitals. Also mentioned were administrative complications arising from emergency situations. Since emergency purchases are usually made in small quantities in retail establishments, prices are noticeably higher than for programmed purchases. Although the differences vary, prices can be 20% higher for general consumables and 30% to 40% for medicines.

Quality and performance control in contract management: The trend to outsource diagnostic and support services has increased the importance of contract management by hospitals. The survey showed weaknesses in the management and oversight of outsourcing contracts especially in terms of the limited use and monitoring of performance targets. Fifty percent of the contracts are administered based on quantitative and qualitative targets and deadlines; 14% are based on quantitative goals and deadlines. Only 5% of the contracts include quality indicators tied to the provision of the services while 11% of the contracts include penalties for non-compliance with

⁵⁴ Note that the small number of the private facilities in the sample does not permit reliable conclusions.

contractual clauses. It was not possible to quantify the frequency of breaches of contract, but there is evidence that this is quite common, leading to reductions in the quality of service (as in the case of inadequate cleaning, for example) and higher costs.

Inventory Management and Control

Health Secretariats

Once medicines and supplies are purchased, the next step in the process is storage and inventory management. The warehousing of supplies is organized hierarchically in most states and municipalities and with varying levels of centralization. All of the state secretariats and most of their municipal counterparts possess a central warehouse for storing nearly all materials, supplying the central level as well as all or part of the network of units. However, decentralized warehouses also exist (e.g., at the regional and facility levels). At the other extreme, some municipalities possess a single, central warehouse for supplies required for all sectors (this is true for many small municipalities). The size of these warehouses varies considerably, from less than 100 items to several thousand. In most cases, the condition of the physical area devoted to the warehouse is adequate; the main problem reported by respondents is insufficient space.

Most secretariats check inventories regularly (e.g., physical count) for purposes of control and verification, although the frequency varies: annually (two states and four municipalities), semi-annually (one state and one municipality), quarterly (three municipalities) or monthly (one state and three municipalities). Inventory control is computerized in all of the states,⁵⁵ but in only one-third of the municipalities. Surprisingly, some small to medium-size municipalities have adopted a computerized system, whereas other larger municipalities have not. Generally, requisition of supplies and medicines is performed by the individual unit, a district, or program through completing a form. Exceptions are Sobral municipality, which uses periodic but automatic distributions, and Assis, which uses a minimum stock spreadsheet.

Few secretariats find significant discrepancies between the quantity recorded in the inventory control system and what is actually found by physical inspections, although incidence of such discrepancies are generally believed to be quite common.⁵⁶ A frequent cause of stock leakage is inadequate recording of shelf labels (when recording is done manually). The measures taken are usually strictly administrative (“revising the process”); in no case were officials reportedly held accountable investigated, or those found to be responsible punished.

Few states have a routine procedure for monitoring the expiration dates of supplies in stock. Most of the municipalities reported maintaining some type of control. However, substantial quantities of outdated medicines were recently incinerated in Mato Grosso and Amazonas, and in the municipalities of Barra do Bugres, Manaus, Rondonópolis and Cuiabá, or were returned (Ivoti). This suggests that these controls are ineffective.

States and municipalities receive donations of medicines (and some other supplies and equipment) from the federal government (and state government in the case of the municipalities). These donations are often of substantial value. For example, in one municipality in São Paulo State the total annual expenditure on medicines for 2003, 31% were acquired using municipal funds, and 63% and 6% were donated by the State Health Secretariat and the Ministry of Health respectively.

⁵⁵ São Paulo did not respond to the survey question.

⁵⁶ Discrepancies were reported only in Mato Grosso (General Supplies), Amazonas (Medical and Hospital Supplies and Medicines) and Sobral (Medical and Hospital Supplies and Medicines). It was not possible to conduct additional verification by sampling in the secretariats’ warehouses.

As a general rule, the corresponding cash value of these donations is only recorded in the warehouse, and is not accounted as revenue nor included as an expense (since it is not recorded as part of the budgetary-financial flow). Consequently, municipal health expenditures, which are recorded through SIOPS⁵⁷ is underestimated due to the omission of these transfers.⁵⁸

Health Units

Inadequate physical facilities for storage: The survey also identified a number of significant problems at the facility level. Most of the hospitals surveyed (83%) possess their own warehouse, which is mainly used to store medical supplies (86%) and medicines (80%). However, among these units 23% do not have adequate storage conditions (e.g., insufficient space, dust, water leakage and improper storage fixtures). The situation is particularly worrisome at the municipal level, where 24% of the hospitals do not possess their own warehouse, and among those that do, 41% do not have proper storage conditions.

Weak inventory control: Eighty-nine percent of the hospitals that have their own storage area carry out a physical inventory at least once a year. In the most recent inventory (e.g., performed prior to the survey), considerable differences were found between the quantities recorded in the inventory controls and the physical count: 20% of the hospitals reported deviations from the stock of medicines, 13% from medical supplies and 11% from general supplies. This suggests poor inventory management. The differences vary considerably in magnitude. Although most facilities reported losses of relatively low value, other reported leakage of up to 50% of the overall inventory. Similar to the case of the secretariats' warehouses reported above, the main cause of these discrepancies is inadequate recording of the shelf labels (e.g., erroneous or outdated records). The measures taken in these situations are purely administrative (e.g., review of the process in 20% of the units and administrative investigations in 5%). No punitive measures were reported.

Among the outpatient units surveyed, 75% possess their own warehouse and the rest are supplied by central warehouses. In 30% of the cases the inventory control system is computerized. Most (80%) of those units conduct an inventory check at least once a year. However, the controls are inadequate, and the inventories show substantial differences between stock records and physical counts: 15% in medicines and 10% in medical supplies. Only 5% of the units report taking some type of corrective action, usually a review of the process, and in no case was leakage investigated. The storage conditions are often inadequate and controls insufficient. In some units, the stock of medicines is located inside the treatment room in an unlocked cabinet. In another unit, whenever a new batch of medicines arrives, the doctors issue prescriptions and personally withdraw the medicines without any control over how these are used. Whether this is common practice elsewhere remain an open question.

Delays in distribution occur with comparable frequency in the hospitals, causing a shortage of medical and hospital supplies for 10% of the facilities (30% of medicines and 20% of general supplies). In those units where delays occur, the main solution found was reallocation of supplies from other units (in 50% of the cases) and emergency purchases (in 10% of the cases). Some (15%) of them had to suspend their services until the problem was solved.

⁵⁷ SIOPS (Information System for Public Budgets in Health) is a recently implemented information system aimed at monitoring and consolidating health expenditure by the different levels of government. It provides more detailed information regarding program expenditure than the main budgetary system.

⁵⁸ This expenditure is, however, recorded by the agency that made the donation or transfer (the Ministry of Health in most instances).

In sum, the survey data indicate that inventory management is deficient in most secretariats and facilities due to inadequate infrastructure and controls. Delays and shortages are common, and quality control is rare. These problems often result in service interruption,, lowering the quality of care.

Management and Control of pharmaceuticals by Health Units

Pharmaceutical spending represents about 10% of average hospital spending in Brazil.⁵⁹ How they are managed within facilities can have important impacts on spending and quality of care.

Evidence and causes of wastage: The majority of hospitals have their own pharmacy for storing and distributing drugs. The practice of keeping intermediate stocks in “sub-pharmacies” in the wards and departments (45% of hospitals) represents additional problems for inventory and quality control. In many cases, there is very little control over these intermediate stocks. For example, only 18% of hospitals carry out periodic inventories, and 16% do not exercise any control at all over these sub-pharmacies.

One major cause of waste of drugs is the gap between prescriptions and pharmaceutical purchases. Twenty-seven percent of the hospitals in the sample reported that many of the drugs kept in their pharmacies were not suitable for the treatments, or were not prescribed by the doctors. This occurs principally where there is no standardized drug formularies (30% of the hospitals), when the existing standardization is not followed by the doctors, and/or when the hospitals are not directly responsible for the acquisition of drugs (e.g., where purchasing is centralized in the public administrative apparatus), and where the doctors are not consulted regarding the choice of drugs to be acquired. Given this array of deficiencies, it is safe to say that pharmaceutical management at the facility level is in its infancy.

The mechanisms of distributing and dispensing drugs to patients also contributes to waste: only 25% of the surveyed hospitals use the “single dose” system,⁶⁰ and this proportion is at its lowest in municipal hospitals (6% compared to 45-50% in the state and federal hospitals). For the rest, the normal practice is to distribute drugs in their original commercial packaging. What is not used in the hospital is given to the patient (even if the patient does not need to continue the treatment once discharged), or discarded after the patient leaves hospital. As this practice is very common, one can presume that the resulting waste is substantial, though information systems are not sufficiently robust to quantify such a loss. The partial and non-rigorous information obtained in those hospitals which have adopted the “single dose” system suggests a savings of about 20% in expenditure on drugs between the two dispensing systems.⁶¹

Finally, a significant proportion of the drugs are purchased – or delivered to the hospital, in the case of centralized purchase or allocation – near the end of their expiration date. Only 2% of the hospitals deemed this to be a major problem, but it is likely that this figure underestimates the extent of the problem, given that many units do not keep records of expiration dates. Poor conditions of storage also contribute to additional wastage in 7% of the hospitals surveyed.

⁵⁹ This proportion appears low by international standards, but one should keep in mind that hospitals receive significant quantities of drugs directly from the MOH. Unfortunately, these in-kind allocations are not systematically recorded.

⁶⁰ The “single dose” system consists of packaging and distributing drugs to inpatients according to each daily drug prescription in contrast to the prevalent practice of delivering drugs to the wards in its original commercial packaging and corresponding volume. The single dose system is standard practice in high income countries, but is not broadly used in Brazilian hospitals.

⁶¹ This is in agreement with international studies, which point to cost reductions between 8% and 32%.

The lack of medical drugs in the units is a serious problem, cited by a large number of hospitals (Box 3.1). However, when the prescribed drugs are given to patients for self-treatment at home (either after discharge from the hospital or as outpatients), patients often sell their medicines. At present no mechanism exists to control this distortion, nor do we have any means of establishing the extent of this widely recognized problem. The adoption of the SUS Identification Card⁶² should reduce this problem, enabling a patient to be tracked through each health unit.

BOX 3.1: THE QUESTION OF AVAILABILITY AND ACCESS TO DRUGS

The problem of access to drugs in SUS is well-known and has warranted special attention from health authorities. This study confirms the seriousness of the problem, as 27% of hospitals reported a lack or insufficiency of drugs needed to meet demand. In these cases, the patient's family is obliged to purchase medication from the nearest pharmacy. Unfortunately, it was not possible to estimate the proportion of patients under treatment who did not receive prescribed medication because hospitals do not register this information.

The 1998 PNAD (*National Census of Sample Households*) does, however, provide data which is consistent with this study. Of those who were in-patients in a public hospital, 2.5% had paid for their treatment (which is forbidden under SUS legislation) and 42% had paid for their medication, either totally or partially. The proportions are similar for treatment at outpatients units and for diagnostic or therapeutic treatment in public hospitals (1.2% paid for treatment and 41% for drugs). However, it is significantly higher in private facilities under contract to SUS: 48% of inpatients and 56% of outpatients paid for drugs.

Given that the PNAD predates this study, it is probable that this problem has been reduced in recent years, with the adoption and expansion of federal and state programs for the distribution of, and access to, basic and specialist drugs. Nevertheless the PNAD data appears consistent with the survey results regarding the scale of the problem, although the method of using patient interviews is doubtless the most appropriate for measuring such practice.

The lack of availability of drugs in SUS units is a serious problem for two reasons: first, because the continuity and effectiveness of the treatment is put at risk if a family cannot afford to buy the necessary medication; and second it is the same as transferring part of the cost of treatment to the family, creating a heavy financial burden and threatening the equity of the system. In sum, the inconsistency between reality of out-of-pocket spending of public patients and the SUS principle of free treatment is evident in the case of pharmaceutical spending.

Petty Cash Funds: In the secretariats and health units, frequent use is made of advance cash or petty cash funds. These funds are used to purchase low-cost goods and services that do not require a tender and function as a revolving fund that is replenished periodically (usually monthly). All state health secretariats make regular use of the advance payment fund. The most common use is for the emergency purchase of supplies and medicines, non-clinical contracted services (e.g., maintenance) and for the payment of temporary workers and transportation.

In most of the secretariats, this fund is managed and controlled through reporting requirements in accordance with specific laws (i.e., based on the presentation of receipts and justifications). While a rotating fund is one of the few instruments that ensure administrative autonomy and agility, it also facilitates misuse of resources. The number of these petty cash funds as well as the amounts involved is highly variable. For example, in the Health Secretariats of the States Rio Grande do Sul and Mato Grosso, 162 and 70 revolving funds exist, respectively. The funds can be linked to specific programs, departments and health facilities.

⁶² SUS Identification Card is a new program under implementation in which every SUS user receives an ID card at a SUS facility. The card is used to record the service rendered and allows tracking patients across the system.

At the municipal level, 7 secretariats (São Paulo, São Gonçalo, Resende, Porto Alegre, Manaus, Cuiabá and Assis) report regular use of the petty cash revolving funds although the remained also apply this mechanism as well. The annual value of these advance payments is low, representing between 0.1% (Manaus) and 1.8% (in Resende) of the municipal secretariat's expenditures. The number of these funds varies between 15 (in Porto Alegre) and 94 (in Cuiabá), with no relationship to the secretariat's budget or the size of the municipality.

Use of these funds is very common in health units. In the smaller units it is the most common method for purchasing inputs contracting services which are not centrally supplied. But the units have an additional incentive to use these funds: they are the preferred method to by-pass cumbersome procurement processes and to make emergency purchases. The study shows that 59% of hospitals and 25% of outpatient clinics make regular use of their petty cash funds. They are generally applied to emergency purchases: 41% for purchase of drugs and 36% for other supplies. In outpatient clinics, the average annual expenditure on purchases made through these funds is R\$ 4,000.

