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Brazil
The Organization, Delivery and Financing of Health Care in Brazil: Agenda for the 90s

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GLOSSARY OF ACRONYMS

ABEM	Associação Brasileira de Educação Médica/Brazilian Medical Education Association
ABRASPE	Associação Brasileira de Serviços Proprios de Empresas
AIDS	Acquired Immune Deficiency Syndrome
AIH	Autorização de Internação Hospitalar/Authorization for Hospitalization
AIS	Açoes Integradas de Saúde/Integrated Health Actions
ALOS	Average Length of Stay
AMB	Associação Médica Brasileira/Brazilian Medical Association
AMESP	Group Medicine Plan in São Paulo
AMICO	Group Medicine Plan in São Paulo
AMIL	Group Medicine Plan in São Paulo
APM	Associação Paulista de Medicina/Medical Association of São Paulo
CASSI	Banco do Brasil Employee Health Care Plan
CES	Conselho Estadual de Saúde/State Health Council
CFE	Conselho Federal de Educação/Federal Education Council of MEC
CHP	Company Health Plans
CIMS	Comissão Inter-institucional Municipal de Saúde
CIPLAN	Comissão Inter-institucional de Planejamento e Coordenação
CIS	Comissão Inter-institucional de Saúde
CLIS	Comissão Local Inter-Institucional de Saúde/Local Health Inter-institutional Commission
CMS	Conselho Municipal de Saúde/Municipal Health Council
CNS	Conselho Nacional de Saúde/National Health Council
CONAMGE	Conselho Nacional de Auto-Regulamentação das Empresas de Medicina de Grupo/Regulatory body for the PGP under Company Health Plans
CONASEMS	Conselho Nacional de Secretárias de Saúde/Brazilian Association of Municipal Health Secretaries
CONASP	Conselho Consultivo de Administração de Saúde Previdênciaria
CONASS	Conselho Nacional de Secretários Estaduais de Saúde/National Council of State Health Secretaries
CREMERJ	Conselho Regional de Medicina de Rio de Janeiro/Regional Medical Council of Rio de Janeiro
CREMESP	Conselho Regional de Medicina de São Paulo/Regional Medicine Council of São Paulo
CRIS	Comissão Regional Interregional da Saúde/Health Regional Interinstitutional Commission
CRM	Conselho Regional de Medicina/Regional Council of Medicine
DATAPREV	Parastatal operating INAMPS' data processing center until 1990
DATASUS	Parastatal operating INAMPS' data processing center for health care since 1990
DRG	Diagnosis Related Group
DRS	Diretoria Regional de Saúde of São Paulo/Sanitary District, São Paulo State
ENSP	Escola Nacional de Saúde Pública/National Public Health School
ERSA	Escritória Regional de Saúde/Regional Health Desk of São Paulo State
FAS	Fondo de Apoio ao Desenvolvimento Social/Social Development Fund
FENAESS	Federação Nacional dos Estabelecimentos de Serviços de Saúde/National Federation of Service Providers
FIOCRUZ	Fundação Oswaldo Cruz
FINSOCIAL	Contribuição para Financiamento de Investimentos Sociais
FIPE/USP	Fundação Instituto de Pesquisas Economicas/Institute for Economic Research
FPAS	Social Security Funds

GH	General Hospital
HI	Health Indemnity Insurance
HMOs	Health Maintenance Organization
IBGE	Fundação Instituto Brasileiro de Geografia e Estatística/Brazilian Census Bureau
ICU	Intensive Care Unit
IESP	Instituto de Economia do Sector Público, São Paulo/Economic Institute of the Public Sector, São Paulo State
INAMPS	Instituto Nacional de Assistência Médica da Previdência Social/National Institute for Medical Assistance and Social Security
INPS	Instituto Nacional de Previdência Social/National Institute of Social Security
IPA	Individual Practice Association
IPARDES	Instituto Paranaense de Desenvolvimento Econômico e Social/Economic and Social Development Institute of Paraná
IPEA	Instituto de Pesquisa en Economia Aplicada/Applied Economic Research Institute
IPMF	Imposto sobre Movimentos Financeiras/Tax on Financial Transactions
IVDH	Indice de Valorização e Desempenho Hospitalar/Value Index of Hospital Performance
LH	Leprosy Hospital
LOS	Length of Stay
MC	Medical Cooperative
MEC	Ministry of Education
MOH	Ministry of Health
MPAS	Ministério da Previdência Social e da Assistência Médica/Ministry of Social Security and Medical Assistance
MS	Ministério da Saúde/Ministry of Health
MTB	Ministério de Trabalho/Ministry of Labor
NAI	Núcleo de Assistência Integral/Unit of Integrated Care
OECD	Organization for Economic Cooperation and Development
PH	Pediatric Hospital
PGI	Programação e Gerênciamento Integrado/Integrated Programming and Management
PGP	Pre-paid Group Practice Plans
PHP	Private Health Plans
PIASS	Programa de Interiorização das Ações de Saúde e Saneamento/Program to Promote Health and Sanitation Activities in Rural Areas
PITO	Programa Integrado de Transplante de Orgãos/Integrated Organ Transplant Program
PNAD	Pesquisa Nacional de Amostra de Domicílios/National Household Sample Survey
PMAG	Programa Integrado de Diagnostico por Imagem/Integrated Diagnostic Imaging Program
PMS	Programa Metropolitano de Saúde
PPO	Preferred Provider Organization
PPS	Prospective Payment System
PREVSAUDE	Programa Nacional de Serviços Básicos de Saúde
PROCON	Consumer Defense Agency
SADT	Serviços Auxiliares de Diagnóstico e Terapia
SAMHPS	Sistema de Assistencia Médico-Hospitalar da Previdência Social
SD	Distritos Sanitários/Sanitary Districts
SEPACO	Paper and Cellulose Industry Health Insurance Program
SES	Secretária de Estado da Saúde/State Secretariat of Health
SESP	Serviço Especial de Saúde Pública/Special Public Health Services
SIA	Sistema de Informações Hospitalares/Hospital Information System

SICC	Sistema Integrado de Controle do Câncer/Integrated Cancer Control System
SICV	Sistema Integrado de Doenças Cárdio-Vasculares/Integrated System of Cardiovascular illnesses
SIHTR	Sistema Integrado de Hemodiálise e Transplante Renal/Integrated System for Hemodialysis and Renal Transplant
SIOP	Sistema Integrado da Ortese e da Prótese/Integrated System for Orthosis and Prosthesis
SIRTO	Sistema Integrado de Referência para Rehabilitação, Trauma e Ortopédics/Integrated Referral System for Rehabilitation, Trauma and Orthopedics
SMS	Secretária Municipal da Saúde/Municipal Health Secretariat
SNS	Sistema Nacional de Saúde/National Health System
SUDS	Sistema Unificado e Descentralizado de Saúde/Unified and Decentralized Health System
SUS	Sistema Único de Saúde/Single Health System
SUSEP	Superintendência de Seguros Privados
TPA	Third Party Administration Plans
TQM	Total Quality Management
UCA	Unidade de Cobertura Ambulatorial/Unit of Outpatient Coverage
UFRJ	Univérsidad Federal de Rio de Janeiro/Rio de Janeiro Federal University
UNIMEDS	Network of autonomous medical cooperatives
UP	Umberto Primo Hospital
US	Unidade de Serviço/Service Unit
USP	Universidade de São Paulo/University of São Paulo

THE ORGANIZATION, DELIVERY AND FINANCING OF HEALTH CARE IN BRAZIL: AGENDA FOR THE 90s

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Preface

This study was prepared by Maureen Lewis on the basis of a mission to Brazil in 1991. Philip Musgrove (LATDR) prepared the first draft of Chapter 3, and Keena Rubin and Bruce Ross-Larson assisted with the Executive Summary. The study draws heavily on background papers prepared for the World Bank by the following experts:

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Detailed comments and guidance were provided by Jeffrey Hammer and Vicente Paqueo (peer reviewers), and useful feedback was received from Alexandre Abrantes, William P. McGreevey, Homi Kharas, K.Y. Amoako, Julian Schweitzer, Michael Michaely, Norman Hicks, Xavier Coll, Kate Hovde, Richard Hoffman and John Wilson. Patricia Trapani produced the various drafts and final version of the report.

EXECUTIVE SUMMARY: POLICY ISSUES AND REFORM PROPOSALS

A. Introduction

1. Over the past decade the Brazilian government has implemented a massive institutional, organizational, and financial reform of the public health care sector (*Reforma Sanitária*). The reform has had three main objectives: shifting the responsibility for health care provision from the center to the periphery, consolidating public service provision and finance, and improving the equity of access to health services. Moreover, recent unrelated changes in public financing have left the health sector dependent on uncertain general revenues. The reform program has encountered a number of other difficulties that must be addressed before the objectives can be met. This report identifies these and recommends policies that will complete the reform of Brazil's health care delivery system.

Objectives

2. An evaluation at this juncture is meant to inform the policy debate about marginal adjustments and new initiatives that can complement the already extensive changes -- and ensure that the objectives and goals are met. This report will: (i) take stock of the recent reforms under the *Reforma Sanitária*; (ii) identify and examine issues neglected under those systemic changes; and (iii) recommend policies to address them. After examining public and private delivery and financing, the report identifies issues of cost, quality, and regulation that are central to the implementation and sustainability of the reforms.

Issues

3. Unequal access to health care in Brazil was a major impetus for health care reform (*Reforma Sanitária*). Historically, Brazilian public health care investments have been aimed largely at white collar workers in the formal sector, with services concentrated in the Southeast (encompassing São Paulo and Rio de Janeiro) and the South. The poorer North and Northeast have been relatively neglected. Although the reforms were successful in expanding access to health care, efforts to improve equity have placed an enormous strain on government health care resources, which due to high inflation and recession in the 1980s and 1990s, have not kept up with increases in patient demand. The eroding value of government reimbursements to hospitals and clinics and fees to physicians has resulted in a decline in quality of care, which has led to a sharp increase in private financing alternatives, especially among the middle class. The lack of adequate regulations in the health care sector exacerbates these problems of rising health care costs and declining quality of care. Thus, this report focuses on institutional issues and government policy formulation and implementation, and specifically addresses controlling health care costs, improving quality of care, and regulating health care -- key topics that must be addressed to facilitate Brazil's health care reform.

The Report

4. The executive summary focuses on findings and recommendations, and the analysis in the body of the report provides additional details. This summary is organized into three additional parts:

- Section B provides an overview of Brazil's health care system and reforms;
- Section C outlines the three major areas that the reform effort must address; and
- Section D summarizes policy recommendations.

B. An Overview of Brazil's Health Care Reforms in the 1980s

5. Below is a brief discussion of the health care reform programs of the 1980s, the difficulties they encountered and the consequences thereof, as well as issues concerning public and private financing that are central to successful health system reform.

Summary of the Brazilian Health Care System

6. The Brazilian health system differs markedly from those of most developing countries. It relies heavily on public reimbursement of privately provided services to deliver care. The national system, operated until recently by INAMPS (*Instituto Nacional de Assistência Médica e Previdência Social*), mirrors the United States Medicare program for the elderly, whereby providers are paid a predetermined amount for any given diagnosis or procedure (known as a Prospective Payment System or PPS) rather than on a cost reimbursement basis. Only a small proportion of care is extended through public facilities, the more typical arrangement in developing countries. In addition, private financing of health care is widespread and growing.

7. Health facilities are predominantly private. The private sector has 80% of facilities with beds although 70% of outpatient services are in the public sector. The overall trend of the past 15 years has been toward more ambulatory care and smaller inpatient facilities. Historically concentrated in the wealthier South and Southeastern states, both public and private health investments are increasingly expanding into other regions, especially the metropolitan areas and large cities. Part of this can be traced to recent reforms, but broader government policies, migration and rising incomes have also played a role.