Purchases made directly or through petty cash funds are of low value and are nearly always made on the retail market, at prices considerably higher than those made through wholesale outlets. Nevertheless, in light of slowness and rigidities of more formalized procurement and purchasing processes, the units see petty cash payments as a useful method to meet their purchasing needs.

MANAGEMENT OF EQUIPMENT AND INSTALLATIONS

Equipment and installations (fixtures and fittings) in health institutions represent a costly investment and are critical components of many treatments. Poor conditions of equipment and installations adversely affect the quality of service offered and also threaten patients' safety. This subsection reports on survey findings related to procurement and maintenance of equipment.

Acquisition of Equipment and Installations

Unpredictable availability of funding for large equipment purchases: The planning and acquisition of equipment for health units is usually centralized in the Health Secretariats, and sometimes in other secretariats (such as in the Executive branch or in the Finance Secretariat). Equipment acquisition often depends on ad hoc opportunities and the availability of specific funds, which frequently are linked to the existence of international financing or amendments (riders) to federal legislation. This context creates situations where there may be no resources for acquiring new equipment for many years followed by a substantial inflow of funds which have to be spent within a short space of time. Because of this tendency, purchasing is frequently carried out centrally and in large quantities, and then distributed to a large number of health units, according to criteria set by the financier. This process often results in the purchase of unsuitable equipment, which does not meet the needs of health units and terms of addressing demand. Once resources are secured and equipment selected, the time needed to complete the purchase normally takes between 2 to 5 months. Delays, however, cause other problems: the available funds may fall short because of price increases. This then may require reinitiating the process, resulting in still more delays or even the cancellation of the entire transaction.

The analysis of equipment (as well as installations) is more useful and informative at the level of health units, where the equipment is actually installed and used. The existence of diagnostic equipment in the units varied from 51% for radiology equipment to 9% for magnetic resonance equipment. Availability is much higher in the hospitals than in the outpatient clinics. The most prevalent item for these clinics was a clinical analysis laboratory (25% among surveyed outpatient units). Various outpatient clinics reported not possessing the equipment required to treat patients. This complaint was rarely voiced by the hospitals. The average age of equipment in the sampled

units was 7 to 8 years, ranging from recently acquired equipment (less than 1 year) to equipment with more than 20 years of use.

BOX 3.2: CASES OF WASTED “INVESTMENTS”

In a hospital for the chronically ill an agreement for an international loan was made for a highly sophisticated piece of equipment for ophthalmic surgery. Such equipment would be used by very few patients in that institution. In addition, the equipment required special installation including electrical circuitry unavailable in the facility. Neither did the hospital have a qualified technician nor a physician trained to operate it. The equipment remained in its crate for several years until its warranty expired. It was never installed.

Similar problems arise in the construction of new buildings. At the early 1980's, construction began on several hospitals in the São Paulo metropolitan region (financed by the World Bank as part of the Metropolitan Health Program). Most remained unfinished for over 10 year, and were only completed in the late 1990's. Several would-be hospitals eventually were inaugurated as Social Organizations, an arrangement involving a private-public partnership. It is common for a health unit to be inaugurated without having sufficient staff, furniture or equipment. As such, facility operations may not commence to several years after inauguration.

The examples reported in Box 3.2, while extreme, are illustrative of problems in the equipment purchasing process and the construction of buildings and installations. In part, such problems stem from external factors (such as the opportunity to access financing through a external funding or a congressional bill, but in general they are the result of inadequate planning, coordination and standardization. As suggested above, it is common that equipment does not correspond to the needs and specifications of the health unit (nor was it requested by the unit). Upon arrival at the site, the facility or the secretariat lacks the technical know-how to install and operate the equipment. While these problems may have lessened in recent years due to rationalization efforts by the Ministry of Health and sub-national health secretariats, they still do occur with some frequency, as confirmed by the survey.

Maintenance

Inadequate maintenance: In order to keep equipment and installations in smooth working order, it is necessary to have a systematic and funded program for preventive and corrective maintenance. Yet when budgets are tight and, especially, when budgets are reduced, budgetary allocations for maintenance are normally one of the first line items cut. Maintenance is often judged to be of low priority in the short term.

The study secured little information about overall equipment levels and their state of repair. However, the results did reveal that the majority of state and municipal secretariats depend upon corrective maintenance and very few cases of a preventive maintenance were reported. The main problems cited in relation to equipment include obsolescence (25%) and disrepair (25%). These situations lasted for more than 6 months in some cases. Even in the case of “obsolescence”, the real reason appeared to be lack of preventive maintenance. The mean utilization rate of equipment among municipalities which submitted information varied from 60% to 100%.

Turning to equipment maintenance at the unit level, 55% of hospitals reported possessing corrective maintenance programs and 39% applied preventive maintenance. The remainder either did not supply information or reported the existence of formal maintenance program. In the case of outpatient clinics, these proportions were 45% and 25%, respectively.

The majority of the hospitals and outpatient clinics reported that most of their equipment was in satisfactory or good working order. The proportion categorized as in “good” or “satisfactory” state

of repair ranged from 75% for CT scanners to 100% for magnetic resonance equipment (Figure 3.3). Nevertheless, the high rate of breakdowns reported in the preceding 6 months does, to some extent, cast doubt on these results, varying from 15% for ultra-sound equipment and laboratory equipment, to 40-45% for radiology and other medical equipment. Several months elapsed before the equipment was repaired and some units were forced to suspend or reduce services that relied on this equipment. Respondents cited cases of equipment not being used due to the lack of spare parts or essential supplies. For example, 18% of hospitals reported lack of necessary reagents for laboratories. Others mentioned incomplete or inadequate installation and lack of a qualified technician.

This survey also reported on the general state of facility installations as subjectively assessed by the respondents. Between 55% and 66% of hospitals rated their installations as “poor” or “very poor”, and only one-third qualified them as “good” (Table 3.4). For out-patient clinics, the proportion of “good” and “satisfactory” was much higher, probably because a significant number have been recently constructed.

FIGURE 3.2: EVALUATION OF THE STATE OF EQUIPMENT AND FREQUENCY OF BREAK-DOWNS DURING PRECEDING 6 MONTHS (%)

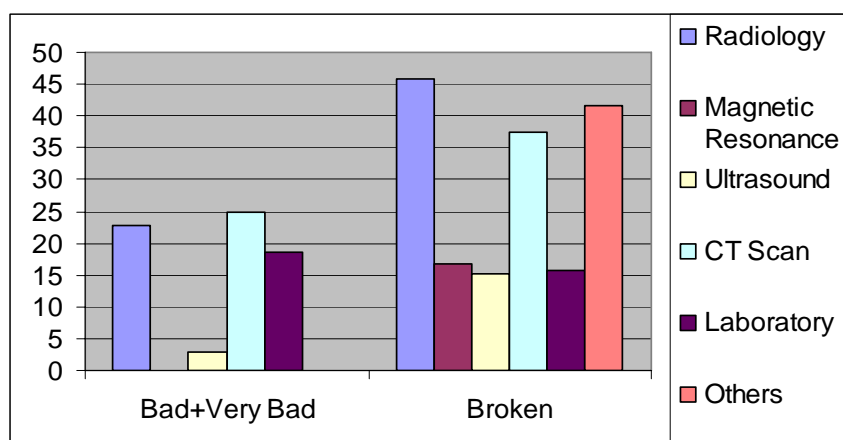


TABLE 3.4: SELF-RATINGS OF THE OVERALL STATE OF HOSPITAL INSTALLATIONS IN THE SAMPLE (%)

TYPE	GOOD	SATISFACTORY	POOR	VERY POOR
Buildings	30	5	51	14
Electrical	32	8	34	26
Plumbing system	27	7	46	20
Laundry	35	10	26	29
Kitchen	32	6	43	19

SUMMARY ASSESSMENT

This section summarizes the main conclusions concerning the management of materials, plant and equipment in SUS. Although current rules appear effective in limiting the likelihood of misappropriation of resources, their strictness and lack of flexibility create significant distortions in input management, resulting in waste and compromising quality.

Acquisition of supplies and medicines accounts for 20% of the health sector's financial resources, and is generally the responsibility of state and municipal health secretariats. There are several methods of acquiring supplies and medicines: public tender, price surveys, letters of invitation / calls for bids, direct purchase, and reverse auctions. The larger is the value, the more stringent are the methods and requirements for purchase, for the sake of preventing corruption or favoritism to certain suppliers. These stringencies often translate into delays or cancellations of purchases because of irregularities, and as a result, suppliers often raise their prices as a means of factoring in the costs of uncertainties in dealing with the public sector. For the health sector itself, these stringencies often result in supplies and medicines being unavailable, with secretariats and health units having to resort to emergency purchases, at a much higher price, to meet immediate demands. There is consequently a need to streamline the acquisition process while still maintaining some controls over corruption and political influence. In part, this can be accomplished through better inventory control. With sufficient information about the status of inventories, acquisitions can be made with sufficient lead time, building in controls for corruption and political influence and allowing enough time to avoid delays.

Acquisition of equipment and installations is hampered by unpredictable availability of funding. There may be several years when no funding is available, despite a recognized need, and then suddenly a substantial inflow of resources, usually linked to international financing, that must be spent within a short period of time. This often leads to wasteful purchases, with some equipment being purchased for a foreseen need in the future, even though there is no immediate need. As a result of inadequate maintenance, lack of qualified personnel to operate equipment, and lack of physical installations in which to use newly acquired equipment, depreciation is high and equipment becomes obsolete prior to being sufficiently utilized. The principal actions for improvement would be to enhance maintenance, and for future purchases, to smooth the flow of new equipment acquisitions. Where there is no maintenance program, installations in poor repair cause a reduction in the quality of care, and a higher risk of service interruption. Box 3.3 below provides an example of the impact of poorly maintained equipment of care delivery.

More specifically, the survey revealed the following shortcomings in material management:

Supply purchasing and management:

- Tendering and the rules covering this process were designed to prevent misappropriation of public funds, and do reduce the likelihood of such events. However, the excessive rigor and rigidity of the regulation, which require a degree of fine-tuned planning that is rarely found in practice cause distortions and contribute to significant loss and wastage. These rigidities and lengthiness in the procurement process encourage managers to resort to creative circumvention of the rules, including fragmenting purchases into smaller bits to use simpler and more agile purchasing methods, albeit at the cost of higher prices.
- Long purchasing processes and extended terms of payment encourage suppliers to build additional costs into the prices they quote. As such, purchasers in the public sector cannot expect competitive pricing by potential suppliers which in theory tendering processes should promote. Consequently, they frequently end up paying higher than market prices.
- These system rigidities are compounded by weak procurement skills at decentralized units, narrow interpretation of regulations, poor planning, low capacity in supply management, inadequate control of stocks, the existence of multiple storage areas and stocks in hospitals, and inefficient modes of dispensing drugs to patients.

Equipment procurement and management:

- Although in recent years the Ministry of Health and the health secretariats have attempted to foster greater standardization of equipment and better planning and allocation, this study shows that most facilities still encounter serious difficulties regarding the availability and management of installations and equipment.
- The acquisition of equipment depends significantly on the availability of international funds and irregular Congressional amendments. Capital investment financing does not follow systematic planning based on need assessments in most states and municipalities. There are no predefined and transparent criteria for acquiring or distributing equipment when funding is available. In short, equipment planning appears an ad hoc process.
- Due to a lack of a consistent program and sufficient funding for preventive maintenance, the frequency with which equipment breaks down results in service interruptions, lowering quality of care. In the long run, this results in higher costs because poorly-maintained equipment has to be replaced sooner. Lack of qualified personnel to operate equipment, supplies stock-outs, or supplies which are not suitable for the operation of the equipment are additional factors that contribute to service suspension and poor quality.
- Physical installations are often in a state of poor or very poor repair, which undermines the quality of care. The lack of maintenance contributes to increased expenditure because it eventually results in major remodeling, or in extreme cases, new construction.

BOX 3.3: AN EXAMPLE OF THE IMPACT OF BROKEN EQUIPMENT ON QUALITY OF CARE

"Aneurism?" The question mark written by the neurologist on the CT scan request form was to remain dangling in the air for seven days.

Marcelo Campos, a 37-year-old street-seller, had first felt pain in one of his eyes on the 9th of the month. The pain spread quickly to the whole of the left side of his face. On the 13th, when he went to the emergency department of Jabaquara municipal hospital, in the south end of São Paulo, the scan was requested, but the two scanners at the hospital were both broken. "I'm young and scared", said Campos last Wednesday.

The analgesics prescribed did not relieve the pain. On the 9th, before seeing the neurologist, an ophthalmologist had prescribed an ointment, because he thought it might have been an eye inflammation. It was not until the 13th that a second ophthalmologist sent him to the neurology department.

On Wednesday afternoon, the press office at the Jabaquara hospital district said that the scanner had been repaired. That night, Campos said he had been to the hospital, but a doctor told him that it would only be possible to do the scan on Friday (20th), seven days after the original request.

"For eight years . . . there has been no new investment in equipment or hospital renovation" said Clara Whitaker, municipal coordinator of hospitals.

From the 'Folha de São Paulo' newspaper, 22/06/2003

4. HUMAN RESOURCE MANAGEMENT

In a sector such as health where the government's role includes the provision of services, management of a contingent of personnel dedicated to service delivery is a particularly important aspect of resource management. The health workforce in any country consists of a large and complex array of professional, semi-professional, technical and administrative occupations. This

complicates the development and implementation of the principal human resource functions such as recruitment, retention, compensation, education, qualification, and performance assessment.

Although it is universally recognized that human resources is the most important aspect of health services management, it is often overlooked by health policy makers and healthcare professionals who tend to be more concerned about policy issues such as access to services, population coverage, and financing. Human resource management in the health sector is arguably among the most challenging given the sector's characteristics. These include the organizational and task complexity which makes it more difficult for policy-makers and senior managers to monitor staff performance and hold them accountable. More than any other sector, quality assurance in human resources in the health sector is critical as adequacy of staff qualifications relate to possible life-or-death consequences. Recruiting and retaining competent staff can be a challenge given the presence of the strong private sector labor market which diminishes the relative attractiveness of public sector healthcare career. Given the weight of the personnel wage bill in the total health budget in a typical government, addressing these challenges will require a comprehensive reform agenda to ensure that the health workforce provides effective care at an affordable price.