8. In 1990, Brazil spent roughly 4.8% of GNP on health care, a level below that of other middle income countries in the region with similar levels of per capita income, such as Mexico (5%), Uruguay (6%) and Panama (8%), and of industrialized countries like Canada (5%) and Great Britain (6%). However, levels do not reflect the efficiency or effectiveness of resource use, a more important variable in assessing resource adequacy. Roughly 66% of health expenditures were made by public entities and 34% by private citizens. Of the latter, a little over half was purchased by third-party payers (e.g., insurers).

Public Expenditures

9. Public spending on health originates in the general revenues of federal, state, and municipal governments and in the three federal "social funds" -- FAS, FPAS and FINSOCIAL. These funds collect specific, earmarked taxes -- such as the payroll tax paid by employers and employees -- and other revenues (such as those from lotteries). The federal government also contributes directly to the FPAS, and as of mid-1993, began financing health care directly out of general revenue, rather than through INAMPS, the former medical arm of Social Security (*Previdência Social*), as it had historically done. State revenues are based largely on value added taxes. What is most dramatic about federal health spending in the 1980s is the unprecedented high level of expenditure after 1986 --

the result of the universalization of coverage, and the parallel increase in state and municipal spending. Expanded coverage changed the meaning of spending per capita. Since a larger share of the populace now has access to federally financed care, spending *per patient* has risen less than expenditure per capita. In 1990, per capita spending declined almost to the level of 1980, although total expenditure was an appreciably higher share of GDP than at any time before 1987.

10. Between 1980 and 1990, the real value of total public health spending at all three levels of government went from US$9.78 billion to US$12.93 billion (October, 1990 dollars) with the federal government responsible for between 71-78% of total spending in every year. Over the decade, a sharp increase in expenditures occurred between 1985 and 1986, reflecting in part the new policies on access. Over the subsequent five years, expenditures at the federal, state and municipal levels fluctuated annually, with no apparent pattern at any level of government.

The Reform Program: Institutional Changes

11. The first phase of Brazil's recent health reform effort was the 1984 Integrated Health Activities Program (*Ações Integradas de Saúde-AIS*), credited by some with improving coordination in the sector and stimulating both decentralization and efficiency in service delivery. The Unified and Decentralized Health Systems (*Sistemas Unificados e Descentralizados de Saúde - SUDS*) policy of 1987-88 -- constituting the second reform phase -- went beyond the principles of AIS, transferring social security (INAMPS) staff and facilities to the control of state and municipal health secretariats. Each state was expected to constitute a single "system" rather than be part of a nationwide system and was responsible for its own municipal and state services. Besides changing the relative power of different agencies, this arrangement required much larger financial transfers to states and municipalities than before.

12. The Single Health System (*Sistema Único de Saúde-SUS)* of 1990 was seen either as the consolidation of the efforts begun under the AIS and the SUDS or -- in some important respects -- as a retreat from those efforts, because INAMPS reemerged as an independent entity, separate from Social Security but still dependent on its revenue until 1993. Brazil's new Constitution of 1988 overtook and ratified changes in the country's health system over the preceding two decades (such as open access to all citizens) and opened the way to further change. The Constitution also left some questions unresolved, and failed to consider some problems. This report addresses some of the issues that deserve additional attention in constitutional reform and revision in the *Lei Orgânica de Saúde,* the law that interprets the Constitution.

Difficulties Encountered

13. Although not yet fully in place, the evolving SUS is facing some profound difficulties. Some are a legacy of the reforms, but others are existing problems left untouched by the recent changes. The most critical of these is the rising expectations of the population associated with a decentralized and open-ended public commitment to provide health care to all citizens. This, combined with a budgetary crisis within the Ministry of Social Security where the bulk of health care funds originated until mid-1993, and within the federal government in general, will force a retraction or dilution of government commitment, unless some checks are put in place to match budgets with goals.

14. The delivery of health care in Brazil is further complicated by its federal system of government -- with responsibilities and powers at the central, state, and municipal levels, which are sometimes

clearly delineated and sometimes not, and with substantial financial flows from one level to another. Over the past decade, federal transfers to lower levels of government have been reduced, not fully compensated by enhanced revenues of states and municipalities, and chronically late. The evolution of roles and responsibilities is not yet complete and the necessary steps to improve definition of these tasks remain unclear, which has complicated the reform process at all levels of government.

15. It is too early to be sure of all the implications for health policy and management that follow from the new Constitution and the legislation establishing the SUS. It is nevertheless possible to draw a few preliminary conclusions.

Implications of Institutional Reform

16. First, a central issue for health care in Brazil is deciding which powers state governments should relinquish to municipalities and which powers they should retain. While the consolidation of services at the municipal level should simplify facility management, tertiary care, coordination across providers and a comprehensive vision of health care service delivery are functions best carried out at the state level. States currently have no authority, yet are accountable for health care within their purview. This situation is complicated by the variable municipal capacities to plan and operate health services. Many of them need state (and federal) technical assistance, and some functions probably should not be decentralized at all. The question of who answers to whom, and who has the authority to do what, is still not fully resolved.

17. Second, the steady trend to universalization of services, unless offset by effective policies of cost containment, will by itself raise expenditures if public promises are to be kept. Open-ended access to services without consideration of limited resources results in some combination of lower quality, unequal or reduced volume, or fraudulent behavior. Cost containment policies do not mean lower budgets, but maintaining services at lower cost. Thus even without a budget constraint, cost containment initiatives encourage effective and efficient uses of funds.

18. Third, the question of how individual hospitals and clinics are managed should become more important as the system is decentralized and the federal role becomes more financial and regulatory and less concerned with clinical services. If municipalities assume in full this management function and are no longer subject to central decisions about investment, staffing, inputs and other matters, it becomes more important that they receive value for money. Considerations of cost versus quality should therefore be more urgently addressed. However, federal interference and confusion regarding responsibilities may still blunt the pressures for efficiency. In addition, municipal secretariats may be obstacles to sensible management of the system, because of inexperience, corruption, or lack of accountability to the population they serve.

19. Fourth, the AIS and SUDS may have had the positive effect of creating an atmosphere of reform that fostered experimentation. They also placed responsibility for health delivery squarely in the hands of states. In São Paulo state, for example, these changes included keeping clinics open longer and allowing patients to be seen immediately rather than making an appointment and then having to return for care. Despite the lack of evidence, either of increased demand for care or of improved *medical* quality of service, gains in patients' time and in satisfaction with the care they receive may nonetheless be substantial. Further reforms should be based on analyses of current experiments and careful management assessments.

20. The reform and its implications for specific actions are better understood by examining the role of the public and private health care sectors in Brazil, and the problems within each system.

Private and Public Financing of Health Care: The Role of Government Policy

21. The Brazilian health care system is a complex network of providers and payers who both compete with and complement one another. The major elements of the system can be divided into public and private players. The public sector encompasses all public providers at all levels of government, including public universities, and health activities and programs of non-health public agencies (such as the Ministry of Education, which oversees university hospitals, and the armed forces, which has its own separate health system). Most health services are publicly funded and privately provided.

22. Private sector providers fall into two groups. First, there is an elite set of providers who exclusively serve private payers, both individuals and institutions. Either for-profit or not-for-profit, they can freely negotiate arrangements or contracts with clients. Services are privately funded and provided, although the provision of health services for public employees of parastatal institutions is included in this group. Second, there are "contracted" providers, who primarily treat patients under reimbursement arrangements with the federal government. In this group are nonprofits, including philanthropic (*filantrópicos*) and charitable (*beneficientes*) organizations, and for-profit providers (*lucrativos*). The nonprofits have a special status as quasi-governmental institutions due to the perception that they share public objectives and are more trustworthy than the for-profits. The government signs institutional agreements (*convênios*) with the nonprofits and binding contracts (*contratos*) with the for-profits.

23. The public-private relationship needs to be improved. Mutual distrust and frustration must be replaced with more constructive and transparent arrangements that build on the roles and strengths of both the public and private sectors in providing and financing health care. Among the most crucial issues is the establishment of a fair and enforced regulatory structure for private as well as public facilities (see Section C.3 below).

Private Financing

24. The private sector is the predominant provider of health care, particularly for inpatient services, and is financed by both private and public insurance or other methods of private payment. Four major insurance schemes exist: (i) prepaid group practice (PGP) -- where beneficiaries pre-pay and usually only have access to specified providers of care; (ii) medical cooperatives (MC) -- a cooperative venture of Brazilian physicians, who are the consulting physicians, based on pre-payment and defined providers; (iii) company health plans (CHP) -- where employers ensure employee access to services under various types of arrangements; and (iv) health indemnity insurance (HI) -- consisting of traditional third-party indemnity coverage. Each type of plan includes a wide variety of subplans from basic individual/family coverage to comprehensive executive coverage.

25. Private financing in the 1970s and 1980s was spurred by: (i) federal income tax deductions on health services paid under fee-for-services arrangements and on health insurance premiums; (ii) deteriorating services under social security financing; and (iii) rising incomes, especially in the 1970s. More than 2 million households received average income tax deductions of US$520, equivalent to about 25% of federal health expenditures at the beginning of the 1980s, and 18% in 1982.

26. Private financing plans covered 32 million people in 1989, over 20% of the population. Between 1987 and 1989, population coverage rose by 39% and estimated revenues increased 31%. PGP is the market leader with almost half of all enrollees, followed by medical cooperatives, company plans, and health insurance. Such private arrangements represent significant savings for the government.

Problems

27. Although Brazil's private health plans are flexible, creative, and responsive to consumer preferences, without oversight they may engage in unscrupulous and illegal practices that neither meet the need for acceptable health care services nor respect consumer rights. Government regulations are necessary to ensure safety, fairness, and basic quality in the private (as well as the public) sector (see Section C below). The two problems briefly described below reflect the disadvantages of a private system that is neither effectively monitored by itself nor by federal or state government.

28. First, private health insurance plans commonly contain restrictions and exclusions that apply to abortion, dental care, infectious diseases (including AIDS), chronic diseases, and catastrophic care. Because the major rationale for health insurance coverage is to spread the high cost of unanticipated, catastrophic health problems, the exclusion of these last two items is at odds with the concept of risk sharing. Only a few private company health plans offer full catastrophic coverage. Part of this may be attributable to the lack of a functioning re-insurance market. As a result, however, catastrophic care and other excluded components can only be obtained through publicly financed services either directly at public hospitals or, more commonly, through government reimbursed facilities. This, however, may represent the cost of taxpayer support for universal subsidized health care, as catastrophic coverage is the only service middle and upper income households consume.

29. Second, there are serious lapses in consumer information and understanding and in the alleged honesty of private plans. For example, not only are certain basic services denied, but high-risk individuals can be denied insurance, ensuring that these individuals will be subsidized entirely by the public sector for all care.

30. Despite the shortcomings of the private insurance sector, it is too large to be ignored. Private payers relieve the government of the responsibility for financing health care provided to the wealthiest segment of the population. Yet, little attention has been paid to examining the complementarity and cooperation between the public and private sectors. Constructing a parallel public infrastructure is not financially viable, although such options have been proposed. It is crucial for the government to acknowledge the existing and potential contribution of the private sector -- that is, to determine how to harness the strengths of entrepreneurs, and regulate them to meet public objectives.

Public Financing

31. Brazil has one of the largest public health insurance systems in the developing world. It evolved from the social security benefit package of the early 1960s and now covers the entire population through a nationwide prospective payment system, one of the most sophisticated anywhere in the developing world. The structure of the system reflects a strong belief in the effectiveness of public-private partnerships and in consumer benefits from multiple supply options, a view similar to that of the United States. Many of the problems confronting Brazil's reimbursement system are not dissimilar to those facing the Medicare program in the United States -- however, while only the

elderly in the United States are affected by prospective payment, this arrangement affects most Brazilians.

32. The main components of the PPS proposed in 1980, the Physician-Hospital Service System of Social Security or SAMHPS-AIH (*Sistema de Assistência Médico-Hospitalar da Previdência Social-Autorização Internação Hospitalar*) -- subsequently adopted by INAMPS and imposed on participating private providers -- were: (i) clinical procedures defined along the lines of the International Classification of Disease Codes of the World Health Organization; (ii) fixed reimbursement levels for hospital and professional services for specific procedures or diagnoses; (iii) an attribution system for each procedure (similar to diagnoses) based on the DRGs (diagnosis related groups) in the United States Medicare program [1/]; and (iv) a hospital adjustment payment that applies a multiplier to billings of tertiary care facilities (e.g., specialized hospitals) to compensate them for their costly infrastructure and higher operating costs. In 1990 the government launched an outpatient and emergency prospective payment system, UCA (*Unidade de Cobertura Ambulatorial*).

33. Prospective payment is first and foremost meant as a method of cost control. Its strengths are its ability to: (i) anticipate and control the magnitude of expenditures, and the potential for using incentives to enhanced hospital productivity; (ii) reduce the incidence of unnecessary diagnostic exams; (iii) reduce lengths of hospital stay; and (iv) achieve other efficiency gains. The system implicitly assumes that patient diagnoses are generally homogeneous and display similar characteristics. However, prospective payment systems are increasingly relied upon in OECD countries to generate data, raise efficiency and control costs; where properly overseen, it has not compromised quality and has proven effective in achieving its objectives. The legality of co-payments for inpatient care is somewhat ambiguous but co-payments are prohibited under UCA. The extent of state and municipal authority in setting fees remains unclear. Culturally there are few barriers to co-payments.

34. There are currently 6,380 participating hospitals in the SIH/SUS (the renamed SAMHPS-AIH) system, up from 4,500 in 1987. Almost all of this growth is due to the absorption of public hospitals into SIH/SUS, as there are indicators that private sector participation is declining. In 1978, 67% of private hospitals had contracts or *convênios* with INAMPS; by 1984 the average had declined to 58%. Private health insurers suggest that the proportion of participating private hospitals has declined to around 50%, due in large part to dissatisfaction with reimbursements, a subject discussed below. In 1988, INAMPS spent 36.8% of its US$3.95 billion budget on hospitalizations and another 32.5% on ambulatory care, and participating for-profit and non-profit hospitals received the largest share of INAMPS funds.

Problems

35. Improved equity and access has over-stretched declining health care budgets due to the universalization of health care. Between 1987 and the end of 1991, the total annual number of admittances jumped from 2,370 million to 3,629 million, a 53% increase in just 5 years, a time during which population increased by less than 2% a year. Much of the expansion is due to the launching of SUS and the opening of health care to all citizens, whether or not they participate in the social security system. An alternative explanation attributes growth to the increase in fraudulent claims.

1/ Medicare is the publicly financed health insurance system for the elderly in the United States.

36. The lack of policy research and information to guide policy formulation, program design and evaluation of investments causes serious problems in the operation of the health system. Without the necessary information and analysis to illuminate the workings of the health system -- who is benefiting, what aspects are faltering, what programs are working as expected -- problems are likely to result. Under prospective payment, oversight becomes key. Without it, there can be no guarantee that the anticipated incentives will in fact operate as anticipated. Moreover, PPS offers a valuable source of data to allow practical monitoring of progress and impact.

37. Accusations of hospital fraud, eroding quality, and declining private sector participation all suggest dissatisfaction with the system. Over the decade, the country has coped with high inflation, rising costs, and efforts to expand the system by squeezing providers through late and chronic underpayment (often due to the MOH's lack of an allocated budget from the National Treasury), a combination that has undermined the system and led to abuses by providers that can be at least partly explained, if not condoned, by government actions. Growth in private insurance is largely attributable to declining quality of INAMPS-financed services. These trends have serious implications for the viability of the system, because they have not only led to deterioration in physical plants, but to reduced quality of personnel, lack of appropriate new technologies and equipment, and an undermining of both the reputation of the hospital network and the public-private relationship that is so important to an effectively operating health care system like Brazil's.

38. The eroding value of reimbursements, high inflation in the medical sector and the lack of re-costing of diagnoses to account for new technologies, procedures and drug therapies have led to serious underpayments to hospitals and reduced fees for physicians. Cumulative inflation in Brazil between January 1980 and December 1991 was 4,337 million percent. Inflation eroded the value of expenditures, so that real expenditures did not keep up with the increased number or value of hospital admissions (AIH). As costs have risen, INAMPS has used a general inflation deflator to adjust reimbursements, which does not necessarily reflect cost escalation within hospitals or the medical sector, nor was it consistent with the respected measures relied upon by the private sector. Moreover, they did not account for cost increases associated with new techniques and technologies, significant factors in medical cost escalation.

C. Other Major Issues

39. Based on the discussion above, three main areas must be addressed to facilitate the reform of Brazil's health system. All three are delivery-specific concerns that, if not dealt with, will undermine reform, cause serious financial instability, and further shake consumer confidence. The three concerns are addressed -- the need to contain costs, monitor quality of care, and regulate health care providers -- complement and extend the overarching concerns raised above.

Controlling Health Care Costs

Why Estimating and Controlling Costs is Important

40. Measuring the costs of health care is indispensable for: (i) comparing the relative efficiency and cost effectiveness of public, publicly reimbursed, and private programs; (ii) identifying and designing effective cost containment strategies; and (iii) determining financial requirements of the

health care system. Better cost information contributes to: (i) improving hospital management because they define the trade-offs between alternative investments and services; (ii) determining the relative efficiency of alternative resource allocation formulas across facilities and across services within hospitals; and (iii) establishing fair and reasonable reimbursement schedules for publicly financed and privately implemented health care.

41. Measurement of costs is equally important for establishing reimbursement payments for specific procedures or diagnoses. The Medicare system in the United States relies on frequently updated measures of resource costs for each diagnosis to establish physician and hospital reimbursement levels. A similar procedure is warranted in Brazil's system.

The Scarcity of Cost Data

42. Hospital cost data for Brazil are rare. Few public or private hospitals have costing systems that provide systematic information. Although the Ministry of Health has prepared costing manuals, and the Ministry of Education at one time established cost accounting systems in public teaching hospitals, most have been abandoned. Part of this is due to high inflation, which makes costing difficult at the hospital level. Analysis of available hospital cost data in Brazil (Chapter 6) has demonstrated the weakness of existing cost accounting systems, the lack of cost data, and therefore the ignorance of costs in hospital management. In the absence of reliable cost data, management is difficult and efficiency advances almost impossible to achieve. Costs should be measured and used by facilities.

Comparison of Public and Private Hospital Costs

43. Despite the sparsity of the data, a few tentative conclusions concerning hospital costs can be drawn. The most illuminating analysis is the comparison of public and private hospitals. Results indicate that private hospitals: (i) spend a lower proportion of resources on personnel; (ii) have more certainty in finances, as reflected by stability of expenditures; and (iii) have occupancy rates that in the aggregate appear to be inversely correlated with unit costs. The greater consistency of expenditures is likely tied to private hospitals' greater control over and fungibility of resources. Expenditures on personnel are more difficult to interpret. Relatively high public personnel costs can be due to over-employment or under-performance, or can reflect under-staffing by private hospitals to keep costs down, practices that could compromise quality. While low occupancy rates may reduce some operating costs, the high fixed costs of hospital operation contribute to inefficient resource use and compromise efforts at cost containment.

Reduced AIH Reimbursements

44. Comparisons between government reimbursement payments for hospitalization (AIH) and the actual costs for 18 common procedures (diagnoses) at a non-profit São Paulo hospital suggest that reimbursement levels are well out-of-line with average costs for a number of diagnoses, with room and board falling particularly short. Similar findings emerged in Fortaleza General Hospital, a Ceará state facility that probably has the best public hospital cost data in Brazil. Underpayments in São Paulo clearly compromised quality, as reflected in low intensive care unit (ICU) use for normally high-use diagnoses, and low average lengths of stay for serious conditions. The maximum proportion of these procedure costs covered by AIH is 68%, with an average of 39%. At the other extreme some (usually highly technical) procedures are over compensated. The cost differentials may reflect

inefficiencies on the part of the hospital, but the inconsistency is too great to be attributable solely to inefficiency in hospital production. Reduced quality and fraud finance the gap.

45. Developed as a management tool, the comparison of costs and government payments identifies where the greatest shortfalls in AIH reimbursement lie. Private hospitals, responding to recognized shortfalls in a rational way, are accused of "dumping" patients on to the public system to avoid admitting patients with illnesses that are inadequately reimbursed. Both under- and over-payment may exist within the AIH, since no systematic examination of resource costs (the costs of what inputs are needed for a specific diagnosis) has been undertaken recently, nor are there accepted diagnostic and treatment norms that standardize procedures and therefore set parameters for costs. Reduced reimbursements have forced participating hospitals to modify their behavior, which may have improved efficiency and reduced costs, but has seriously undermined quality.

Problems

46. First is the lack of cost information, which is necessary for fiscal control and improved management at the facility level, as well as for estimating actual costs as a basis for realistic reimbursements under SIH/SUS and SIA/SUS. Second, cost containment incentives under SIA/SUS and SIH/SUS are virtually nonexistent. Although AIH was partly aimed at controlling costs, cost containment and efficiency are new priorities in Brazil. Fair reimbursements, focused incentives, clear standards of performance and costing, and consistent oversight and control are essential to improving efficiency (and quality) of care. And these can only come about through better use of existing data and collection of missing information, as well as better management and oversight. Finally, curbs on volume of care are missing, contributing to rising costs, and proliferation of unnecessary or low priority services.

Improving Quality of Care

47. The definition of quality of health care encompasses many desirable traits and has multiple dimensions (e.g., clinical, financial, administrative, environmental, and inter-personal).

48. Ensuring quality at the facility level is particularly difficult, since most of the important determinants of the quality of health care lie outside the reach of direct initiatives. How health care is financed, where resources are allocated, and accountability within the health care system are more important ingredients in the quality of care than any mechanisms explicitly directed toward evaluating or assuring quality. These elements provide the underlying incentives that promote the standards and compliance that constitute quality. In addition, quality is grounded to a considerable extent in perceptions. Thus patients evaluate the physical environment and treatment by staff because they lack the expertise needed to assess clinical quality.

49. Virtually no reliable representative studies exist on the overall quality of medical care in Brazil. On superficial examination, there appear to be centers of excellence and examples of abysmal quality in both the public and private sectors. One thing is certain: quality varies widely. The health care system that superbly performs bone-marrow transplants or complex cardiac surgery and has the foremost rehabilitation hospital of Latin America, stands beside one that provides inadequate basic services for infants and mothers. One salient example of low quality of care is the hospital infection rate, probably the most common measure of hospital quality. The general consensus of experts is that Brazil's rates (an estimated 6.5% to 15%) are well above those in developed countries (roughly 5%).

The Ministry of Health estimated that there were over 1 million cases of nosocomial infection and over 53,000 deaths in 1990. These estimates are considered conservative.