Trends in the public sectors in developed countries involve decentralizing authority to the lowest practical level and increasing flexibility in personnel management with clear specification of performance expectations and accountability. A handful of sub-national governments in Brazil are taking initial steps in these directions. However, in Brazil as elsewhere policy makers are generally loath to initiate organizational or managerial change that would result in organized resistance from unions and professional associations. Instituting such systems also requires a reasonable level of integrity and professionalism in the public services as well as sophisticated management techniques and instruments, which tend to be lacking in government bureaucracies in poorer countries. In most developing countries, a delicate balance is required to allow a sufficient degree of managerial flexibility (e.g., the authority to hire and fire staff at the facility level) on the one hand, and restraint on corrupt personnel management (e.g., nepotism, moon-lighting) on the other.

The survey did not aim to collect information for a comprehensive assessment of human resource management practices. Rather, it focused on a small subset of common issues related to decision-making authority over personnel, supply and qualification of staff and personnel performance. This chapter reviews survey results regarding these issues for state and municipal health secretariats and service facilities.

PERSONNEL MANAGEMENT

Expenditure on human resources represents the largest item in the budget of health institutions, accounting for 60-65% of spending in hospitals and 85-90% in outpatient clinics. This sub-section examines the efficiency of human resource management at two levels: health secretariats and health units.

Human Resource Management by Health Secretariats

Decision-making authority: Autonomy for and authority over human resource management is a key aspect of resource management. When authority over HR management is conducted far the service delivery level, the less likely facility managers will exercise close supervision and will be able or interested in motivating personnel.

The survey results show the state health secretariats directly manage human resources. All state health secretariats report having human resource departments which in most cases are responsible for paying salaries as well as hiring and firing of staff.⁶³ However, this is generally not the case at the municipal level. Hiring and firing at the municipal level is carried out by the human resources

⁶³ Exceptions include the State of Rio Grande do Sul where the Finance Secretariat pays personnel and Ceará in which all hiring and firing is centralized in another Secretariat.

departments located in health secretariats in several municipalities (Pelotas, Porto Alegre, Sobral, Rio de Janeiro, Rondonópolis and Cuiabá). However, this same function is performed centrally by other secretariats, usually the “Administrative Secretariat” in others (São Paulo, Parintins, Barra do Bugres, São Gonçalo, Manaus, and Assis). In smaller municipalities (such as Resende, Barra do Bugres and Ivoti) health secretariats do not have human resources department, and often have little decision making authority regarding personnel. Only four of 17 health secretariats are responsible for paying salaries to health personnel.⁶⁴

Oversight: Human resource management appears plagued by a number of persistent problems, including unavailability of hired staff,⁶⁵ absenteeism, lax control of work hours (e.g., workers who do not work their full quota of hours specified in their contract). This suggests that the real number of worked hours is a considerably less than the nominal hours specified in contracts. While absenteeism is often cited as a major problem, no secretariat kept records of sufficient detail to quantify this problem. One secretariat estimated absenteeism at 2%. In addition, there is no systematic record-keeping of employees who do not fulfill their required hours (e.g., one secretariat estimated this as 1%, while another reported 20%). The existence of employees who are on leave due to illness or other reasons was mentioned by only two state secretariats; one estimated this problem at a mere 1.5%.

Another important problem is the co-existence of workers who have been “borrowed” from other public agencies or units (and the reverse is also true: “lent” to other units). These “borrowed” and “lent” employees can represent as much as 20% of the total staff assigned to a facility. They are paid by agency of origin, applying a complex array of salary scales. More importantly, such workers have been contracted under different labor regimes (such as the civil servants, workers hired under private labor law, and temporary contractors) and remain formally subordinate to the agency of original that hold their contracts. This situation has largely arisen from the process of ‘municipalization’: health units have been devolved to lower levels of government. But it has also been amplified by the growing practice of contracting out services to third parties. Although the sample showed that the proportion of outsourced personnel varies across secretariats, in one state secretariat it reached 60%. However, this state had little capacity to manage the contractors.⁶⁶ As reported by managers in the survey, managing personnel under different regimes produces conflicts and increases significantly the complexity of HR management.

Staff qualification and performance management: The state secretariats did not report problems arising from under-qualified staff, low productivity and staff shortages or excess. In contrast, a number of municipal secretariats acknowledged such problems. In two states (Rio Grande do Sul and Mato Grosso) as well as a number of municipalities, staff is submitted to performance evaluations. These can take many different forms: in minority of cases a permanent review system has been established. However, most apply performance reviews to recent hires near the end of a two- or three-year probationary period. Use of performance incentives is rare. Two factors contribute to the absence of performance incentives: (i) the rigidity of public service laws; and (ii) lack of salary differentiation between very different levels of employees despite difference in qualifications and responsibility. Overall, the incentive regime is perverse, discouraging both

⁶⁴ The definition of who pays the salaries of workers seems to be independent of the size of the secretariat or the municipality. For example, in the small towns of Sobral and Assis, payment is devolved to the municipal health secretariats, whereas in the huge metropolises of São Paulo and Rio de Janeiro it is centralized in the Secretariat for Public Management and in the Administration Secretariat, respectively).

⁶⁵ Staff hired for a given facility may be working at other facilities or administrative units, or may be on extended sick leave.

⁶⁶ Source: SANIGEST. “Estudio de las Herramientas Contractuales entre el Gobierno del Amazonas y las Cooperativas Prestadoras de Servicios de Salud.” Consultant’s report, 2005.

productivity and efficiency: high productivity and quality is not rewarded (or even measured) and the reverse is not punished. Indeed, the most productive worker is said to often be the subject of hostility from less productive workers, who pressure him or her to slow down their pace and fall in line with their less productive colleagues.⁶⁷

Human Resource Management in the Health Units

Decision-making authority: Of the hospitals in the sample, 82% have a human resource department. However, hospitals' decision making authority regarding personnel issues is limited. Only 30% of hospitals are responsible for paying their personnel, for the remaining 70% payments are centralized in the health or some other secretariat. Only 41% conduct hiring; 25% are responsible for dismissals; and 54% are able to transfer personnel internally without central level approval. Not unexpectedly, only 41% of the hospitals decide or approve training programs for their workers. The proportion of outpatient units having a human resources department is much less (40%), and the degree of authority regarding human resource management is less than hospitals. The vast majority report that they are not responsible for hiring or firing of staff.

Weak control, limited performance management, and low qualifications: The previous section demonstrated that hospitals and outpatient facilities have limited autonomy to manage staff. Consequently, they make little use of personnel management and evaluation instruments. For example, 27% of the hospitals report that they use some kind of formal mechanism for evaluating performance. But in most cases these mechanisms are applied only during a probationary period. A limited number of health secretariats and large facilities have implemented an evaluation system based on the opinions of managers and colleagues. However, these schemes do not focus on actual performance or productivity.

Problems related to human resources reported by the health units are considerable,. Although some are similar to those identified by the health secretariats, the situation appears more serious in the health units (see Table 3.5). They are as follows:

(i) Lack or excess of personnel: 41% of the hospitals and 30% of the outpatient units assessed their personnel as insufficient (in most cases) or excessive. The average imbalance between the approved and actual number of staff was 20%. The greatest imbalance was reported among pharmacists and technicians.

(ii) Multiple employment regimes: The coexistence in the same unit of workers from various contractual administrative regimes (public sector, private sector, other government departments, etc) and "borrowed" from different agencies is pervasive. This situation was apparent in 36% of the hospitals and 45% of the outpatient units. This situation causes problems of duplicated command because workers transferred or borrowed from other government levels of institutions remain legally bound to their original institution, while managed by the receiving institution. Differentiated salaries (i.e., with the same job/position being remunerated at different levels) lead to conflict and low morale;

(iii) Instability of staff: Staff turnover appears to be major issue, identified by 36% of the hospitals and 20% of the outpatient clinics, affecting about 25% of total staff in many units. Turnover is mainly related to illness and transfers.

(iv) Absenteeism and moonlighting: This was identified as a major problem for 32% of the hospitals and 20% of the sampled outpatient clinics. Non-compliance with working hours was a

⁶⁷ Delays in salary payments are rare. This was reported in only one municipality of the sample.

problem for 30% and 35% of hospitals and outpatient units respectively. Similar to the health secretariats, most facilities do not maintain records to enable quantification of the problem.

(v) Low staff qualifications: Unlike the secretariats, the units suffer from poorly qualified. 32% of the hospitals and 20% of the outpatient clinics mentioned this as a problem. The dearth of qualified staff appears more serious in some areas such as administration and management.

The survey results suggest that insufficient staff is in large part due to the overall process of human resources management. The problem is localized in certain professional categories and responds to high levels of staff turnover, absenteeism and non-compliance with working hours. A contributing factor includes inflexible legislation governing public service employment which limits managerial capacity to stimulate productivity and quality through incentives or punishing inappropriate behavior. Further, while the units face a set of human resource problems which in principle are of a managerial nature, managers are powerless to solve them due to their lack of authority over staffing practices. Table 4.1 shows that the relative importance of these problems varies with the type or nature of the hospital. Also, they are much more frequent among public sector hospitals than private. Federal and municipal units tended to demonstrate the highest incidence of problems.⁶⁸

⁶⁸ Managers of clinical staff face problems similar to those with encountered with other personnel (no shown in Table 4.1): insufficient personnel (27% of hospitals), incomplete working hours (36%) and absenteeism for (16%). the study revealed that 70% of the hospitals had in-house clinical staff. The remainder reported some or all clinical staffing was outsourced. In private hospitals, and increasingly in public sector hospitals, there is a tendency to have in-house clinical personnel which work on shifts (especially for emergency and intensive care) and contract out diagnostic and therapeutic personnel.

TABLE 4.1: PRINCIPAL PROBLEMS RELATED TO HUMAN RESOURCES IN HOSPITALS (%)

Problems	Overall	Federal	State	Muni- cipalities	Non- profit	For- profit
Insufficient or Excessive Staff	40.9	50.0	38.5	52.9	15.4	50.0
Staff from different administrative contractual regimes	36.4	100.0	23.1	58.8	15.4	0.0
Absenteeism	31.8	50.0	38.5	35.3	7.7	0.0
Low Qualifications	31.8	25.0	30.8	47.1	23.1	0.0
Non-compliance with working hours	29.5	100.0	23.1	52.9	7.7	0.0
Low Productivity	27.3	25.0	7.7	47.1	15.4	0.0
Staff laid-off	25.0	50.0	38.5	17.6	23.1	0.0
Staff loaned to other institutions	15.9	50.0	15.4	0.0	7.7	0.0
Staff on loan from other institutions	15.9	75.0	7.7	11.8	15.4	0.0
Others	18.2	25.0	0.0	11.8	38.5	50.0

SUMMARY ASSESSMENT

Expenditures on human resources represent the majority of health spending, ranging anywhere from 60-65% in hospitals to 85-90% in outpatient clinics. These human resources, however, are poorly administered. Control of staff is weak, with little oversight of work hours and absenteeism, with the result that the real workforce is much smaller than the nominal one. Even when workers are present, many are underqualified and undermotivated. The structure of incentives discourages productivity and efficiency. These problems are endemic to secretariats as well as to health facilities themselves. Greater accountability, control, and training, and a system of incentives that motivates efficiency, can leverage existing human resources to provide more and better quality care to patients.

Laws governing human resources in the public and private sectors are outdated and in need of reform.⁶⁹ The legislation governing the public sector is especially rigid, allowing little flexibility in hiring, firing or providing performance incentives. However, the problems identified in personnel management in the health secretariats and facilities are not solely due to limitations and distortions imposed by the legislation. Many of the problems result from poor managerial practices, and in some cases of an absence of management. The specific shortcomings are as follows.

- Inefficient staff mix (by category and level): excess of poorly qualified personnel and shortage of qualified personnel, principally in managerial jobs and in the smaller units.
- Inadequate and inefficient staff allocation according to demand or needs. This is due principally to a lack of effective planning and inflexibility regarding allocation of personnel.

⁶⁹ Such reforms have been under discussion by Congress for several years.

- Absence of an effective incentive systems, performance evaluation, and of opportunities for professional advancement. Where pay-for-performance exist, they often are applied to all workers and incorporated into fixed remuneration.
- Poorly-focused training and skills updating, with no impact assessment.

5. PRODUCTION AND QUALITY MANAGEMENT

This chapter reports the survey results related to efficiency and quality of services. It reviews a subset of productivity and quality indicators reported by survey respondents and attempts to link these findings to problems reported in previous chapters on planning, budgeting, and material and resource management. Although not a major focus of the survey, the results provide insight into how facilities measure and manage service production and quality by analyzing indicators of productivity, efficiency and quality.

Quality is an abstract notion consisting of multiple dimensions that change constantly. Donabedian (1980) developed a quality assessment framework based on three components of quality: structure, process and results. These components became the cornerstone of quality assessment instruments and standards worldwide. The evaluation of structure consists of the assessment of the capability of care providers, including facilities, equipment, manpower and financing. Process consists of appraisal of the care process itself, ideally based on evidence. The assessment of outcomes consists of identification of the end results of care processes usually specified in terms of patient health, safety or satisfaction. The survey focused on structural aspects of quality in terms of plant, equipment, supplies and staff qualifications.

Productivity is a key determinant of efficiency and ultimately costs. Unutilized beds and underused surgical units and human resources result in higher and often wasteful production costs. How inputs are allocated to maximize production is an important managerial function. Efficiency and productivity is also closely related to quality. In addition to the regrettable health consequences borne by individuals, low quality also generates significant unnecessary costs, threatening the affordability of the health system. Although research is limited, available studies in Brazil show that poor quality is associated with increased spending.⁷⁰ In the US, where considerable work has been performed on the links between poor quality and costs, poor quality in terms of overuse, underuse, errors, adverse events, lost information, repeating of diagnostics and procedures, and re-admissions result in lost income for individuals and higher health spending.⁷¹ Moreover, findings from Brazil and elsewhere show that hospitals with high productivity (and production) for complex procedures (such as coronary bypass surgery) tend to have higher quality as measured by lower mortality rates.⁷² (Noronha, 2001). The survey gathered information on the productivity of physicians and surgical theaters.