Problems

50. A number of factors undermine the quality of Brazil's health care system.

51. First is the inefficient mix of health manpower. Although Brazil may have an adequate supply of physicians, especially in metropolitan areas, a serious shortage of nurses exist. Low pay and status, relatively long training (only one year less than a physician), and limited responsibilities combine to restrict the supply of nurses. Second are the major problems in the quality, selection, distribution, maintenance, and utilization of health care technologies such as diagnostic equipment. Public sector facilities have few incentives to use and maintain equipment, since returns are not tied to either, and acquisition is often accomplished outside the facility. Third are serious quality lapses in service delivery. Two studies summarize some of these lapses; one study found fragmented services and indifference to basic quality and consumers, while the other found weak programming, administration, and community participation across services. Similar evidence on medical records indicates that many hospitals do not record patient information and treatment; and, when records exist, they generally are either not adequately archived or not transferable across facilities or hospital services, thereby limiting the usefulness of the information.

52. Last are indications that the reimbursement payments may provide perverse incentives. For instance, adequate reimbursements for hospitalizations where outpatient services would have been clinically acceptable, but are poorly reimbursed, unnecessarily raise costs. Similarly, payment rates under AIH have induced hospitals to use faster, more costly procedures with higher infection rates where conservative, lower risk treatments would have been more advisable, but were not used because they are inadequately reimbursed.

53. Despite the fact that most of the important determinants of quality of health care lie outside direct initiatives, health regulations are crucial to ensuring quality of care, as discussed below.

Regulating Health Care

Why Regulating Care is Important

54. The purpose of health regulations are to: (i) ensure that minimum quality standards are met in the provision of health care; (ii) prevent financial abuses; (iii) facilitate acceptable access to and distribution of health services; and (iv) contain costs. These regulatory objectives apply equally to public and private facilities. Government (at all levels) has principal responsibility for the former, and should regulate private health care delivery and finance. In most countries private associations play a significant complementary role to government in regulating physicians and health facilities through accreditation; and, particularly in developed economies, consumer groups pressure both government and accreditation bodies to ensure that standards acceptable to them are maintained. Citizen pressure and participation in decisionmaking are key.

55. Financial accountability in public and private financing and delivery systems is important to: (i) ensure financial integrity of health services or health insurance; (ii) control corruption of public and publicly reimbursed providers; and (iii) promote efficiency and fairness of provider finances.

Regulation of these elements reduces financial waste and builds consumer confidence in the integrity of health providers. Implementation of such regulations entails less of an emphasis on monitoring individual receipts and greater scrutiny of financial soundness.

56. Quality, as has been discussed, encompasses a myriad of financial, medical, and environmental factors, and regulations must address the spectrum of issues. Because physicians act as "principal agents" for patients (they rather than the patient decide the extent of illness and how to proceed with treatment), and because only another physician can technically assess the caliber of medical care quality, whatever body regulates the medical aspects of health care must have the capacity to identify and evaluate the elements needing assessment. Without monitoring of performance quality, providers have insufficient incentives to perform at ideal levels. In other countries, some combination of legal and regulatory oversight and professional standards establish and enforce performance. The approach applies well to Brazil.

Current Regulations

57. The public sector has exclusive and important regulatory responsibility for overseeing the quantity and quality of care provided by participating hospitals under SIH/SUS. Brazil emphasizes classification, generally from less complex to more complex facilities to guide consumer selection and reimbursement levels, rather than the more relevant assessments about whether or not a given institution is fit to provide hospital services to the public. Because of this, they are not effective regulatory instruments for protecting the public. Moreover, many of the regulations that do exist are not enforced.

58. The most extensive regulatory system for quality assurance in health care in Brazil is that of the Federal and Regional Councils of Medicine, the Council of Health Professionals (*Conselho de Profissionais de Saúde*) and the Ethics Committees in health facilities. They are public institutions charged with registering physicians, supervising medical ethics, judging and disciplining physicians, working toward perfecting the practice of medicine, and maintaining the prestige and good standing of the profession.

Problems

59. First, Brazil has no routine hospital accreditation program. Traditionally, two mechanisms have existed for examining hospital structure and evaluating the acceptability of inputs (e.g., staffing, physical infrastructure) and outputs (e.g., infection rates, mortality levels). The first are laws and regulations passed by the federal government, with enforcement by municipal, state, and federal health surveillance divisions (*Vigilância Sanitária*). The second are requirements or criteria established by INAMPS in its capacity as a purchaser of services from the private sector. Neither set of standards is geared to ensuring hospital performance, which leaves hospitals open to abuse and the public unprotected.

60. Second, the regulations concerning construction of new health facilities contain no norms for manpower, technology, or procedures to set basic standards of performance, nor do they establish any criteria related to need for construction of new facilities. Since 1975, new health facilities are required to comply with a series of guidelines. Any proposed construction must be approved by the local Department of Public Works and by the State Secretariat for Health. INAMPS may only contract private facilities constructed after 1975 if they have complied with these guidelines. Other

legally binding regulations entail detailed requirements for the construction of small and medium-size hospitals. Such restrictions can be best characterized as "nuisance" regulations with little if any effects on the quality of services provided (inputs) or on the outcomes of those services. On the other hand, basic norms to guide clinical and resource allocation decisions are sorely lacking. The factors that can affect quality are those that ensure appropriate types and mixes of inputs (e.g., licensing of physicians and hospitals, adequate nursing services) and result in acceptable performance.

61. Third, there are little or no specific criteria or guidelines upon which operating licenses for health care facilities are renewed. In most states the health surveillance divisions of the State secretariats for health are responsible for issuing and renewing annual operating licenses for health facilities, pharmaceutical laboratories, and clinical laboratories. Lack of criteria for assessing acceptable procedures and outcomes, inadequate numbers and underpaid inspectors, and politicized enforcement make licensing a largely meaningless exercise.

62. Fourth, medical schools lack adequate standards, despite the fact that physician competence is a key component of quality care. Unlike the situation in most developed countries, where continuing education requirements are common and relicensing required, any student graduating from a medical school accredited by the Brazilian Ministry of Education is automatically licensed for life for the practice of medicine. There exist relatively few legal requirements for a medical school curriculum. Until 1969, the one year internship did not exist in many schools. A physician in most states in the United States generally has five years of highly supervised clinical experience prior to licensure -- the last two years of medical school and three years of residency.

63. Fifth, Regional Councils responsible for acting on violations of medical ethics contain no consumer representation, have processed extraordinarily few cases, and tend to be extremely lenient with physicians. The Councils are not acting in any effective way to protect the public from even the most extreme cases of physician incompetence or impairment. Certainly, almost none of the excellent provisions foreseen in the code of ethics are enforced.

64. Last, there is a serious lack of oversight over private health insurance plans in Brazil. As discussed above, the number of private payers of health care has burgeoned in the last decade and the variety of financing mechanisms has growth commensurately. The purview of SUSEP (*Superintendência de Seguros Privados*), the federal insurance regulatory body, is solely indemnity insurance representing only about 4% of all private financing. Virtually no controls or oversight are provided in the establishment, operation, or financial soundness of pre-paid group practice, medical cooperatives, or company health plans that finance, and in many cases provide, health services.

D. Policy Recommendations

65. The key recommendations from this report cut across the components of the study. They are arranged by subject, with the major actions described for each. However, there is considerable overlap across subjects. Table 1 summarizes the recommendations and proposes timing for specific initiatives.

Table 1: Recommendations on Key Strategies for the Short and Medium Term		
	Short Term (Next Three Years)	**Medium Term (Four to Seven Years Hence)**
Consolidating Institutional Reforms	Set up a commission with representation from all three levels of government and informed citizens to debate the issue, and propose revisions to Congress and the federal government. The National Health Council could assist the process. Issues include: flexibility of SUS to meet different needs given Brazil's heterogenious states; necessary roles across federal states and municipal governments; balancing access and resources and reflecting. Design system for assisting states to experiment with alternative structures for delivering, financing, and regulating health care within their borders under SUS, including municipal-state relationships.	Develop proposals for better defining federal, state and municipal roles, emphasizing state flexibility in adapting federal guidelines in the organization and delivery of care. Ensure transparent and consistent fiscal transfers from the federal government to states and municipalities.
Policy Formulation Capacity	Establish a health policy office in the Ministry of Health with responsibility for identifying key policy issues in health, with input from experts from outside the MOH. The MOH Department of Planning could take on this effort, if they expanded their activities. Establish an inter-disciplinary committee under the leadership of the MOH, with health researchers and administrators to: determine how to best identify, finance and disseminate health policy research in Brazil; and, draw up a policy research agenda with and for the health policy office. A sub-group of the National Health Council with other input would be appropriate. Initiate with IBGE and others a health demand survey to determine where patients seek care, where they obtain it, who pays for it, and how much they pay out-of-pocket.	Establish a system for financing health services research, following the recommendations of the committee, relying on competition and external review in selecting researchers. Establish specific oversight committee for policy research with federal, state, municipal, university and professional association representation. Build congressional support and encourage a line item in the budget for health services research.

Table 1: Recommendations on Key Strategies for the Short and Medium Term		
	Short Term (Next Three Years)	**Medium Term (Four to Seven Years Hence)**
Costs and Cost Containment	Initiate a study of service costs as a first step toward establishing policies that match budgets and priority investments. Establish a standard benefit package for all citizens, covering prevention and secondary care, and prioritizing funding for tertiary care services. Design a comprehensive study to evaluate SIH/SUS and SIA/SUS with regard to costs, cost containment and volume controls, drawing on experience and expertise from inside and outside the government and Brazil. Should coordinate with health policy unit. Design documented experiments to test alternative options for cost and volume control, and evaluate them critically for policy guidance. Establish a body to regularly recalculate reimbursement rates for SIH/SUS and SIA/SUS.	Based on evaluation of costs and performance, develop incentives and oversight to promote greater efficiency in service delivery under reimbursed hospital and ambulatory care. Develop a standard cost accounting system for participating SIH/SUS hospitals to assist their management and monitoring, provide training. Experiment with co-payments, drawing on the results of the demand survey and experiences in states or municipalities, and applying income cutoffs to protect the poor. Develop and implant, in cooperation with private insurance and provider groups, standard billing forms for public and private providers.
Enhancing Quality	Establish three external advisory groups for setting standards for clinical care, administrative and financial services and physical plant and equipment. Place quality on the policy research agenda; finance studies on the definition of quality and how to obtain quality health services, considering costs, feasibility and enforcement. Finance methodological and operational studies to develop and test various approaches to quality assurance in Brazil.	In conjunction with professional organizations, establish quality assurance guidelines, with sufficient flexibility to allow adaptation by different providers. Provide grants to universities to establish quality assurance training in universities. Initiate revision of current federal "quality standards" for their applicability and relevance. Establish federal requirements that citizens participate in quality assessments at the local and state levels.

Table 1: Recommendations on Key Strategies for the Short and Medium Term		
	Short Term (Next Three Years)	**Medium Term (Four to Seven Years Hence)**
Improving Regulations	In conjunction with professional associations, draw up a federal licensing exam for physicians and nurses. Support professional association efforts to accredit medical schools through agreements among the federal and state governments, and professional associations. Identify insurance company practices and problems (financial, performance) and assess policy options for addressing these. Establish a public-private commission to develop model regulations for hospitals and clinics that protect the public, and are affordable, implementable and enforceable by states. Evaluate federal, state and municipal enforcement of existing regulations to determine strengths, weaknesses and gaps.	Establish a federal licensing exam for physicians and nurses to be adapted and used by states. Assist states in drawing up enforcement arrangements. Commission a plan for continuing education for health personnel from professional health associations, and sponsor meetings with states and professional associations to develop a policy on continuing education. Establish federal hospital accreditation standards based on the commission's recommendations, and apply them in all public and participating private hospitals. Develop enforcement arrangements with states and municipalities. Establish model regulations for insurance companies, and assist states develop state regulations and enforcement.