PRODUCTIVITY AND EFFICIENCY

The first productivity indicator surveyed refers to physician productivity.⁷³ Physicians usually provide the core service in health care and are thus directly or indirectly responsible for the organization, provision and efficiency of most health services. However, few hospitals measure or monitor their productivity: less than 9% of the sampled hospitals do so, with this proportion being highest among municipal hospitals (16%) and lowest at federal hospitals (6%).

The survey measured productivity in outpatient settings. In health units where it was possible to gather information, doctors completed on average 75% of their contracted work hours, but carried

⁷⁰ World Bank (2007, forthcoming). Op. cit.

⁷¹ For a review of these studies, see Institute of Medicine, *To Err is Human: Building a Safer Health System*, National Academy of Sciences Press, 2000

⁷² World Health Organization. *Quality and Accreditation in Health Care Services: A Global View*: Geneva: WHO, 2003. p. 88.

⁷³ Manpower productivity is measured here as the quantity of services produced per unit of time (eg. number of consultations per hour).

out 100% of their quota of consultations (Table 5.1). This means that they attend more appointments per hour than suggested by the MOH standard of 15 minutes per appointment. On average, productivity is 6.72 appointments per hour, or around 9 minutes per appointment. This may be interpreted as a good level of productivity. However, at suggested by the MOH 15-minute norm, it is insufficient time in most cases to conduct adequate medical diagnosis and treatment. This apparent “efficiency” may thus come at the expense of quality.

The proportion of staff per bed is a commonly-used indicator of efficiency in resource allocation, with lower ratios indicating higher staff productivity and lower costs. In the sample, the average total staff to bed ratio was 4.84. There was little variation between groups of hospitals, but private hospitals demonstrated the lowest ratios. The proportion of nursing staff per bed,

**TABLE 5.1: INDICATORS OF PRODUCTIVITY
IN OUTPATIENT TREATMENT**

INDICATOR	VALUE
Doctors' hours of work vs. contracted hours	75 %
Consultations produced vs. scheduled	100 %
Consultations per total personnel (per hour)	1.39
Consultations per doctor per hour	6.72

often interpreted as an indicator of quality of care, was less than 2 in most hospitals, with a general average of 1.6. The highest rate was at municipal hospitals and the lowest at non-profit hospitals.⁷⁴

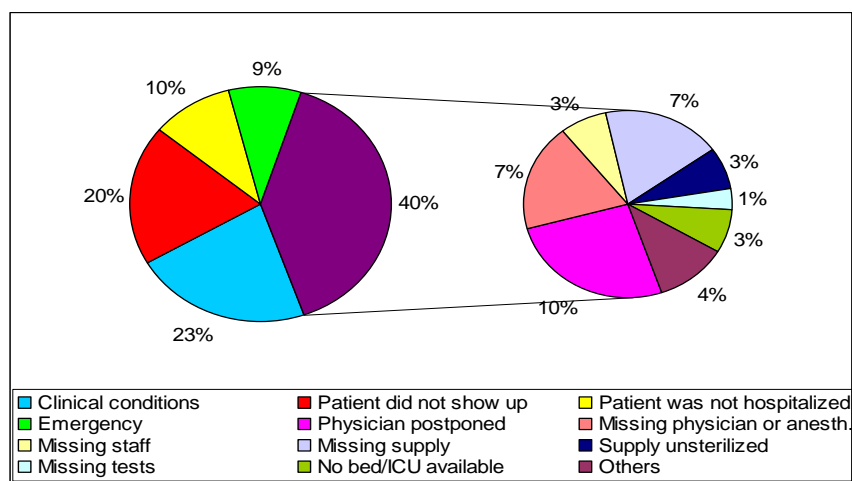
The use of operating rooms provide another indicator of efficiency. The proportion of canceled to total surgeries reflects the quality of the management of clinical services as well as external factors. Both the proportion of cancellations and their reasons indicate serious managerial problems at the clinical level. The 14 hospitals that provided information had on average a high proportion of canceled operations (17%). This is significantly higher than hospitals participating in the CQH program (3.5%) in São Paulo.⁷⁵ The cancellation rate is highest among non-profit and municipal hospitals (18 to 20%) and lower among federal hospitals (less than 10%). In general, the most frequently presented reasons for cancellation are shown in Figure 5.1. Approximately 60% of cancellations were for reasons that were external to or independent of the unit's management, such as the patient's clinical conditions, patient absence at admission, or an emergency procedure, but the remaining 40% were due to poor clinical management or inefficient operation of the hospital, including physician absence or conflicting schedules, and missing staff, supplies or diagnostic tests.

A substantial part of the inefficiency encountered in the health units is due to the organization and management of medical and technical services. In many cases these are poorly distributed and utilized, combining excess capacity for some services with overuse in others. Such is the case, for example, with the operating rooms: queues or postponements of operations on certain days and times, while they are empty in others. In other cases, consultation rooms in hospitals are reserved for specialist teams but are undertutilized. Rather, space is referred to demonstrate the “prestige” of the specific team rather than demand. This results in different use rates among consultations rooms. Room, However, it was possible quantify this variation.

⁷⁴ As a result of the weight of the municipal hospitals of Rio de Janeiro and their high rates of occupation, the proportion of nursing staff per patient per day is much lower in the municipal hospitals than in the others, 2.04 against an average of 5.1.

⁷⁵ CQH (Program for Hospital Quality Control) is a quality assurance and benchmarking initiative sponsored by the Sao Paulo Medical Association, and has over 120 hospitals enrolled.

FIGURE 5.1: REASONS FOR CANCELLATION OF SURGICAL OPERATIONS



QUALITY

Reviewing patient clinical records is a powerful method to ensure treatment quality because it enables comparison of the actual treatment with a recognized standard, and allows identification of possible clinical errors or inadequate treatment approaches. The proportion of hospitals in the sample regularly carrying out clinical reviews is very low. State hospitals display the best rate at 18% and federal facilities the worst, (12%). This suggests that few hospitals are systematically involved in quality measurement or improvement.

The survey questionnaire included a question on the main problems affecting quality of care in the areas of pharmaceuticals, personnel, installed capacity and medical supplies. The problems identified by the respondents are related to the efficiency and effectiveness of resource management identified in the previous chapters. The survey asked the respondents to rate each problem on a four point Likert scale. The results are reported in Figures 5.2 and 5.3. The responses show that although the average weights given to the various problems are similar, the importance given to each problem (e.g., its perceived impact on quality) varies by facility ownership. The hospitals also suffer from lack of medical supplies and drugs, poorly qualified personnel and hygiene-related shortcomings (which in turn contribute to hospital-acquired infections). The state and municipal hospitals reported more problems overall than their federal and private counterparts.

Outpatient units report the lack of or unavailability drugs, medical supplies, and diagnostic and therapeutic equipment. State-managed units reported more serious problems than the municipal units. In some cases, such as “lack of medical supplies” and “lack of personnel,” the difference between state and municipalities is considerable.

Observations *in situ* undertaken by the research team show that unit managers tend to underestimate or accept problems related to the quality of care as a given. This is confirmed by a survey carried out by the São Paulo Regional Medical Council/CREMESP in 1,012 hospitals (384 public and 628 private) in the state of São Paulo in the same period.⁷⁶ Problems were identified that concerned non-compliance with Health Ministry and/or Federal Medical Council standards, including failure to keep proper patient records, insufficient or poorly qualified staff, and insufficient equipment and

⁷⁶ Source: CREMESP journal, No. 190, June 2003.

installations (Figure 5.4). A third of hospital services do not control sterilization of supplies and over half the A&E departments do not follow the rules for biological safety – such as disposing of needles and other perforating instruments in the special receptacles provided.

FIGURE 5.2: MAIN PROBLEMS AFFECTING QUALITY IN HOSPITALS

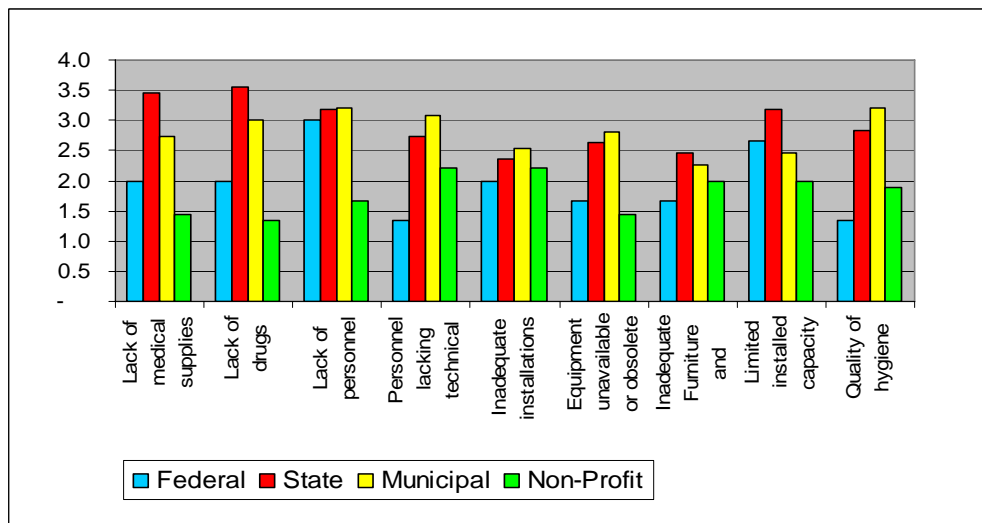


FIGURE 5.3: PRINCIPAL PROBLEMS AFFECTING QUALITY IN OUTPATIENT UNITS

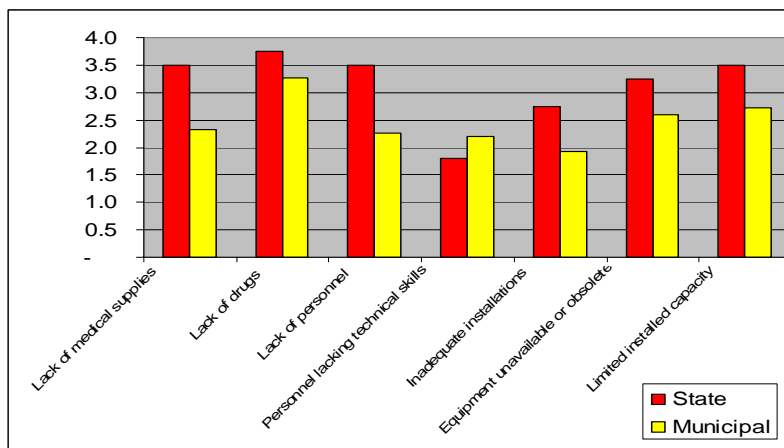
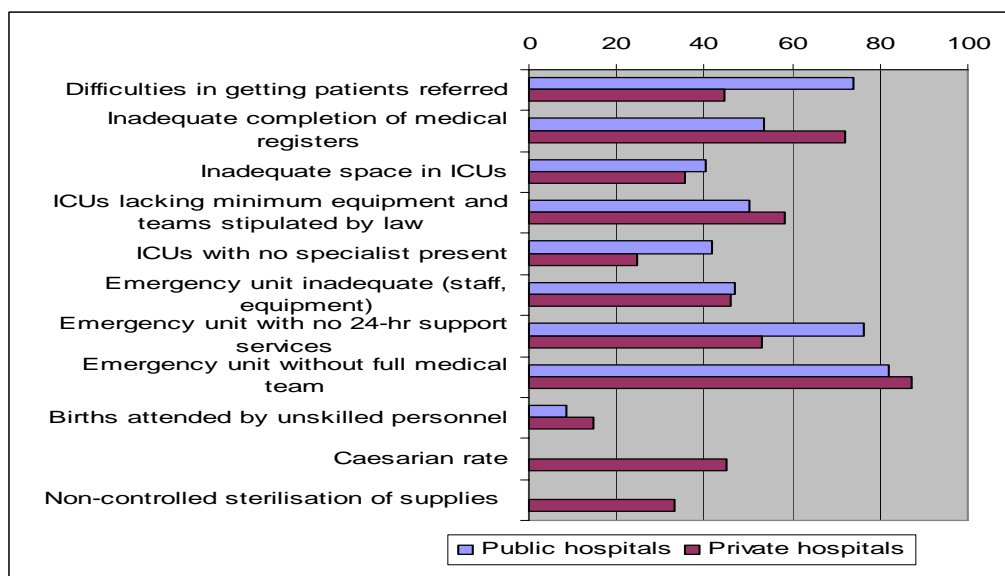


FIGURE 5.4: FREQUENCY OF PROBLEMS WITH QUALITY IN THE HOSPITALS OF SÃO PAULO STATE (%)



SUMMARY ASSESSMENT

Problems in the planning process, in the implementation of the budget, and in the management of material and human resources directly affect the efficiency, cost, quality, and effectiveness of the services delivered. Few health secretariats or units regularly collect or measure information on productivity, efficiency, or quality. In some cases, the classic indicators of productivity (average hospital-stay, turnover of beds, occupation rate, etc.) and quality (mortality and hospital infections) are monitored, but they are rarely used for evaluation, management, or decision-making. More systematic tracking of such indicators and their incorporation into health planning is essential for improving quality and efficiency of services.

The data collected through the survey suggest unsatisfactory efficiency and quality in the sample hospitals, with significant variations from hospital to hospital and between groups of hospitals classified by type. This performance reflects the problems found in the study and discussed in the preceding chapters, such as inadequate management of physical and human resources, inadequate planning and the lack of mechanisms and practices for evaluating results.

6. CONCLUSIONS AND RECOMMENDATIONS

The objective of this study was to analyze the quality of public expenditure on health through researching a sample of secretariats and health units, tracking the flow of resources through the different levels of government down to the health units, and analyzing the utilization of these resources at ground level. The analysis of the quantitative and qualitative results shows the existence of various problems, both structural and procedural, which impact negatively on the quality and effectiveness of health services provided by SUS, as well as on the cost of these services. This chapter returns to the principal conclusions of the study and proposes measures to address the problems found, in an attempt to contribute to improving the efficiency and quality of SUS.

The main conclusions of this study are summarized in Table 6.1 below, which presents the main problems encountered, relates them to the structural causes, and identifies their principal consequences at the level of health service management and delivery. Emphasis is given to the way the services function at the level of the health units, and their management. Six basic challenges stand out: (i) the fragmentation of the planning and budgeting process, (ii) the inflexibility and complexity of budget management, (iii) the lack of management autonomy at the local level, (iv) inadequate management information, (v) poor quality of local level management, and (vi) inadequate structure of incentives. These are discussed in greater detail below, followed by recommendations on how to improve in each of area.

FRAGMENTATION OF THE PLANNING AND BUDGETING PROCESS

The main conclusion regarding planning and budgeting is that, from a formal point of view, the system is well developed, though complex (e.g., fixed stages, time stipulations, a series of reporting requirements), as a result of improvements over the years. Nevertheless it still contains major limitations in practice. First, plans are frequently drawn up by sub-national units, but in response to legal requirements and not as an instrument of management at the local level. Thus, once such plans are approved, they are frequently shelved without really guiding resource allocation and performance management. Naturally, meeting budgeting norms is a legal requirement throughout the public sector, and health providers need to follow them. However, the health sector managers are faced with additional formal requirements of the SUS planning process, which works in parallel to the main process. This constitutes additional transaction costs for public health managers compared to those in other sectors.

Rational planning is also limited by the fragmentation and disjunction between the different phases of the planning-budgeting-execution-evaluation process. The various planning instruments, which should constitute different stages in the same continuous process, very often end up becoming isolated and disassociated from the other products. This happens even though the process is, in principle, integrated and 'linked' (Directive GM/MS N° 548 of 12 April, 2001). Causes of this fragmentation are various. First, each step is undertaken by a different type of specialized professionals, with very different training, and frequently carried out in different physical locations with little communication with each other.⁷⁷

A corollary is that each stage of the planning-budgeting process is governed by different technical and professional logics with little substantive conciliation. In the master-planning stage, technical

⁷⁷ Planning and programming are normally the province of technical staff (doctors, unit managers, technical planning officers), while budget preparation is undertaken by administrative and financial staff (accountants and administrators) who have little familiarity with medical and programming aspects.

concerns defined by the Program Directives predominate, as well as health priorities, with little consideration given to economic realities and financial criteria. When the budget is being drawn up, economic and financial elements (especially the historical level and pattern of allocation and the revenue forecast) predominate. During execution, the cash flow determines the rhythm and direction of the actions, which often implies a change in the planned activities, but without the time or opportunity to revise the Master Plan. The availability of funds thus ends up substituting the plan itself.

INFLEXIBILITY AND COMPLEXITY OF BUDGET MANAGEMENT

The manager of the local public health unit almost always finds himself “following the budget” rather than “managing funds.” This is due to the inflexibility and formalism of the system, given that the need for multiple authorizations and ex-ante controls takes away flexibility in managing resources, thus restricting his autonomy and overall responsibility. Keeping to, and controlling budgets, revolves around following legal prescriptions, norms and timetables, with little concern as to the result achieved. In this sense, budget execution becomes disconnected from the planning process.

The execution of the spending plan is complicated by a myriad of laws and norms covering the purchasing and contracting processes, the management of human resources and accounting and reporting requirements. The inflexibility of this legislation, designed to limit the misuse of public funds, also limits the autonomy of the local manager and thus his capacity to effectively manage the resources at hand. While the legislation does offer *some* flexibility, the local manager, either through his ignorance and fear of infringing any norm, or through opting to take the easy way out, tends to make a conservative reading of the law and not make use of what it does offer. For example, in the typical case of accepting the lowest tender: the legislation does offer the option of putting quality above price as a criterion for choosing one tender over another, but the administrator frequently ends up opting for the lowest price as if it were the only criteria. There are also cases of managers who, faced with the complicated formal requirements for punishing a subordinate who is absent or incompetent, simply give up trying to manage him.

The practice of legalistic management has serious consequences in terms of delays in the purchasing process, leading to shortages of material and medical drugs, higher costs in the acquisition of these goods and damage to the quality of service.

LACK OF MANAGEMENT AUTONOMY AT LOCAL LEVEL

As we have seen, the majority of public health units have little or no autonomy in the managerial and financial sphere. They do not control their payroll, and they only manage a part of their purchases, which varies according to the type of unit and its geographical location. They are unable to hire or fire staff, and often even have little information as to the state of their finances. Fund allocation is defined in the budget, over which the unit generally has very little influence. Such a manager in truth manages very little – only a fraction of his unit’s resources. In exchange, the manager or director of a health unit is not likely to be called to account for the successes and failures of his term.

The low level of autonomy and decision-making capacity at the health unit level makes the process of planning and budgeting of little relevance to the unit and its manager. Moreover, it results in a lack of commitment and risk- and responsibility-taking on the part of the manager as well as absence of data relevant for managing the unit. It is in order to correct this situation that a handful of states have set up self-managing institutions, such as support foundations and social organizations to manage all or part of hospital services.

Administrative and financial autonomy is particularly limited among municipal health units. In the majority of cases, decentralization goes as far as the City Hall or the Municipal Health Secretariat, but does not reach the health units, which continue to confront serious problems stemming from their lack of autonomy, incentives and accountability.

INADEQUATE MANAGEMENT INFORMATION

Another important conclusion to be drawn from this study is that programs and health units often have to be run without the benefit of the information they need for adequate planning, monitoring and evaluation. This is still a common reality, despite the respectable amount of existing information and the quantity of data routinely collected, both of a technical and financial nature. This inadequacy has two basic causes: first, as discussed above, lack of managerial autonomy limits the management's interest in using (and thus collecting). Second, the sophisticated information systems that are in place are all concerned with financial control and with verifying whether norms and provisions have been followed.⁷⁸ Thus, the current practices are not geared to producing managerial information on fund allocations by the end use, by the type of treatment carried out, or by the population group treated.

The existing information systems do not permit automatic consolidation of health spending, whether horizontally (between units on the same level or between similar programs) or vertically (between different levels of government). Since the absence of uniform classification methods makes their consolidation and comparison difficult, attempts at consolidating data on public health spending have tended to be stop-gap measures. The most recent and consistent of these is SIOPS, which should be seen as a great advance, but its coverage is still incomplete (not every state or municipality submits information).

The quality of much of the available information leaves much to be desired. The absence of conceptual standardization means that the same data, from two different sources, often do not tally. Data on budgets or performance obtained from the health units has gaps, errors and conceptual differences, which makes comparison extremely difficult.

Even though the available information is often incomplete and imprecise, it still allows useful preliminary analyses that could provide a basis for decision-making and management in the units. But as the majority of the data produced is for "procedural" ends (e.g., to trigger a fund transfer), and for the control of these funds, such data is little used in the day-to-day management of the unit, or for the evaluation of results. This in turn leads to the form of presentation and quality of information not being appropriate for this purpose. An effort to improve existing information systems and, particularly, to incorporate such analyses into the day-to-day service provision would most certainly contribute to improving the efficiency and quality of services.

POOR QUALITY OF LOCAL LEVEL MANAGEMENT

The quality of staff involved in resource management (including medical professionals who are involved in day-to-day delivery of services, i.e., execution of a funded program) is less than satisfactory. Many interviewees identified this as a key problem in planning and service provision. On the other hand, the current policy of human resources makes it very difficult to recruit and retain qualified professionals. Central planning and financial control functions, because they constitute the center of the budgeting system, tend to be staffed with relatively well-qualified professionals. But other functions such as economic analysis and evaluation, for example, tend to be neglected.

⁷⁸ SIOPS (*Sistema de Informações sobre Orçamentos Públicos em Saúde*) itself suffers from this limitation, although the Ministry of Health does recognize the need to evolve towards becoming a management instrument.

INADEQUATE INCENTIVES STRUCTURE

The process of setting up the SUS during the 1990's was accompanied by a heated debate as to appropriate incentives to be attached to federal transfers and the mechanisms for paying the various service providers. The debate fell into three distinct phases: the first one, which lasted until the mid-1980s, favored the payment of private service providers by *fee-for-service*, in other words, by the quantity of services carried out. At the beginning of the 1980's, payment per individual medical service in hospitals was replaced by payment "per procedure" through the AIH system. From the mid-1980s onwards, this system was extended to public sector services and, with the general reform of the health system and "municipalization," the transfer of federal resources to the states and the municipalities was carried out through individual agreements, or cooperative agreements. By the end of the 1980's, and with the introduction of SUS from 1990 onwards, the idea had taken root that this mode of transfer created distortions by rewarding the multiplication of services and increasing the existing inequalities in resource distribution (because new contracts were given out in accordance with past results and the existing health network). New criteria were proposed, based on need, to be defined by the size and relative health ratings of the population. But this vision was not translated into concrete form in the funding mechanisms. It was not until the mid-1990's that a number of primary care programs (such as PSF and PACS) were adopted or expanded with funding levels based on demographic criteria (PAB – Minimum Basic Care). Some of these programs even began to incorporate levels-of-need criteria, as measured by the municipal Human Development Index. But the multiplication of modes of transfers, criteria and payment has produced a gamut of varied incentives which are sometimes contradictory.

In practice, SUS also operates with many built-in, implicit incentives that result from the system's complexity, internal contradictions, and prevailing emphasis on procedural compliance, as discussed above. These in many cases have perverse effects contrary to the explicit incentives that contribute to inefficiency and poor quality treatment.

Taken as a whole, these characteristics make up a great incentive for public managers and service providers to pay far more attention to the internal and often formalistic management of the system than to the quality, efficiency, and effectiveness of the health care it offers. Thus, while the explicit incentives are tending, in an incipient way, to take on board the quest for greater efficiency in allocations and production and the reduction of inequalities, the implicit incentives tend to contradict this objective.

TABLE 6.1: SUMMARY OF PROBLEMS AND THEIR CONSEQUENCES

STRUCTURAL CAUSES	CONSEQUENCES
FRAGMENTATION OF THE PLANNING AND BUDGETING PROCESS	
<p>Formal and legalistic emphasis of planning in the public and SUS systems</p> <p>Planning and budgeting oriented toward justifying the allocation of funds</p> <p>Truncated and disconnected processes; the various instruments are disconnected and fail to complement each other</p>	<p>Plans made due to legal requirements, frequently shelved once approved</p> <p>Plans lacking action strategies, unrealistic</p> <p>Plans made without resource forecast</p> <p>Significant oscillations in the unit budgets and their execution and distribution</p> <p>Lack of monitoring and evaluation of results</p> <p>Disconnect between plan, resource allocations and real needs</p>
FORMALISM AND INFLEXIBILITY IN BUDGET EXECUTION AND RESOURCE MANAGEMENT	
<p>Inflexible norms and deadlines for budget execution</p> <p>Inflexible legislation of personnel and procurement and lack of proactive management</p> <p>System oriented toward procedural compliance and financial control rather than management and evaluation</p>	<p>The legislation and structure of the budget limiting flexibility in budget execution and encouraging inefficiency</p> <p>Long delays in administrative and financial processes</p> <p>Many small and/or emergency purchases using petty cash to circumvent the cumbersome formal processes, resulting in inefficiency/higher cost, waste, shortage of supplies</p> <p>Lack of effective human resource management, especially the difficulty to introduce performance orientations among staff, and inadequate and inefficient distribution of personnel, with localized scarcities and spare capacity</p> <p>High transaction costs because of multiple accounting procedures and reporting requirements for specific transfers</p>
LACK OF LOCAL MANAGERIAL AUTONOMY	
<p>Lack of management and financial autonomy in the health units</p> <p>Centralized system oriented toward central control, not to local needs</p> <p>Centralization of most human resource functions in a central unit, or another secretariat</p> <p>Centralization of expenditure in many municipalities</p>	<p>Central planning (legal demands and financial incentive) undermining incentives for local planning</p> <p>Little participation of the senior sectoral authorities and the health councils in planning process</p> <p>Little use of budgetary information for local analysis and evaluation</p> <p>Lack of management information at the health unit level</p> <p>The health units de facto managing few of their human resources (30% of hospitals pay personnel salaries, 25% undertake hiring and 54% carry out transfers)</p>

STRUCTURAL CAUSES	CONSEQUENCES
LACK OF ADEQUATE INFORMATION FOR MANAGEMENT	
Information systems oriented toward the central control and not local usage	Limited use of information generated (financial, production, etc), especially at the facility level
Weak integration of multiple information systems, each oriented toward one specific purpose	Most health units with little or no financial information
Inadequate budget structure and control mechanisms for program monitoring and evaluation	Excessively aggregated budget classification with limited use for management
Emphasis on the production of services rather than their effectiveness or results	Lack of information on costs
	Partial and inconsistent information on coverage, production and expenditure on national programs
	Inconsistency in information between levels of government
LOW MANAGERIAL CAPACITY AT LOCAL LEVEL	
Inadequate professional qualifications at local level for planning, management and evaluation	Poor planning at the local level and principally in the health units that results in, <i>inter alia</i> , resource shortage in certain expenditure categories or units, and a surplus in others
Difficulties in attracting and retaining qualified professionals (low remuneration, unattractive policies)	Low level of budget execution in municipalities and health units
Limited use of modern management methods and techniques	Inadequate planning of needs and purchases program,
Ineffective management of physical and human resources	Low level of control of the use of resources and stocks and non-utilization of available resources,
Inefficient organization of medical services	Inadequate system for distribution of drugs and supply shortage
Lack of systematic monitoring and evaluation of program and activity performance	Contracts not supervised or evaluated (only 5% of contracts are evaluated for quality)
	Lack, unsuitability and/or bad state of repair of installations and equipment
INADEQUATE INCENTIVE STRUCTURE	
Complexity and formality of the modes and requirements of entry into SUS	Difficulties faced by municipalities in qualifying for SUS management modalities
Requirements and criteria of federal funding to municipalities not geared toward promoting efficiency and equity	Emphasis on procedure and requirements in activities, little emphasis on results
Lack of policies and mechanisms to stimulate performance, responsibility, quality and efficiency	High degree of inequity in municipal expenditure on health and in federal fund transfers to the municipalities
	States' and municipalities' failure to comply with EC-29
	Lack of equal salaries between different contractual regimes
	Absenteeism and non-compliance with work hours

RECOMMENDATIONS

Various problems identified in the study are related to the organization and functioning of the public sector in general. The Health Ministry has limited power on its own to change the rules and norms of the public sector, or influence the functioning of the system at other levels of government. Nevertheless, as coordinator of SUS, the Ministry has various possible courses of action available to minimize effects of these problems. Recommended strategies for improved use of public resources are outlined below.