- **Consolidate institutional reforms.**

66. Experience with SUS over the past five years has identified problems with the final step of decentralization to the municipal level, and with the rigidity of policy across states and municipalities. States are accountable but are not responsible for health care, and by default form the core of the state-wide health referral network. States have the potential for developing a functioning system, due to their smaller size and greater flexibility. Better defining goals and expectations for the various levels of government, within the context of what is feasible and affordable, should be high on the health policy agenda. Indeed, a commission to consider adjustments and advise the federal government and Congress could assist a process of consolidation of the *Reforma Sanitária*. The current National Health Council (*Conselho Nacional de Saúde*) could form the basis for such a committee, with additional participants in key areas (e.g., cost containment).

67. A related issue is the need to establish a basis for health revenues. Relying on ad hoc allocations jeopardizes all health investments and makes even short term planning difficult. This lies beyond the Ministry of Health but needs to be on the agenda.

- **Generate better and more appropriate performance data, and emphasize policy research.**

68. To improve policy formulation and managerial oversight of health care service expenditures, the federal government should: (i) reinstate the annual facilities survey, and most importantly, institute a bi-annual demand survey that determines where households obtain care and how it is paid for (e.g., out-of-pocket, insurance, MOH), and institute a means of collecting comparable health services cost data in public and contracted health care facilities; and (ii) establish a means for systematically exploiting existing data (e.g., AIH data) to address a range of key policy issues on a regular basis. A unit within the Ministry of Health, advised by a panel of outside researchers, should establish an agenda of priority research areas, and develop a competitive process for selecting scholars

at universities and research institutes to carry out the research. This could be undertaken within the Planning Department in the MOH (*Departamento de Desenvolvimento, Controle e Avaliação de Serviços de Saúde e da Coordenação Geral de Planejamento e Informações*), and that would require some alteration of staffing and functions, since the Planning Department has not yet engaged in financing policy research.

69. Second, states must be given access to existing data (e.g., AIH files for their state) to allow them to analyze their systems and to monitor state-level activities. States should initiate their own policy research agendas, and finance appropriate analysis. Given the importance of state-level experience to the design and future reforms in the federal system, encouraging experimentation and evaluation has national as well as state benefits. The United States has and is benefiting from state experiences (see Chapter 9), many of which have applicability in Brazil.

70. The strengths of reimbursement based on procedures or diagnoses lies in managing the system so that the incentives are correct and providers become more efficient. At the federal and state levels, the following kinds of initiatives are needed: (i) systematic analysis of key issues, for example, regular updating of diagnostic costs, hospital and physician practice patterns, follow up of (a sample of) discharged patients; (ii) adjustments in reimbursements based on (i); and (iii) better monitoring of hospitalizations, quality (see below) and performance.

- **Contain costs.**

71. Although Brazil's health expenditures on a per capita basis may be below some of its neighbors, efficiency of current resource use requires improvement and appropriate incentives to reduce waste and control the volume (or quantity) of services provided. Experience in the United States shows how: (i) private sector-driven health care leads to high volume and spiraling costs; and, (ii) prospective payment systems (Medicare), like AIH, can help to contain costs. Thus, despite the problems facing the AIH system, efforts are needed to identify the nature and types of problems facing the system, analyze these issues, and develop measures to address them. And this needs to be an ongoing process.

72. Cost containment remains a key component of reform throughout the OECD countries, where the need to align service delivery with available resources is leading virtually all these countries to restructure. In the United States the discussion is ongoing not only at the federal level but within the individual states, and some of the most interesting and relevant changes are occurring there. Trends in OECD reform center around: (i) controlling use (through global budgets, use of HMOs and co-payments), expenditures (through efficiencies such as greater reliance on outpatient services and shorter lengths of hospital stay), and payments (most notably, use of PPS, the Brazilian AIH); and (ii) greater use of competition and private alternatives. Much of the experience in (i) is relevant to addressing Brazil's problems (see Chapter 9), especially since (ii) is already a reality in Brazil. Tables in Chapter 9 compare the salient features of the Brazilian system with five OECD countries, and summarize the options in cost containment.

73. Although little publicized, the individual states of the United States are moving toward serious efforts to both extend care to all citizens and to establish strong incentives to control expenditures, since state budgets, unlike the federal government, must have an annual balanced budget. Their efforts at reform offer specific models for Brazil. The directions of reform are as follows: (i) insurance reform requiring "community ratings" so individuals will not be refused insurance; (ii)

standard benefit packages; (iii) managed care expansion, especially for low income households subsidized by state governments; (iv) co-payments; and (v) global budgets. A particularly interesting experiment in the state of Oregon ensures access to basic care with more sophisticated services available on a funds-available basis. The public has rated the value of interventions in order of priority, which forms the basis for decisions on what and whose care to pay for, and these are determined annually by the size of the state budget. That means that basic services (e.g., appendectomies, inguinal hernias) will be covered for everyone, but less valuable services (e.g., coronary bypass operations for elderly patients) will not always be covered by the state government. This is probably the only example anywhere of an effective rating of health investments, and it may have particular promise in market oriented health care systems like Brazil's.

74. Successful cost containment will entail federal or state efforts to: (i) control use through incentives that contain the volume of services in both the public system and the public reimbursed (AIH) system; (ii) establish incentives to discourage overuse by users (e.g., through means-tested co-payments); and (iii) improve the efficiency of service delivery (e.g., moving some care from inpatient to outpatient services, such as cataract operations, and reducing the average length of hospital stays). An effective form of rationing and cost containment is a global budget, however, queues result and efficiency usually does not. Experimentation and careful evaluation of a global budget at the hospital, municipal or state level would inform policy on this issue, and assist federal and state governments determine its viability in the Brazilian context. Other options which should be considered include: (i) developing a standard benefit package that limits the scope of government financing could potentially make actual access to a defined core of services more feasible and affordable; (ii) limiting or planning for technological capacity at the municipal, state, or regional levels to control overuse and ensure access; and (iii) finding ways to promote systems of managed care, especially among low income households. These deserve to be considered and used as experiments in efforts to contain costs.

- **Monitor and improve quality of care.**

75. Initiatives to improve quality are required at all levels of society and government. The federal government should establish three external advisory groups, each of which would assist in setting standards for: (i) clinical care; (ii) administrative and financial services; and (iii) physical plant and equipment. Each advisory group should have a research budget to develop basic standards and to test alternative implementation arrangements. States, municipalities, research institutes and universities would participate in the setting of standards and in developing the means to monitor and ensure compliance. Of particular importance is depoliticization of oversight and enforcement of regulation, so that dangerous institutions are closed until they can rectify problems.

76. Quality assurance systems should be designed by a federal panel, adjusting criteria for the hospital level, and introduced into facilities, with states and national/local hospital associations providing technical assistance and oversight. Failure to comply would need to engender penalties (e.g., ineligibility to participate in AIH until in compliance with standards).

77. Oversight committees at the federal, state and local levels, and hospital quality assurance programs should have consumer representation.

- **Improve targeting and strengthen appropriate regulations.**

78. Licensing of facilities through accreditation is central to improving quality and effectiveness of health services. Federal and/or state accreditation criteria for hospitals and clinics need to be drawn up (or adapted) based on input from professional and trade groups. Enforcement is necessarily a state and municipal responsibility, and efforts are needed to coordinate and work with state and municipal professional groups in granting accreditation and overseeing compliance. Penalties also need to by specified (e.g., accreditation required for AIH certification) and actively enforced.

79. Licensing exams for physicians should be mandatory at graduation, and continuing education programs required for periodic relicensing. Ideally these could be designed and overseen by professional associations, with funding support from the federal or state governments. Similarly, medical schools should establish accreditation procedures with oversight by an independent body. SIH/SUS and SIA/SUS need regulatory powers to oversee and regulate participating private and public providers. The recommendations above regarding better management of and information about system performance should be the basis for regulating providers. Standards should be set by a group of public and private experts representing consumers as well as hospital associations, and enforcement should be shared, with clearly delineated responsibilities across states, consumer groups and provider associations.

80. In addition to regulation of health indemnity regulation, other financiers (e.g., medical cooperatives and HMOs) deserve to be regulated to ensure their financial viability, and citizen access.

Priorities for Constitutional Revision

81. The recommendations summarized here implicitly impinge on provisions of the 1988 Constitution and the subsequent *Lei Orgânica da Saúde*. Several key issues deserve priority, among them are the following:

- strengthening the role and accountability of states in health care delivery and finance;
- establishing a legally binding system of transparent and consistent federal transfers to states and municipalities;
- shifting the federal government role to regulation, technical assistance, research, standards, and incentives for improving quality, regulations and containing costs, and away from provision or control of service delivery; and
- fostering health policy research and debate through public funding and strong linkages to other policy bodies at the federal, state and municipal levels.

82. Brazil's health system is unique and deserving of study. Innovation and creativity as well as leadership in adopting new technologies, payment systems and service delivery characterize the health sector. What is lacking is evaluation of innovation to determine what works, and regulation and management to ensure that the system operates properly, financially, clinically and organizationally. These remain the challenge for the 90s.

PART I: BACKGROUND AND ORGANIZATION OF HEALTH CARE

1. INTRODUCTION

A. Background and Study Purpose

1.1 Over the past decade the Brazilian government has implemented a massive institutional, organizational and financial reform of the public health care sector (*Reforma Sanitária*) that was meant to shift the responsibility for health care provision from the center to the periphery, consolidate public service provision and finance, and improve the equity of access to health services. The phased design and implementation of the reforms reflect consistency of national and government commitment to change, and consideration of the managerial capacities of different levels of government to redefine the health care delivery system.

1.2 The major features of the revolutionary changes are being achieved through three distinct phases: the Integrated Health Activities Program (AIS), the Unified and Decentralized Health Systems (SUDS), and finally the Single Health System (SUS), is not yet fully implemented. The initiatives encompass a systematic divestment of responsibility and authority for health care to the local level, merging of social security and public health services, and unrestricted access by all citizens to publicly provided and/or financed care.

1.3 During this period of major restructuring, other factors both within and outside the sector affected the patterns of finance and delivery. Physical expansion of the public health care service network was significant during the decade of the 1980s and the patterns of service were altered. Growth in the private sector, already a major provider of health care, was even greater with particularly important changes in the range and type of private financing. More generally, high inflation and other macroeconomic difficulties played havoc with public budgets and private investors. At the same time, the public discovered the rights and privileges of democracy and began to define its priorities and concerns in health care.

1.4 Although not yet fully in place, the evolving system is facing some profound difficulties. Some are a legacy of the reforms but others are existing problems left untouched by the recent changes. The most critical of these is the rising expectations of the population associated with a decentralized and open-ended public commitment to provide all care to all citizens. This combined with a budgetary crisis stemming from the current recession and uncertainty in funding levels, will force a retraction of government commitment and promises unless some brakes and checks are put in place to match budgets with goals. The World Bank has assessed various aspects of the health care system over the past few years. Despite the evolutionary nature of change in Brazil, a general overview was never undertaken. This report attempts to rectify this by analyzing the delivery and financing of medical care, where the bulk of public funds are allocated, and by identifying issues that need to be considered to ensure consolidation of gains and continued improvement in services. Given the recent World Bank report on the epidemiological issues in Brazil (World Bank, 1989), this report only addresses the organizational and financial topics.