Quest for performance has become a worldwide phenomenon among governments. In reality, if the government, or in the case in question, SUS, does not show good performance, its legitimacy will be questioned. In SUS, however, the administrators of hospitals, programs, districts and municipalities are given few incentives and little incentive to perform well. Instead, they appear to be rewarded for sticking to the rules, complying with norms, and maintaining the *status quo*. This is partially linked to procedures and rules established by SUS as well as by rules that prevail in Brazil's public sector management in general. This status quo needs to change. A focus on results should increasingly define the SUS (as well as in other sectors) at all levels and also permeate all its processes. Although there is no one "operational" model for strengthening public sector performance, the basic idea is to create the organizational environment and the corresponding support systems and managerial know-how to elevate the SUS's performance system wide (i.e., the production of effective activities of a high quality and of services delivered at reasonable cost and which are considered satisfactory by the users of the system).

The findings of this study lead to six corrective actions to overcome the system's deficiencies. The actions are shown in schematic form in Figure 6.1. Each of the proposed actions can be seen as a means to change. Nevertheless, each measure, taken in isolation, is probably insufficient to result in sustainable performance. Taken together and in sequence, according to the initial conditions, they can be powerful levers for improving SUS' performance. These corrective actions are:

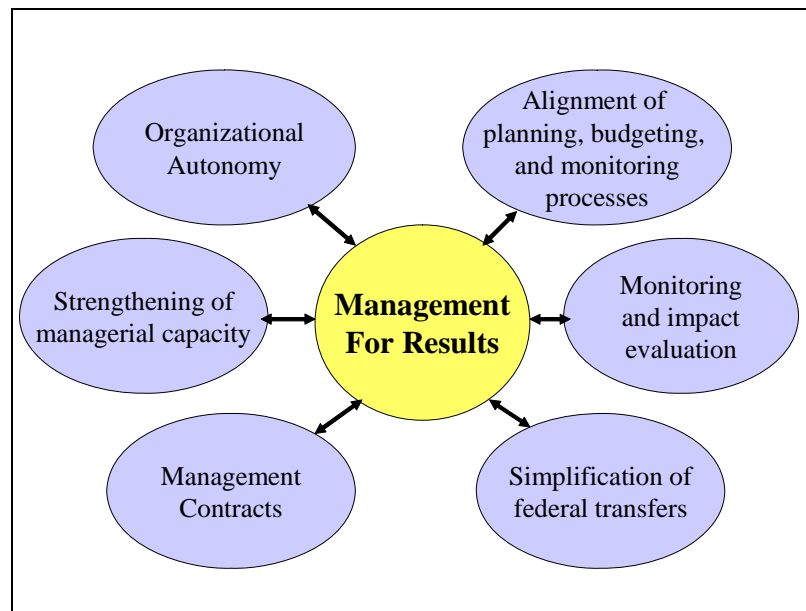
1. Develop and introduce organizational arrangements that give the management units increasing levels of the freedom of action and authority to make decision on the management of resources. The pace of granting such autonomy must be calibrated with each unit's demonstrated capacity, however, and the capacity of the central agency (e.g., health secretariat) to monitor and control its performance.
2. Apply mechanisms to strengthen accountability such as management contracts which make the administrators focus on specific goals and measurable results. This instrument could serve as a basic mechanism for planning, monitoring and evaluation in both cases.⁷⁹
3. Synchronize and align the processes of planning, budgeting and information management and orient them toward performance (away from the currently predominant focus on procedural compliance and ex-ante control).
4. Consolidate the federal transfers and link increments in financing to improvements in performance, thereby rewarding good performance and penalizing low performance (given

⁷⁹ An analysis of how such instruments can enhance performance, see "Enhancing Performance in Brazil's Health Sector: Lessons from Innovations in the State of São Paulo and the City of Curitiba," World Bank (2006), Report No. 35691-BR.

the importance of minimum-level health care for all, poor performance would not necessarily mean automatic reduction in funding).⁸⁰

5. Establish strong systems of monitoring and evaluation that aim at improving organizational performance (e.g., by supplying useful and clear information for internal management); and
6. Strengthen and professionalize management capacity.

FIGURE 6.1: CORRECTIVE ACTION TO IMPROVE RESOURCE MANAGEMENT AND SERVICE DELIVERY PERFORMANCE



Recommendation 1: Develop and implement organizational arrangements giving units greater autonomy and authority to manage resources

SUS' effectiveness in providing high-quality health care ultimately rests on performance at the facility level. A performance orientation can be promoted with granting of greater autonomy and accountability. The system could be based on two guiding principles: (i) autonomous management in the larger units, principally the large referral hospitals; and (ii) decentralized management in the smaller units.

Autonomous management: Those facilities with an adequate level of (potential) capacity could be given full autonomy over the handling and application of its physical and human resources, having only to follow the SUS health policies and fulfill a set of previously defined targets. In recent years, various models of autonomous management were adopted in various parts of the country, with positive results in a number of cases, such as that of the Social Organizations and others.⁸¹ A similar model could be used for most of the larger health units, mainly the large referral hospitals.

⁸⁰ A recent MOH policy initiative consolidated the 70+ transfers into six block grants. However, it is not clear the extent to which these grants will be linked to performance (Portaria 698, March 2006).

⁸¹ For a detailed description of the social organization model and an evaluation of its performance, see: "In Search of Excellence: Strengthening Hospital Performance in Brazil." (World Bank, 2007: forthcoming).

A comparative analysis of these models and their results should be used to orient the choice of one or more models to be adopted, and also to clearly identify those elements of the model or of its introduction that determined its success.

The same model could be explored and tested in regional bodies or health districts instead of individual health units. This would have the advantage of integrating the health structure of a region or micro-region under the same command and into the same management and budgetary unit. It could also stimulate more effective functioning of the referral and counter-referral mechanisms. In a way, this idea has already been tested, with the health module concept (in the Metropolitan Health Program of the 80's) and in the health districts, among others, but in general these experiments did not lead to bodies with managerial and financial autonomy. More recently, the São Paulo city government introduced regional autarchies that unite all the existing hospital units in a particular region of the city.⁸² This modality deserves analysis and evaluation to identify its advantages and disadvantages vis-à-vis those of the model of autonomy centered on hospitals (such as the Social Organizations).

Decentralized management: In many cases, the centralization of decision-making (in purchasing and contracting, for example) is the result of local policy, and not of legal requirements. Current legislation allows, in many cases, the delegation of decision-making over many activities, but this possibility is not often taken advantage of due to fear of loss of control and misuse of resources given the low managerial capability in most of the health units. A preparatory study could identify the level and kind of decisions that could be delegated to the units, taking maximum advantage of the possibilities offered by current legislation.

Decentralization could turn health units and/or regional bodies into budgetary units, endowed with their own budget. Smaller units could be turned into expenditure units or management units with reduced levels of authority and autonomy than for budgetary units, but sufficient to manage a good part of their material resources and all the relevant financial information. The precise identification of the responsibilities to be delegated should be determined based on a specific diagnostic study, taking into account economies of scale in purchasing, its viability in the face of concrete local conditions, and other factors that could increase the expense or limit the advantages of decentralized executive power.

Recommendation 2: Apply mechanisms to strengthen accountability such as management commitments or contracts that encourage administrators to focus on specific goals and measurable results.

The key to the success of autonomous or decentralized management is a management contract, which clearly defines the accountability and powers of the unit, the goals to be attained and the activities to be developed, the resource requirements, clear criteria for the evaluation of the unit's performance, and penalties for the non-fulfillment of objectives. The management contract has been used mostly for autonomous or private management models. However, it can also be used in models of decentralized management in the area of direct administration, as long as the units have a sufficient degree of managerial and financial autonomy to be held accountable for their performance.

Initially, the focus in using a management contract should not be on mechanistic interpretation and application of its "contractual" clauses (i.e., reward and punishment). One of the important functions of a management contract is clarification of organizational goals. This is most effective if it is developed through an iterative process of top-down directives and bottom-up suggestions for

⁸² Municipal Law 13.271 of 4 January 2002.

adjustments/refinement. Such a process is likely to ensure not only that the organizational goals are well-adapted to the reality on the ground but also that the front-line operating units are committed to pursuing those shared goals.⁸³

Recommendation 3: Synchronize and align the processes of planning, budgeting and information management, and orient them toward performance.

For the concession of greater autonomy to units to produce the hoped-for results, and for unit directors/managers to be able to manage effectively, it is indispensable that they have the technical conditions to make use of this autonomy and manage the resources available more efficiently, assuming responsibility for the results obtained. For this, (i) the planning and budgeting system must be genuinely decentralized, used at the local level and oriented toward results; (ii) the information systems must supply information oriented toward management and decision-making; and (iii) a standardized system must be established for the measurement of costs in SUS public units.

Planning and budget and results: SUS planning and budgeting systems must be reformulated and adapted in the sense of making them effective instruments of local management. Even though the process and its elements are inserted in the greater context of public planning and budgeting, the legislation leaves leeway in terms of the structure, format and content of each document. SUS, and the Health Ministry as its coordinator, can therefore undertake adjustments to ensure greater consistency and utility in the process.

For this to happen, first, the focus has to be shifted from the control of processes by higher levels of the organizational hierarchy to management and monitoring of results at the local level. The first and main function of the plan should be planning and programming of health activities and the management of the health units where these actions take place. The Health Plan and its subsequent evaluation should provide the main content of the management contract.

Second, improved linkage and integration is necessary among the various planning documents – Health Agenda, Health Plan, Multi-year Plan, and Management Reports – and between these and the budget. The complementary nature of these documents as logically sequenced stages in the same continuous process must be emphasized, including the need for one to serve as a basis for the other. It would be worth considering the various documents as stages and successive parts of a single planning instrument, instead of the current *modus operandi* applying them separately and for different purposes. The methodology, concepts and presentation of each could be made explicit and standardized to facilitate their preparation and allow comparisons and consolidation. In particular, it would be highly desirable for the Health Plan, the main planning instrument, include clearly defined targets together with estimates of the resources required to achieve them. These estimates would then serve as a more solid basis for the preparation of the budget. An essential point of this reformulation consists of the prior definition of standardized criteria and performance indicators which would be included in the Management Report.

Information Systems: Effective planning and management at the local level depends on information systems capable of supplying pertinent information in a timely manner. Essential modules of such systems include: information on budgeting and expenditure, information on costs, technical information on production, and information on results, in terms of efficiency,

⁸³ For an example of a successful use of management commitments in the direct administration, see the case of performance management in the primary care in the City of Curitiba in World Bank (2006), *Brazil – Enhancing Performance in Brazil's Health Sector: Lessons from Innovations in the State of São Paulo and the City of Curitiba*, Report No. 35691-BR.

effectiveness and quality. This could be achieved by adapting existing information systems and/or by designing or introducing separate modules which are linked to the budgeting system. Two principles should guide this reformulation of the information systems. First, the registering and monitoring of expenditure or other information in a particular unit or program should not necessarily imply linkage of the resource or a reduction in managerial flexibility. Second, the configuration of the information systems should be oriented toward utilization by local managers and health units for their decision-making.

The budgetary-accounting system is the only one that is pre-defined by specific legislation and therefore the least susceptible to changes by SUS and its institutions. It could, however, be adapted or complemented in three ways without major difficulties. First, the classification of programs in the health area itself would have to be reformulated (by programs or projects/activities) in order to give it a more logical, coherent and stable structure. The program structure at its most aggregated level should be based on the essential characteristic of the action or activity, such as the level and type of treatment given.

Another modification would be the preparation of information on expenditure per health unit, presently unavailable. This could be achieved through incorporating greater detail in the budget itself, or by registering the information in an internal module complementary to the health institutions. Various health units that currently do not appear in the budgetary system constitute budgetary units and therefore appeared in the system until a few years ago. This means that the systematic reporting of this information is technically possible. At the same time, all funding released by the central body to a health unit is usually registered (and even if it isn't, it is relatively easy to register it, whether it is the quantity and value of the payroll, material transferred or services rendered) but not in the budgetary system. This means that the information is not systematically captured or consolidated and is lost.

The third measure consists of the introduction of a standardized system for measuring costs into a group of public and private SUS units. This would enable not only an estimate of cost by department or service but also an estimate of the cost of hospital and outpatient procedures. This requires a rethinking of the traditional approach (of global costing based on cost centers) and the development of a new methodology.

Recommendation 4: Consolidate funding resource-by-resource and link increments in financing to improvement in performance

The *modus operandi* of the SUS could be simplified in two ways without a major negative effect on the system's structure and roles either in terms of the demands and formalities for the qualification of states and municipalities, or in terms of the system for fund transfers and payments from the Health Ministry.

The demands and formal requirements for the qualification of states and municipalities to the management modalities of SUS are basically oriented toward compliance with formalities and the development of activities. We recommend that they be greatly reduced or even eliminated. The central idea is that control over suitable and efficient application of the resources released be made in terms of the results obtained and not based on compliance with prior requirements. An important step was taken recently by the Ministry when it ruled on the automatic qualification in the Expanded Primary Care Management scheme (*Gestão da Atenção Básica Ampliada*), after a certain time, of all the municipalities currently qualified in modalities prior to the *Gestão da Atenção Básica*. This kind of simplification and de-bureaucratization should be broadened and deepened.

Another important step was the recent (March, 2006) approval of policy known as the Health Covenants (*Pactos de Saúde*). Unlike previous regulations that normatively specified a one-size-fits all delivery structure, the *pactos* aim to provide sub-national entities flexibility to design and organize their delivery systems to fit the local context. The *pactos* specify performance targets for each level of government. Though still a work in progress, the *pactos* establish the foundation for a results-based management and budgeting system. However, compliance with performance targets will require development of instruments to enable federal support for and monitoring of municipal and state performance as well as strengthening state and municipal capacity to plan, budget, and monitor service provision to attain performance targets.

The resource transfer mechanisms should also be simplified, and their multiple payment mechanisms consolidated in a few modalities. These modalities, currently detailed at the level of specific programs, could be brought together in broader categories with which SUS already works: Public Health Services (including Health and Epidemiology Surveillance), Primary Care, Outpatient Treatment of Medium and High Complexity and Hospital Treatment of Medium and High Complexity. These categories should be integrated into the program structure of budgeting to facilitate monitoring. The actual allocation of resources within these categories would not be linked to specific programs or activities. The evaluation of results obtained through performance indicators could condition continued funding. The above-mentioned Health Covenants policy consolidates these transfers into six block grants, but how these grants will be incorporated with state and municipal budgetary structures remains to be seen.

The simplifications put forward for the functioning of SUS would contribute to reducing the administrative costs, making more human resources available for monitoring and evaluation of performance and results, and building appropriate and explicit incentives into the transfer mechanisms. Two incentives could be made explicit and given priority: (i) the reduction of inequalities in the distribution of access to services, and (ii) boosting efficiency, effectiveness and the quality of assistance. In this sense, the value of federal payments and transfers could be determined as a function of the following criteria: gaps in coverage of public health, primary care and medium and high complexity care, and the estimated average costs of providing these services;⁸⁴ production of these same services; and an incentive associated with results reached in terms of efficiency and quality according to a set of defined indicators. These incentives (additional funding) could be proportional to the improvement seen in the selected indicators.

In an environment of financing based on performance, there is an incentive for the institutions providing health services to collect, organize and furnish data (results and impacts) to the central institutions of the project. In this way, another potential advantage of this approach is that it can lead to improved monitoring and evaluation, particularly when the connection between better performance and transfer of funding is clear to the implementing bodies.

Recommendation 5: Establish robust monitoring and evaluation systems

The success of any approach based on results will depend on continuous monitoring, systematic impact evaluation and feedback to the administrators regarding performance. Results-based monitoring and evaluation seeks to follow progress and measure the impact of projects, programs or policies. Traditionally, monitoring and evaluation have been weak points of SUS. The focus has tended to be on documenting inputs and expenditure. Monitoring and evaluation can consist of the following items: parameter data collection, definition of performance indicators, systematic

⁸⁴ As is already the case for some programs, this can be based on a fixed value per capita adjusted by an indicator of need (e.g., the already used Human Development Index or the infant mortality rate).

collection of data regarding results and impacts, and systematic dissemination of qualitative and quantitative information to managers and decision-makers.

Finally, an indispensable component to be developed is a limited series of key standardized result indicators on quality, effectiveness and efficiency of service provision. These indicators would allow evaluation and comparison of the performance of health units and programs and would be obligatorily incorporated into the management contracts (*Compromissos de Gestão*) and Management Reports.

Recommendation 6: Strengthen and professionalize managerial capacity

The above strategies and tools taken together will allow each health unit director/manager to effectively manage the resources available to him and be held accountable for the results obtained. For this to happen, the following is necessary: (i) the local level and the health units adopt and apply modern management systems and techniques; and (ii) directors and managers are qualified to assume these broadened responsibilities and make good use of the increased autonomy.

Modern management techniques: Effective and efficient management of the health units and services – and even more so in the health secretariats – requires management planning tools oriented toward local needs; facilitate permanent monitoring of their resources, their costs and their performance; and enable evaluation of their technical and economic-financial performance. Some of the more useful instruments to be considered include: management of decentralized personnel; management of purchases and stocks that facilitates estimation of needs, programming of purchases and better control of stocks; management of equipment and installations that enables monitoring of the state of the equipment and its permanent maintenance; evaluation of activity costs and efficiency; evaluation of results in terms of coverage and performance indicators on effectiveness and quality of services.

What is needed and appropriate for a given unit will depend on the specific context. The Ministry of Health, possibly in partnership with the Secretariat of Management of the Ministry of Planning, could promote effective sharing of good practices across the country and from relevant international examples, and serve as a clearing house of information about management modernization.

Management capability: A critical mass of qualified managers must be created at the health secretariat and health unit level, through hiring of new professionals and training of local managers in modern and proactive techniques of management and evaluation. Hiring and retention of qualified management personnel requires human resource policies that are competitive with the private sector in terms of remuneration and benefits. In a gradual and piecemeal manner, this has been happening at the federal level and in various state and municipal health secretariats, but the movement needs to be broadened and accelerated. Two levels of capacity-building come to the fore: the decision-maker level, oriented toward directors or managers; and the technical level, oriented toward professionals who are responsible for planning, management and monitoring activities. The former should be able to analyze and interpret indicators of costs, efficiency and quality, drawing conclusions and making management decisions based on the analysis. The latter should be able to apply analysis and evaluation techniques, organize data and calculate indicators. A large-scale training program should therefore be developed and applied to take account of these two levels.

ANNEX: DESIGN AND METHODOLOGY OF THE STUDY

REFERENCE FRAMEWORK

The financial resources used in the production of health services – “spending on health” – is a central and essential element of any health system, since the funds enable the mobilization (by acquisition or production) of the inputs that are needed for delivering the relevant services and their allocation to different purposes (health programs or activities). When financial resources are in short supply or poorly utilized, the resulting healthcare is bound to be inadequate (affecting quality and effectiveness) and/or making the costs of the same unnecessarily high (effects on efficiency). The structure and allocation of spending on health, the financial flows which arise within the context of the health system and the ways in which of these resources are applied significantly affect outcomes within the system. In this respect, one could refer to “quality” of health expenditures as the single feature of a given system that can provide the best result possible. This occurs when:

1. resources are allocated in an efficient way among the various inputs (allocative inefficiency);
2. resources are used in the best way possible, with minimum waste, slippage or losses;
3. resources produce the best possible quantity of health service in return for a given level of expenditure (technical efficiency);
4. resources produce the desired quality level;
5. best impact/effectiveness possible is obtained in the light of the resources available.

The quality of expenditure as defined above is determined by a number of factors such as indicated in Figure A.1 below: the legal framework that governs the use of resources and management of the health units through formal planning and budgetary systems; the relationship between the different levels of government and between these and the executing/provider units of the health services; the planning and budget system and the financial flows determined by it; the degree of autonomy and responsibility at local level; the administrative practices pursued in the executing units.

Assessing the quality of public health expenditure (i.e., SUS spending) therefore requires following the financial flows in their different phases of the process of financing and delivering health services. This tracking procedure consists of the following:

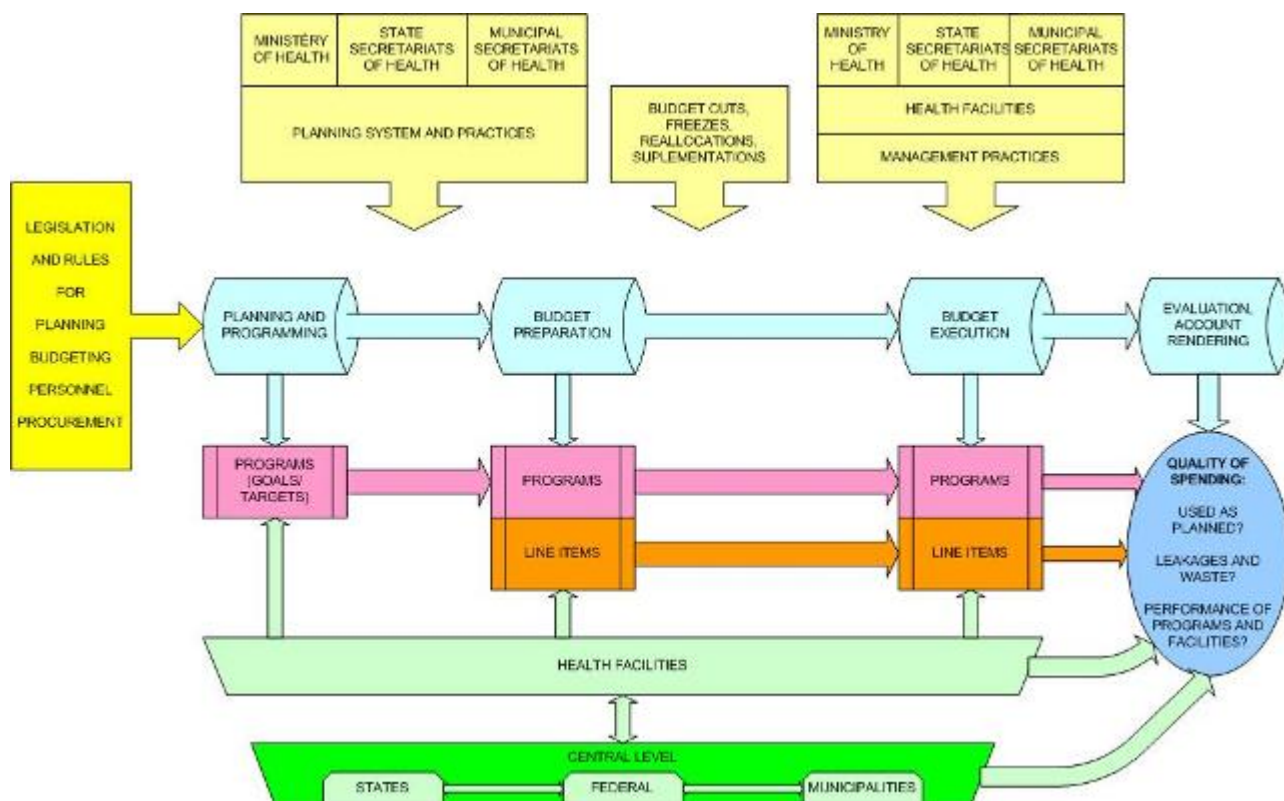
1. analyzing the planning and budget system which defines the allocation and use of resources within the context of the SUS;
2. mapping the financial flows between the different levels of government and between the central levels and the actual health units;
3. evaluating how these resources are used/applied in the executing units of the health system in the light of budget execution;
4. comparing the resources used with the results achieved in terms of the quantity of health services produced, together with their quality and effectiveness.

The *Public Expenditure Tracking Survey* (PETS) methodology, developed by the World Bank, has been applied in a number of developing countries. This allows tracking of public expenditures in a given sector in order to assess whether the available resources are being well used. PETS traditionally consists of three components: a tracking component which seeks to quantify delays and shortages of resources in the planning and budgetary implementation process of the different levels

of government; a component for identifying and measuring slippage and waste at the service delivery unit level; and a third component that aims to measure the impact of these problems on the quality and efficiency of service provision. This type of research normally involves tracking specific funds transferred between different organs and service delivery units on the one hand, and, on the other, analyzing the allocation and application of resources at the level of the various service delivery units.

In the majority of cases, health PETS have been applied in countries where the health system is much less complex than in Brazil and where the resource flows are simpler and information systems much more rudimentary. In the course of the research, special attention was given, for example, to the existing distortions between the formal mechanisms of planning, budgeting and monitoring and the actual practices regarding cost control and functioning of the health services. The research sought to make the best use of the data provided by the existing information systems and at the same time made efforts to substantiate this information via a series of surveys or collection of on-the-spot data.

FIGURE A.1: BUDGET CYCLE AND DETERMINING FACTORS FOR QUALITY



METHODOLOGY

The application of PETS in this study prompted an analysis in six areas: the planning and budget development process; budget execution (including control of budgetary implementation, rendering of accounts, audit, control and evaluation); management of materials and medical drugs (including the process of purchases - acquisition; tendering; stock control; advance and up-front payments and use of materials); management of equipment and installations; manpower/human resource management; and production management.

In order to understand the resource flows within the context of SUS and to be able to track them effectively, data collection was undertaken at four distinct empirical levels: the Ministry of Health (through existing databanks), State Health Secretariats (SES), Municipal Health Secretariats (SMS) and health units (comprising hospitals and outpatient clinics). A strategy for data collection was developed that included *in situ* consultation and secondary data analysis in an effort to obtain a reliable picture of each type of establishment while retaining the basic thrust of the PETS method as described above.

The basic scheme of the study is outlined in Chapter 1 and specific questions that the study sought to address and analyze for each theme are listed as follows:

TABLE A.1: STRUCTURE OF PETS

Process	Planning and Budget	Budget execution	Materials Management	Equipment Management	HR Management	Production Management
Legislation and regulation	<div style="text-align: center;"> Ministry ↓ State/Municipal Health Secretariats ↓ Hospitals Outpatient Clinics </div>					
Delays						
Wastage and shrinkage						
Other problems						
Impact on quality and efficiency						

(a) Planning and budget

- Methodology and criteria for developing plans and budget;
- Criteria for allocation of resources;
- Delays in approval of budget and non-availability of resources;
- Differences between the need for resources and the approved budget, between the allocations requested and approved (according to programs/activities and expenditure categories);
- Inflexibility in the allocation of budgets, impeding reallocation of resources according to needs;

- Characteristics of the planning and budgetary process which make financial and managerial control difficult.