1.5 The need to ration care is central to resolving this conflict. As all governments have discovered, public funds are insufficient to meet the full extent of consumer demand without controls

on either overall budgets or on allocations. Rationing is equally important for prudent management, sensible resource allocation and clear priorities, and in the context of reform, ensures that equity objectives are targeted directly. Historically, Brazilian health care has been rationed according to income, as it is in the United States. The new system offers the opportunity to rearrange priorities and subsidies to meet other objectives. How to ration health care will define whose care and what kinds of care are subsidized.

1.6 Second is the public-private relationship and the need to replace mutual distrust and frustration with more constructive and transparent arrangements that build on the roles and strengths of both in providing and financing health care. Among the most crucial issues is the establishment of a fair and enforced regulatory structure for private as well as public facilities. A related issue is the need to reassess and overhaul the operation and policies of the public reimbursement system that finances care delivered primarily by private providers. It represents one of the government's most appropriate tools for initiating the financial and managerial reforms needed to solidify the gains from the recent restructuring.

1.7 Finally there are delivery-specific concerns that if not addressed will undermine reform, cause serious financial instability and further shake consumer confidence. The first are cost pressures already evident in the sector and likely to accelerate given: (i) the dearth of information on costs and causes of cost increases; (ii) inadequate incentives and capacity to raise efficiency; (iii) costly technological breakthroughs that are increasingly demanded by patients and physicians; and (iv) the lack of any serious efforts to contain costs in the private sector.

1.8 The second is quality of health care that has been sacrificed as attention has focused on other aspects of the system. Although a constant issue of concern and periodic initiative, there is close to universal agreement on the erosion of health services quality over the past decade across most public and private health care providers. Again, there are limited quantitative measures, little if any monitoring of quality, no incentives to maintain quality other than professional pride and competition in the upscale market, and few serious efforts to define, establish, monitor and enforce quality within facilities.

B. The Economic Issues in Health Care

1.9 The economic model of the private competitive market, though highly simplified, can help define a rationale and role for government, and guide the efficiency and equity of health care delivery and finance. If the conditions of the competitive market exist -- many producers, free entry, informed consumers with market power -- government intervention is unwarranted. If, however, any of a number of types of market failure are present, or if social objectives are paramount (e.g., equity, equal access to services), then government intervention can improve the functioning of the market.

Efficiency

1.10 Market failures prevent efficient delivery and financing of health care. First, health care is not just a private good -- one whose benefits are restricted directly to the consumer who pays the cost. Health care has benefits that go to particular consumers (who can be charged for them), but

they also have public benefits (externalities) that go to society at large. Under welfare theory, goods with a public benefit component are underproduced from society's perspective if left to the private market. Second, the capital market for a quasi-public good such as health care is not perfect, yielding lower rates of long-term investment than are optimal from society's perspective. Access to capital markets for health care also fall short in the face of catastrophic events if patients cannot obtain credit for medical expenses. Third, the insurance market, in which people buy financial protection against unforeseen catastrophes, may be imperfect, giving insurers the power to select groups with lower than average cost, thus excluding certain groups from coverage against risk. Fourth, consumers are not (or cannot always) be well-informed about the product (e.g., physicians, clinics, hospitals, pharmacies), and are thus prevented from making the right choices.

1.11 **Underconsumption**. To ensure adequate health care, subsidies are warranted. The issue is how much health care and through what mechanisms. Recent World Bank reports (1992, 1993) demonstrate the efficiency gains from private delivery, and the need for public regulation as a complement. The fundamental issue is that government resources be used to: (i) fund predominantly, and at a minimum, merit or public goods (health interventions that society deems "meritorious" and are underconsumed by some groups); and (ii) help private markets work better by removing impediments to competition.

1.12 **Capital Markets and Insurance**. Health insurance provides an alternative to imperfect capital markets and allows the risks of high health care costs to be shared across a pool of individuals. These represent the efficiency arguments for insurance. Efficiency is enhanced where insurance is geared to high cost, unlikely catastrophic events, an atypical use of insurance in most countries.

1.13 Insurance also poses difficulties that distort efficiency. The most important being:

- **moral hazard**. Insured populations that do not bear the cost of health care consumption increase their use of services, seeking care for conditions not previously requiring medical attention.
- **adverse selection**. Individuals with the greatest need for care are the first to be denied insurance.
- **cost increase**. Due to moral hazard, demand is highly price-inelastic, causing volume and cost increases.
- **administrative costs**. The cost of administration across diverse and widely distributed patients and firms is high.

1.14 Efforts to minimize the effects of these four factors is key to maximizing efficiency in insurance, whether it be public or private insurance. Moreover, there is a particularly important role for government regulations to promote efficient (and fair) private insurance markets.

1.15 **Information**. Information asymmetries are difficult to address in medical care, but better information for consumers on price and quality of service, and on health priorities can improve decisionmaking. The "principal agent" problem inhibits information dissemination where physicians

(and other medical professionals) act in the interests of the patient, since the latter does not have sufficient knowledge to make sound medical judgments.

Equity

1.16 Distributional problems pose an additional rationale for government intervention under classical welfare theory. Some redistribution may indeed be warranted on efficiency grounds, as making everyone better off. For example, the extremes of poverty stemming from poor health and low productivity due to chronic morbidity may create negative externalities for the rich (raising fears of crime or spread of contagious diseases); there may be general societal agreement that certain health services are "merit goods" that should not be allocated solely according to price-rationing criteria -- because they are underconsumed without adequate information and/or incentives. Social transfer payments can enhance equity if taxpayers subsidize health care for low income earners.

1.17 It is relevant to emphasize, however, that government interventions to promote equity inevitably have efficiency implications. If the market effects of government interventions are not fully thought through, actions to promote equity may achieve neither equity nor efficiency goals.

Conclusion

1.18 This brief overview provides the analytic basis for the remainder of the paper, and the concepts discussed here are raised throughout the paper.

C. Study Objectives and Approach

1.19 This report takes stock of the reforms, and issues regarding: (i) institutional and financial restructuring; (ii) public and private delivery and financing networks; and (iii) health delivery issues of costs, quality and regulation that underpin the health system and will be central to successful implementation and sustainability of recent reforms. An evaluation at this juncture is meant to: (i) inform the policy debate regarding marginal adjustments or new initiatives that complement the already extensive changes; and (ii) ensure that objectives and goals can be met.

1.20 The paper is organized into four parts, as follows. The next chapter describes the Brazilian health system, and reviews the characteristics and distribution of health care in Brazil, with particular attention to comparisons of public and private infrastructure and finance. The third chapter summarizes the evolving institutional structures and describes the nature and extent of the transfers of responsibility and authority to states and municipalities for financing and delivering care. In that context, the successes and limitations of AIS, SUDS and SUS are reviewed and case studies drawn upon to demonstrate how and where change is occurring and the problems of adjustment experienced in particular states. Finally, the emerging federal roles and responsibilities are discussed and distinctions drawn between existing and needed initiatives.

1.21 Part II discusses the two major providers and financiers of health care: the private sector and the public insurance system. Chapter 4 reviews the private health sector. Although a frequently overlooked segment of the health system, private providers dominate health care service delivery, and

private payers are expanding rapidly. Their size ensures a continued and important private role in health care, and they need to be brought into the planning, financing and oversight equation of the federal and state governments in a more systematic and constructive way than has been the case in the past. The relationship between payers and providers of health care as well as the effectiveness, performance and potential of AIH and UCA are the subjects of Chapter 5. The public sector network is not addressed directly but considered within a comparative context. General directions for changes are summarized at the end of both chapters, but recommendations related to Chapters 4 and 5 are consolidated and combined with those of the issue chapters (Chapters 6, 7 and 8).

1.22 The three subsequent chapters in Part III address the issues of costs and cost containment (Chapter 6), quality of care in public and private sectors (Chapter 7), and regulation (Chapter 8). Chapter 9 in Part IV concludes the report with an assessment of Brazil's health system and comparisons with systems in developed countries to provide perspective on the Brazilian system and to offer options for addressing outstanding problems based on experiences elsewhere. Strategies and recommendations for action emanating from the issues raised in the paper are offered to stimulate discussion and a greater understanding of the implications of public actions on performance, equity, and efficiency in health care delivery.

2. THE BRAZILIAN CONTEXT, AND THE CHARACTERISTICS, DISTRIBUTION AND UTILIZATION OF MEDICAL CARE

2.1 Over the last decade the Brazilian health care system has expanded and broadened. The public sector has been transformed into a decentralized and unified system of hierarchical care that is only now becoming operational. At the same time, the diverse private sector is evolving into a major financier. This chapter briefly summarizes the Brazilian context, and then reviews the status and trends in public and private health care delivery and utilization, with particular attention to the roles of each and the relationships among the different groups within the public and private sectors.

A. The Brazilian Context

2.2 Brazil occupies an area of 8.6 million square kilometers, has borders with ten other South American countries and has a population of about 150 million, roughly one-half the inhabitants of the continent. The sheer size and heterogeneity of the country poses problems of logistics, physical infrastructure and priorities.

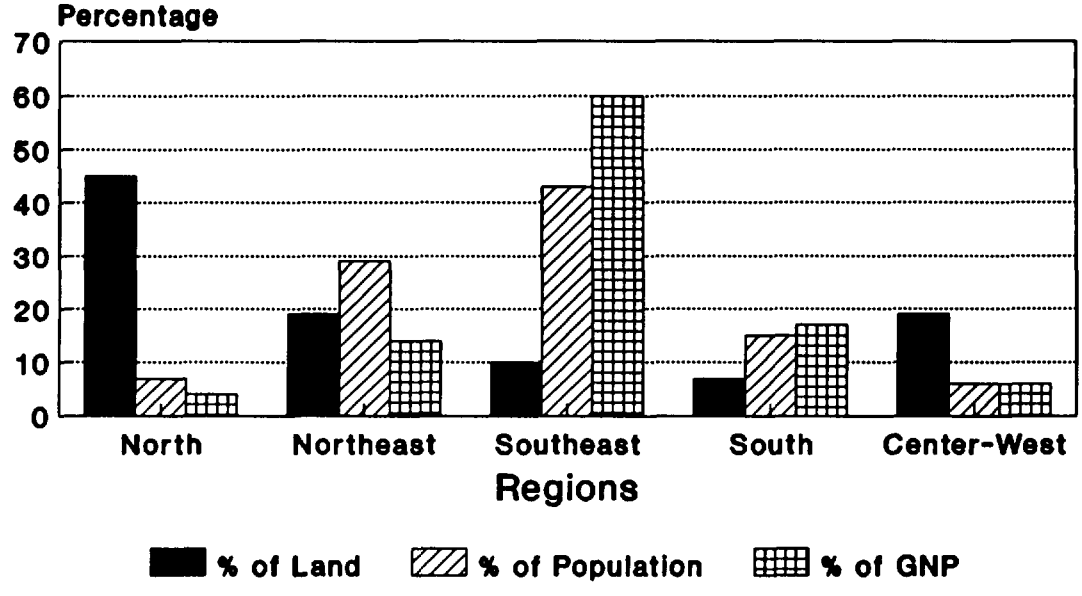
2.3 Divided into five regions, about 75% of its people reside in urban areas, and over 40% of the population is concentrated in the southeast region, which includes the mega cities of Rio de Janeiro (9.6 million) and São Paulo (15.2 million). Per capita income in 1990 was US$2,400, but varies widely by region. The more industrialized South and Southeastern regions exhibit higher per capita incomes and greater population densities, and the Northern and Northeastern regions have the lowest incomes and populations (see Figure 2.1).

2.4 While Brazil's economy boomed in the 1970s, economic performance slowed considerably in the 1980's and the country faced a serious recession starting in 1991. Monthly inflation of about 30% and a growing myriad of government controls, among other things, have stalled recovery from that recession and squeezed government revenues, both of which have direct implications for the health sector.

2.5 Health problems in Brazil encompass both the diseases of infants and children (such as diarrhea), and the chronic and degenerative diseases of an aging population (World Bank, 1989). As the country passes through the epidemiological transition from the disease patterns of developing to those of industrialized countries, both sets of health problems need to be addressed. An infant mortality rate (IMR) of 58 per 1,000 live births suggests the need to target basic quality care to mother and children. However, recent evidence also points to the growing need to prevent and treat diseases of adults, both because adults are becoming a larger proportion of the population as birth rates decline and life expectancy is extended, and because children are increasingly susceptible to diseases of adults (e.g., TB and AIDS).

2.6 Brazil's federalist fiscal system entails revenue collections, transfers and expenditures across federal, state and municipal governments. In health care, the recently decreed Single Health System (SUS) has placed major implementation responsibility at the municipal level, with funds transferred from the federal government. Public health expenditures in Brazil in 1990 (in October 1990 dollars) reached US$12.93 billion, or US$86.20 per capita (Medici, 1993).

Figure 2-1
DISTRIBUTION OF LAND, POPULATION AND INCOME BY REGION, 1991 a/



a/ GNP proportions based on 1985 data.
Source: IBGE

2.7 In 1990, Brazil spent roughly 4.8% of GNP on health care (3.2% by the public sector), a level somewhat below other middle income countries with similar levels of per capita income such as Mexico (5%), Uruguay (6%) and Panama (8%), and of some industrialized countries like Canada (5%) and Great Britain (6%) (World Bank, 1990; Medici, 1990b; Medici, 1993). Roughly 66% of health expenditures were made by public entities and 34% by private citizens in 1989. Of the latter, a little over half (18% of the total) was purchased by third party payers (Medici, 1991). As will be discussed, private insurance is a large segment of the health care market. Where and how funds are spent are major issues discussed in the paper.

2.8 Brazil's health care system differs markedly from those of most developing countries. First, it relies heavily on public reimbursement of privately provided services to deliver care. This arrangement mirrors the United States Medicare program for the elderly, whereby providers are paid a predetermined amount for any given diagnosis (or procedure in Brazil), rather than on a cost reimbursement basis. Only a small proportion of care is extended through public facilities, the more typical arrangement in developing countries. Second, private financing of health care is widespread

and growing. As a result of these characteristics, issues facing Brazilian policymakers are more similar to those confronting industrialized countries. Its hybrid system most resembles that of the United States, where similar inadequate regulation and limited cost containment have led to problems. Unlike the United States, however, Brazil has pledged universal health care coverage, albeit with inadequate resources.

2.9 The difficulties plaguing Brazil are not dissimilar to those confronting much of the rest of the world: how to build an affordable, accessible and effective medical care system given resource constraints. Over the past decade and a half, identified problems in the health system have been addressed and reforms introduced; however, a lack of policy oversight and regulation, and the emergence of new dilemmas have thwarted or overtaken reforms. This report focuses on these lapses and on possible alternatives for meeting the challenges posed by these realities. The remainder of this chapter describes the health care delivery network and the population's access to it.

B. Characteristics of Brazil's Health Care Providers

2.10 The Brazilian health care system consists of a complex network of providers and payers that interrelate, compete and complement each other. The major elements of the system can be divided into public and private, with the following characteristics:

> (i) the public sector encompasses all public providers at all levels of government, including public universities and health activities and programs undertaken by non-health public agencies (such as the Ministry of Education that oversees university hospitals, and the armed forces that has its own separate health system). Health services are publicly funded and publicly provided; and
>
> (ii) the private sector, that can be further partitioned across providers as follows: (i) an elite set of providers that exclusively serve private payers, either individuals or institutions. They can be either for-profit or nonprofit and freely negotiate arrangements or contracts with clients. Services are privately funded and provided, although the provision of health services for public employees of parastatal institutions are included in this group; (ii) the "contracted" providers who primarily treat patients under reimbursement arrangements with the federal government. Within this group are two distinct subgroups: (i) the nonprofits, including philanthropic (*filantrópicos*) and charitable (*beneficientes*) organizations; and (ii) the for-profit providers (*lucrativos*). The former have a special status as quasi-government institutions due to the perception that they share public objectives and are more trustworthy than the for-profits. The government signs institutional agreements (*convênios*) with the former and binding contracts (*contratos*) with the latter.

2.11 The division of the private sector into categories is a legacy from the last decade during which the public reimbursement system -- SAMHPS/AIH (*Autorização de Internação Hospitalar*, or Authorization for Hospitalization), and UCA (*Unidade de Cobertura Ambulatorial*, for ambulatory care) -- have come to rely on a subset of almost exclusively private providers. Due to numerous difficulties discussed below, the for-profit private sector has been delineated by whether or not they participate in the reimbursement system and those that do automatically have tarnished reputations. In 1984, 68% of nonprofit and 53% of for-profit hospitals were under contract to INAMPS, although over 85% of all private sector beds were under contracts to INAMPS.

2.12 Table 2-1 summarizes the trends, levels and proportions of public and private health facilities offering outpatient and hospital services. Between 1978 and 1990, while the private sector dominated inpatient care services, its overall share decline. In 1990, 408,743 of all hospital beds, or 77%, were in the private sector. During the period, the number of ambulatory units increased by 192%, and hospitals grew by 28%. Although the number of public hospitals increased, the number of beds declined due to closings of chronic care facilities.

Table 2-1: **DISTRIBUTION OF PUBLIC AND PRIVATE FACILITIES IN BRAZIL BY TYPE OF CARE 1978-1990**

Years	Facilities with Beds				Total	Facilities without Beds				Total
	Public		Private			Public		Private		
	Number	%	Number	%		Number	%	Number	%	
1978	1,072	19%	4,636	81%	5,708	6,767	70%	2,870	30%	9,637
1980	1,217	20%	4,893	80%	6,110	8,828	71%	3,551	29%	12,379
1988	1,823	26%	5,300	74%	7,123	19,649	74%	6,860	26%	26,509
1990	2,034	28%	5,246	72%	7,280	21,324	77%	6,597	23%	28,184

Source: IBGE/AMS, various years.

2.13 Reductions in regional inequalities are suggested by the growth in facilities and resource allocations away from the South and Southeast regions. The private sector remains concentrated in the Southeast (mainly São Paulo and Rio de Janeiro), but is expanding into other regions, particularly in metropolitan areas and large cities. In Recife, for example, two large hospitals are under construction for group medical plans, and the private sector already accounts for 62% of the beds, 45% of them from for-profit companies (SMS Recife, 1991).

2.14 Table 2-2 shows the quantity of services, distribution of public sector use and payers of outpatient and inpatient care by region. Volume of services is highest for all types of care in the Southeast due to population and income concentration and a more intensive use of health care, as will be discussed below. Public outpatient services predominate in the North, Northeast and Center-West, (see Figure A2-1 in Annex 2). The pattern is consistent with relative incomes and population dispersion in the two regions: private investment is unlikely to be profitable, and the public sector is organized to meet basic health needs.

2.15 The geographic pattern of public provision is similar for inpatient care. Public financing is highest in the South (71%) and Southeast (68%), no doubt reflecting the historical concentration in these regions of wage earners that relied on INAMPS. It may also reflect the fact that both are high cost, physician-intensive regions.

2.16 For basic services such as prenatal care or "well-baby" programs, most individuals have some contact with the health care system. While the extent of access is impressive, the frequency of visits

and the quality of care varies. For example, in 1986, children in the lowest and highest socioeconomic groups in São Paulo had prenatal coverage 80% and 98% of the time respectively. The average frequency of well baby care was somewhat lower at 63% (see Annex 2). Nationally, utilization of maternity services were significantly lower in the Northeast. For example, in 1985, 99% of births in São Paulo were in-hospital versus 77% in the Northeast, with similar percentages for prenatal care coverage (Arruda, 1987).[1/]

Table 2-2: **QUANTITY, DISTRIBUTION & PAYER OF OUTPATIENT SERVICES & HOSPITALIZATIONS BY REGION, 1987**

Region	Outpatient Services			Hospitalizations		
	Number of Consultations ('000)	% in Public Sector	% of Total Financed by INAMPS [a/]	Number ('000)	% in Public Sector	% of Total Financed by INAMPS [a/]
North	10,864	70%	66%	842	43%	51%
Northeast	65,074	59%	68%	4,085	32%	63%
Southeast	203,718	43%	71%	7,844	12%	68%
South	47,959	50%	82%	3,263	12%	71%
Center West	20,213	60%	62%	1,699	21%	48%
Brazil	347,327	49%	71%	17,733	19%	64%

[a/] Excludes some services provided by the public sector outside of INAMPS.
Source: Piola and Viana (1991); Couttolenc (1991); INAMPS.

2.17 Cesarean section is used throughout Brazil, but particularly in the Southeast, at excessive rates -- an average of 32% of all births in 1986, with frequency rising with income (which is generally inversely related to maternal risk). Cesarean rates in São Paulo are 64% in high socio-economic groups versus 26% among poor women. All of these rates are high, yet studies show that large numbers of unnecessary Cesareans coexist alongside perinatal deaths due to failure to perform timely Cesareans in complicated cases (ENSSP/FIOCRUZ and SESHRJ; 1984). This pattern is cause for concern and has been pointed out in previous World Bank reports (World Bank 1988b; 1989; 1991).

C. Overview of Financing Arrangements

2.18 Who pays for health care is becoming more complex in Brazil, as will be discussed in greater depth in Part II. However, despite their importance to policy, data on payments and use patterns are quite dated, limiting their relevance and applicability. This is particularly problematic since the most comprehensive data on access come from 1981, before any serious reforms occurred. In 1981, 76%

[1/] This high rate of ante-natal care and hospital births is in keeping with the lower IMR reported by Castilho, 1993.

of hospital care in Brazil was financed through INAMPS, the public health insurance system for formal sector workers under the Ministry of Social Security (*Previdência Social*). Although 42% of all care was purchased by patients on an out-of-pocket basis, only 11% of hospital care was so purchased. This out-of-pocket category reflects the lack of access to public options and alternative payers in 1981. Social security financed three-quarters of all hospitalizations, with private insurance, employers and other covering about 13%; only 4.5% of the population needing health care relied on employer health plans for hospital care.

2.19 For outpatient services, 40% paid out-of-pocket, 37% were covered by social security and almost 18% relied on employer-provided services or some form of insurance. Examined across income categories of patients earning over ten minimum wages (MW), 58% used their own funds to purchase ambulatory care. Those seeking medical care at or below the poverty line (< 1 MW) were most likely to depend on social security (45%) and then on out-of-pocket expenditures (39%). Employers were more likely to finance outpatient care of those earning two or more minimum salaries (see Annex 2 for additional details).

2.20 Historically the South and Southeast benefitted most from Social Security (INAMPS) coverage for hospital care due to the concentration of wage earners and therefore eligibility in those two regions in 1981. Employer health benefits were also aimed at residents in the Southeast and 12% of care was financed by employers in the Northeast, no doubt reflecting large rural companies' provision of basic care to employees (see Annex 2 for additional data on regional breakdowns). Although the data are not complete or fully reliable, indications from subsequent surveys of covered populations suggest that government may now be playing a smaller role in financing care, as are out-of-pocket expenditures. For example, almost a quarter of the population is now covered by some form of private financing. That fact alone would alter the composition of payers in comparison to 1981.