(b) Budget execution

- Delays in budget execution and payment of suppliers;
- Differences between the budget approved and expenditure completed and the causes for these differences;
- Differences between the available resources and final expenditure of funds linked to programs or activities;

(c) Management of materials

- Delays in the tendering and purchasing processes and in the delivery of goods and services;
- Control of reception of goods and services and their quality;
- Storage and control of medical drugs and other materials;
- Write-offs of drugs and other items on account of exceeded expiration dates;
- Recording and controlling goods supplied cost-free by central levels;
- Control over up-front payments.

(d) Management of equipment and installations

- State of repair of equipment and installations;
- Equipment installation and maintenance.

(e) Personnel management

- Numbers and allocation of manpower in response to needs;
- Delays in paying personnel;
- Absenteeism and non-compliance with working hours;
- Qualifications in line with activities;
- Productivity of technical staff

(d) Analysis of the impact on efficiency and quality of services

- Use rates of professional staff and technical resources;
- Hospital infection and mortality rates;
- Activities and medical care interrupted by lack of drugs and equipment;
- Average hospital stay-times and bed turnover.

SAMPLING

The sample selected for the study was designed in order to highlight the regional variations between the health units and at the same time to keep logistical costs to a minimum. For these reasons, a non-randomized sampling in three stages was chosen: first, the sample covered states, second, the municipalities located in those states, and third, health units located within the municipalities. This sampling structure was chosen in order to permit tracking of the resource flows within a particular state and the cross-referencing of information at the three levels of the research.

Initially, the sample took into account six states with their respective state health secretariats, 18 municipalities and 76 health units (52 hospitals and 24 outpatient clinics). As a result of data collection being abandoned in one particular municipality as well as in a number of health units, and given the difficulty of accessing certain information, the final sample encompassed 17

municipalities (Municipal Health Secretariats), 49 hospitals (public and philanthropic), and 20 outpatient clinics (state and municipal). Annex B contains the list of relevant secretariats and health units. Although the resulting sample reflects the very different circumstances existing within SUS, it is too small for each stratum of units and consequently does not allow statistical extrapolation of the results.

In the sampling exercise, states were selected to represent each of the six Brazilian major regions (for the southeast region two states were included given the population density and a high concentration of health establishments). One of the main criteria for selection was to reflect the diversity in size and different characteristics of the states, municipalities and health units.

Municipalities were selected on the basis of size. State capitals were included, plus one middle-sized municipality per state (roughly 200,000 inhabitants) and at least one small-sized municipality (of approximately 50,000 inhabitants). The resulting sample of municipalities could be considered reasonably representative of the diverse nature of SUS.

The hospitals selected were required to meet the following requirements: to attend mainly to SUS users, to have a minimum of 50 beds, to possess reasonable information systems and to be broadly representative of SUS as such. Various hospitals were included in the sample that had been included in other recent studies which made it possible to cross-reference and compare information. The proposed distribution focused on public hospitals since the main thrust of the study concerned budget relationships and transfers of resources. This sample was stratified by size (medium-sized/big and small hospitals) and sphere, in order to try and obtain a sufficient number of units of each type to produce representative results. Efforts were also made to include hospitals with different characteristics such as those that undertake teaching and research and public hospitals administered under different kinds of management arrangements.

COLLECTION AND PROCESSING OF DATA

Data collection employed three parallel and complementary sources: a structured questionnaire focused on the directors of health secretariats and units, qualitative interviews with technical staff working in health institutions (12 technical staff and health professionals were interviewed) and an analysis of official reports and other documents. The data collection covered the years from 2001 to 2003, emphasizing in particular 2002. Depending on the type and availability of information, periods were set aside (year/month, etc.) to define more specific questions, thereby reducing the collection times. The qualitative reports in general related to the current year (2003) focused on more recent events and therefore easier to recall.

As the main instrument of data collection, a group of questionnaires was developed, adapted from the PETS system applied in other countries (mainly Mozambique and Uganda). The basic questionnaire came in three versions - one for each level and type of research unit: one for health secretariats, another for hospitals and the final one for outpatient clinics. A first version was drawn up between July and September 2003 and field-tested in October the same year. The final modified version resulting from the pilot test was ready in November and fieldwork began in November 2003, lasting through to March 2004. This timeframe was obviously inadequate given the interruptions caused by the end-of-year holidays which interfered significantly with the pace of data collection. The task to adapt the PETS methodology to the Brazilian situation involved a multi-disciplinary team. The adapted instrument needed to take into account existing information systems and to respond to problems with a view to quantifying them and assessing their impact on service delivery.

The questionnaires were applied in the course of interviews with state health secretaries or someone designated by them (normally a professional charged with a specific area with access to the necessary information); municipal health secretaries (or designates); directors of hospitals; and directors of outpatient departments/clinics. Moreover, concurrent side interviews were undertaken with staff from a number of different technical and administrative divisions with the aim of clarifying and amplifying the research findings. Finally, together with the application of the questionnaire, reports and other supporting documents were requested relating to budgets, plans, management reports, etc.

Fieldwork was organized on the basis of one team for each state included in the sample. A field supervisor was designated for each state to coordinate a team of 2 to 4 interviewers who had the task of covering the units within the targeted state. The supervisor was charged with coordinating the team under his/her control, planning the logistical arrangements for the field research and, once this had been done, to check consistency of data, organize supplementary documentation, draft field reports together with a rendering of accounts and forward everything to the project coordinating office via electronic medium (for questionnaires) and the postal service. Supervisors and field researchers received guidance concerning the project as well as training to apply the data collection instruments.

The internal structure of the instruments was common to all types of units researched (SES and SMS, hospitals and outpatient clinics), although obviously the content of each section is specific to each type of unit (Annex C contains the questionnaires). The basic format of the questionnaire was organized around planning and budget allocation and implementation processes and the main inputs used in health service delivery (i.e., materials and medical drugs, human resources and equipment/installations). The component sections of the questionnaire were the following:

- Section A - Information from the secretariats or health units. This section gives the identity details of the units researched, the name of the person responsible for the unit and details about the profile and type of unit (in the case of hospitals and outpatient clinics, the number of beds and services on offer are included).
- Section B - Budgetary planning and processes. This section examines the budget and planning process at its different stages, the degree of autonomy in the preparation and implementation stages of the budget, the delays in releasing and applying funds, the differences between the values requested, approved and executed, including the use of the 'up-front' payment/petty cash system.
- Section C - Purchases, materials and drugs management. This section deals with information regarding the purchasing and storage systems, including pharmacy. Surveys were done basically to elucidate the physical condition of stocks, delays in bidding processes and the impact of these elements on service delivery.
- Section D - Equipment and installations. This section examined the equipment estate, covering *inter alia* the frequency rate of breakdowns/breakages in addition to examining the physical conditions of installations.
- Section E - Human resources. Information was sought in the section regarding the staff, its distribution, qualifications, absenteeism and any failure to comply with working hours.
- Section F - Hospital and outpatient clinic expenditure. In this section data was sought on the expenditure by type and receipts by source, together with an analysis of the service providers and the impact of receipts from SUS on overall expenditure.

- Section G - Hospital and outpatient clinic productivity. Data was collected regarding the productivity of the units and, wherever possible, performance and quality indicators were calculated.

Supplementary documentation requested included:

- Municipal/State Health Agenda (2002-2003);
- Municipal/State Health Plan (2002-2003);
- Current Multi-Year Plan (referring to health);
- Budget Guidelines Law (2002-2003);
- Municipal/State Health Budget (2002-2003);
- Documentary evidence of present budget execution (2002 and first half of 2003);
- Municipal/State Balance Sheets, Annex 2, 6 (Health section), 10 and 11, for 2002;
- Management Reports (2002).
- Personnel Allocation Chart
- Organization chart of Institution

The data retrieved from the questionnaire and the supporting documents were tabulated in a Microsoft Access databank and the quantitative analyses were done in Excel and SPSS. While data was being entered, internal consistency was checked. This consumed a considerable amount of time but helped to reduce the errors on the questionnaire and to fill gaps. Based upon the databank, a number of performance indicators were calculated for the health units researched, principally hospitals.

FEATURES OF THE SAMPLE

As mentioned above, the sample was based on the non-randomized method but with a view to reflecting the diversity of the situations encountered in SUS. Table A.2 below presents a picture of the population, the management situation of SUS and the network of health units in the states and municipalities in the sample.

TABLE A.2: CHARACTERISTICS OF THE STATES AND MUNICIPALITIES IN THE SAMPLE

	POPULATION	MGMT	HOSPITALS		OUTPATIENT NET	
			OWN	SUS	OWN	SUS
Amazonas	3.031.068		67	96	81	647
- Manaus	1.527.314	GPSM	3	32	217	277
- Parintins	99.813	GPSM	0	1	2	7
Ceará	7.758.441		9	269	17	1903
- Fortaleza	2.256.233	GPSM	9	52	74	118
- Sobral	163.836	GPSM	2	7	16	22
- Canindé	71.996	GPSM	0	1	32	32
Rio de Janeiro	14.879.118		22	310	22	1684
- Rio de Janeiro	5.974.081	GPSM	30	101	78	106
- São Gonçalo	925.402	GPAB	4	17	52	57
- Resende	110.876	GPSM	1	3	30	30
- Natividade	15.275	GPAB	0	1	7	8
São Paulo	38.709.320		62	641	157	6385
- São Paulo	10.677.019	GPSM	18	83	297	419
- Assis	90.774	GPSM	0	3	21	22
Rio Grande Sul	10.510.992		6	370	16	2287
- Porto Alegre	1.394.085	GPSM	2	25	93	134
- Pelotas	331.372	GPSM	0	7	52	61

- Ivoti	16.594	GPAB	0	1	3	3
Mato Grosso	2.651.335		4	157	9	817
- Cuiabá	508.156	GPSM	1	18	63	76
- Barra Bugres	29.717	GPAB	2	5	31	32
- Rondonópolis	158.391	GPSM	0	7	59	61

Source: IBGE (MAS 2002). Own (in-house) network means the units belonging to the state or municipal government listed; the SUS column includes all the public or private units that provide care services to the SUS within the state or municipality.

GPSM = Full Municipal Management System; GPAB = Full Primary Care Management System.

State Secretariats

The six states - Amazonas, Ceará, Mato Grosso, Rio de Janeiro, Rio Grande do Sul and São Paulo - possess distinct characteristics in terms of population size and installed network, SUS management situation and epidemiological profile. In the majority of them, the State Health Secretariat (SES) benefits from the “Advanced State Management Scheme.” Attention should be drawn to the importance of the SES of São Paulo which has a substantial in-house network of hospitals and outpatient units, and to the outpatient network of the State Health Secretariat of the State of Amazonas.

Municipal Secretariats

The 17 municipalities researched also have distinct characteristics. Six are state capitals, all with a population of more than 600,000. Three are medium to large-size municipalities (São Gonçalo, Pelotas and Sobral) and the rest are small to medium-sized. Fourteen of them are under the full Municipal System Management Scheme (with total responsibility for the existing network) and the other three are in the Primary Care Full Management Scheme (responsible for managing only activities at that level).

Hospitals

Of the 49 hospitals in our sample, 13 (26.5% of the total) are small-sized (< 100 beds), 24 (49%) are medium-sized (between 100 and 249 beds) and 12 (24.5%) are large (250+ beds). This distribution is different from the reality of the SUS, where hospitals with <100 beds (81% of the total) predominate. Public hospitals account for the largest share (69%), most of them under direct administration (Table A.3). Three public hospitals (and one private) operate under “autonomous” management (2 foundations and 2 social organizations). About a third of the sampled hospitals (16) were private. Twelve hospitals support teaching and research activities - most of them in the public sector.

TABLE A.3: HOSPITALS SAMPLE

Type	Sample Hospitals by size			Beds	Foundation/ Autarchy	OSS	Teaching & Research	SUS
	<100B	100-249BL	250+B					
Federal Public	0	3	1	1.716	0	0	4	86
State Public	2	8	3	1.608	0	1	4	577
Municipal Public	8	6	2	1.635	2	0	1	1,755
Sub-total Public	10	17	6	4,959	2	1	9	2,418
Philanthropic	3	5	6	4.590	0	1	3	1,749
For profit private	0	2	0	141	0	0	0	1,423
SUS Network	4,548	815	227	394,418	133	18	101	5,590

* Source: IBGE (AMS 2002).

In terms of equipment and services offered, the majority were of medium and high complexity level – 95% with clinical laboratories and 90% with ultrasound equipment, and 81% possessing accident and emergency facilities (see Table A.4).

TABLE A.4: CHARACTERISTICS OF THE HOSPITALS IN THE SAMPLE

Service	% own	% outsourced	% not available
Accident and Emergency	79.54 %	2.27 %	18.19 %
Clinical Laboratory	75 %	20.46 %	4.54 %
Radiology	84.09 %	9.09 %	6.82 %
Magnetic Resonance	11.36 %	18.18 %	70.46 %
Ultrasound	70.45 %	18.18 %	11.36 %
Computerized Tomography	52.27 %	9.09 %	36.36 %
Nutrition	65.90 %	25 %	6.81 %
Materials Sterilization	95.45 %	0.0 %	4.45 %
Laundry	47.72 %	52.27 %	0.0 %
Pharmacy	88.63 %	2.28 %	2.28 %
Blood Bank	52.27 %	36.36 %	9.09 %
Other Services	36.36 %	9.09 %	25 %

Outpatient Clinics

The 20 outpatient clinics in the sample are all public, with municipal clinics predominating. This predominance is linked to the fact that the majority of public outpatient clinics are currently owned or managed by the municipal health secretariats as a result of the municipalization process. More specialized clinics are still under state responsibility as in the case of the Blood Centers included in the research. The majority (70%) consist of basic health units (health clinics and posts, including several with teams provided by the Family Health Program), plus six referral units offering a range of different specialties (polyclinics, medical posts and others).

TABLE A.5: SAMPLE OF OUTPATIENT CLINICS

Type	Outpatient Clinics	Polyclinics & PAMs	Health Centers and Posts
Federal Public	0	0	0
State Public	5	3	2
Municipal Public	15	3	12
Sub-Total Public	20	6	14
Philanthropic	0	0	0
Private	0	0	0
TOTAL SAMPLE	20	6	14