2.21 Private financing in the 1970s and 1980s was spurred by: (i) federal income tax deductions on health services paid under fee-for-services arrangements and on health insurance premiums; (ii) deteriorating services under social security financing; and (iii) rising incomes in the 1970s. Table 2-3 summarizes the income distribution, frequency and value of health care expenditure deductions for 1982. Over two million households received deductions averaging US$520, which cost the National Treasury roughly US$1 billion in 1979-80 and US$627 million in 1984. This is equivalent to about 25% of federal health expenditures at the beginning of the 1980s, but only 18% by 1984 (Chorny, 1982; Couttolenc, 1991). Average deductions are directly correlated with income, although the frequency of deductions is highest among income earners in the US$7,300 - US$65,000 range (effectively the upper middle class). However, the average deduction by income group averages 3.7% of income, reaching 19% for the lowest income group those earning less than US$3,000 per year).

2.22 The figures in Table 2-3 are not surprising given evidence elsewhere that health care is a luxury good and consumption rises with income.[2/] Richer households spent more on health care and therefore had higher costs and earned larger reimbursements. In addition, however, there are numerous low income users whose income exempts them from tax payments and therefore from filing for a deduction that effectively serves as a reimbursement. They are not compensated for using the

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[2/] Health demand elasticities with respect to income are virtually always greater than one. However, these figures are also allegedly inflated by bogus claims.

private system. The net result is a system that subsidizes the health care of the rich whether they use the public (through direct provision) or private (through tax deductions) system, and in 1982 only subsidized the public care, but not the private health care purchases of those earning less than US$3,000 per year. The proportion of income allocated to health was considerably higher among low income patients in 1981, further contributing to skewed income distribution. Given the benefit incidence of the tax deduction and the fact that it is open to abuse, such deductions should probably just be eliminated.

Table 2-3: **HEALTH EXPENDITURE AND INCOME TAX DEDUCTIONS BY INCOME GROUP, 1982**
(1982 US$) [a]

Annual Income Ranges ('000)	Number of Deductions	Cumulative Total Gross Income ('000,000)	Total Value of Deductions ('000)	Average Deductions	Deductions as Proportion of Total Gross Income (%)
< 3,000	22,152	34	6.3	286	18.82%
< 3,000-4,300	40,882	125	8.5	209	6.84%
< 4,300-5,600	126,651	490	26.8	212	5.47%
< 5,600-7,300	238,108	1,187	57.2	240	4.82%
< 7,300-9,600	309,354	2,003	91.2	295	4.55%
< 9,600-12,600	322,487	2,732	119.8	372	4.39%
< 12,600-16,300	280,587	3,095	129.1	460	4.17%
< 16,300-21,400	257,354	3,771	146.3	568	3.88%
< 21,400-28,000	201,055	4,029	144.2	717	3.58%
< 28,000-44,200	216,152	6,244	208.6	965	3.37%
< 44,200-65,200	66,502	2,937	91.6	1,378	3.12%
< 65,200-88,500	17,375	1,107	33.4	1,924	3.02%
< 88,500-265,400	11,609	1,248	30.4	2,622	2.44%
> 265,400	848	311	3.6	4,188	1.14%
Total/Average	2,111,116	29,312	1,097.1	520	3.74%

[a] Exchange rate used: average for 1982 (Cr$ 178.88 = US$1).
Source: Chorny (1982).

2.23 Simultaneously, during the 1960s and 1970s the Brazilian government offered subsidized loans for the construction of private hospitals. A special program financed by the Social Development Fund *(Fondo de Apoio ao Desenvolvimento Social, or FAS)* and operated through the Federal Savings Bank *(Caixa Econômica Federal)* network provided access to investment funds and fueled a sharp

expansion of private health care capacity. This network became the backbone of the private for-profit contracted (*lucrativo*) sector that relies heavily on public insurance for financing (Medici, 1989).

2.24 Financing of health care is evolving in a number of directions. As a result, the performance and role of the various actors are not clearly perceived, and little attention has been devoted to examining the issues surrounding the private and public health care delivery systems, most specifically the complementarity and cooperation between the public and private sectors. Unfortunately, anecdotes and immediate experiences have colored perceptions, and the relative value, efficiency and contributions of private providers and financiers are not well understood, their (potential) benefits often overlooked, and the importance of regulation not considered. Private financiers relieve the government of the responsibility of financing health services for the wealthiest segments of the population. Thus it is key that the government acknowledge the existing and potential contribution of the private sector and determine how best to harness the strengths of entrepreneurs, and at the same time regulate them to effectively meet public objectives. The private sector is too large to be ignored and constructing a parallel public infrastructure is not financially viable, although such options have been proposed recently.

2.25 The growth of the private and public sectors and the changing roles and circumstances of both are the subject of the balance of this report. Shifts in who pays and the relative efficiency of alternative payers and providers is central to designing and fine tuning the sweeping policy changes of the past decade.

D. Demand for Health Services and the Implications for Equity

2.26 Determining where patients seek care, how much it costs and who pays are vital to policy formulation and system oversight. To effectively and fairly manage Brazil's hybrid health care delivery and financing arrangements requires systematic analysis and fully-informed decision-making. Without direct policy involvement, the market is likely to run amok because: (i) no entity has full knowledge of the current state of affairs; and (ii) government cannot make rational allocation or management decisions in an information vacuum. Moreover interventions cannot be effectively targeted without appropriate information. Unequal access to health care in Brazil has been noted by many (Medici, 1989; McGreevey, 1989; Piola and Viana, 1991) and this gap served as a major impetus for the recent institutional reforms under decentralization (e.g., *Reforma Sanitária*). Data on the utilization of and payment for health care are limited, as the most recent comprehensive measures come from the 1981 PNAD (*Pesquisa National por Amostra Domiciliar*, the annual national household survey), with more limited information from the 1986 PNAD. Even with these data sets, some preliminary conclusions can be drawn, although changes in both the public and private sectors over the interim have modified behavior of both consumers and providers. Data in this section draw upon the population that actually sought care.

Access

2.27 Effective demand for health care is partly determined by access. Historically, Brazilian public health care investments have been concentrated in the Southeast (encompassing São Paulo and Rio de Janeiro) and South, and the private sector has found ample markets in both regions. The poorer North and Northeast regions have been neglected, although recently investment has sprouted in both

areas, particularly in the Northeast. The less populated northern half of the country is plagued by endemic diseases (e.g., malaria), dispersed populations and low incomes. Sick individuals in these two regions are less likely to seek care than are their counterparts in the South. For example, in 1986, among those who self diagnosed as ill, 74% in the South and Southeast sought care while only 59% did in the North and Northeast.

2.28 The major impediments to obtaining care reported in 1986 include distance to the facility and problems with transportation (together these represent 15% nationwide), and lack of money (14%). In the Northeast in 1981, for health problems that the interviewee believed required medical care, 70% did not seek care due to monetary and physical impediments. As would be expected, rural residents in 1986 more frequently cited monetary (18%), access (11%) and transportation (21%) obstacles to obtaining care than did their urban counterparts (7%, 5% and 4%, respectively). Waiting and scheduling delays, however, were more important in urban than in rural areas. A 1991 study of the state of Paraíba in the Northeast shows distance but not travel time to be a deterrent to utilization of ambulatory care in metropolitan João Pessoa (Rodrigues, 1992), although income and other factors were not significant. These findings suggest that the skewed nature of health care investment as well as the distribution of income result in strikingly different decisions regarding when to seek care. Those residing in lower income and more isolated areas have less and more costly access to care, and both cause inadequate use of health care facilities. By making access a right, the *Reforma Sanitária* made all citizens eligible for free care. What effect that decision, and the earlier policy shifts that slowly opened up social security facilities to all Brazilians have had on actual access is virtually unknown due to the lack of data.

Health Services Utilization

2.29 Data on the utilization of health care services are not strictly comparable between 1981 and 1986, different categories of facilities surveyed in the two studies.[3/] Distinguishing between public and private demand is only possible for 1981. Figure 2-2 presents the patterns of private and public hospital use in Brazil by source of finance. Those who paid out-of-pocket almost always selected a private hospital, while those with no means or social security favored public hospitals. Hospitalizations are more frequent for rural residents who were admitted 7.4% of the time as compared to 5.1% in urban areas, although the former sought care less frequently. This may reflect the reluctance of rural residents to seek care, and when they do they are sicker than urban patients and therefore require hospitalization. Distance may also be a factor, and those from more remote areas may be admitted to the hospital to avoid frequent trips.

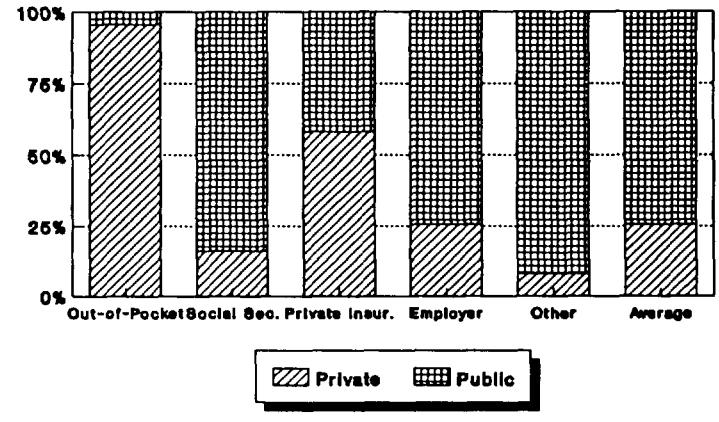
Implications for Equity

2.30 The *Reforma Sanitária* was meant in part to address inequities in access to medical care. Prior to the reform, the financial burden of health expenditures was significant because of limited access and the high cost of care to households. Out-of-pocket expenses, especially for hospitalization, have potentially devastating effects on disposable income and family welfare.

[3/] The 1981 PNAD differentiated public and private facilities, but in 1986 only the kind of facility (e.g., health post, clinic, hospital, but not whether public or private) was reported.

2.31 Although now out-of-date, the distribution of hospital type across income groups in 1981 indicated that patients at or below the accepted government poverty line relied on private facilities for almost 58% of their hospital care. Since the vast majority of these patients were informal workers, they were less likely to be covered by social security and less eligible for other forms of health care coverage. Nor would their expenditures be reimbursed since those below the poverty line do not file income taxes. Out-of-pocket expenditures are therefore the only alternative to public hospital use. The proportions of low income patients frequenting private hospitals are remarkable given the availability of public alternatives and the significant financial burden of private hospital use (see Figure A2-4 in Annex 2).

Figure 2-2
TYPE OF HOSPITAL USED BY SOURCE OF FINANCE, 1981 (%).



Iunes (1991) based on PNAD

2.32 Although the 1981 PNAD results indicate that those who used public clinics most frequently were the poor, with 58% of those treated at public health posts in the lowest two income brackets, the burden of health care on the poor was significant. Table 2-4 summarizes the average burden of hospital expenditures in Brazil and its five regions for six income groups. What is noteworthy is the high proportion of income (18.4 - 22.1%) devoted to hospital care in each income category under US$1,000 per capita per year. The results indicate that each income group spends more on health care, but the proportion of income remains close to constant except for the wealthiest group earning over US$1,000 per year, who spend well under 1.5% of their income on hospitalizations.

2.33 Among individuals who sought care in households earning US$50 or less per month, over 40% of monthly income (or 3.3% of annual income) was spent on hospital care. The poor are heavily burdened financially if hospitalized. The patterns in the Southeast are at variance with the rest of the country, with the poorest spending less than the other regions possibly due to a higher concentration of public hospitals. Clearly, those with somewhat higher incomes in the Southeast are co-financing hospital care and eschewing free public facilities (see Table A2-4 in the Annex 2); those with similar incomes elsewhere in the country have lower financial contributions for hospital care (see Annex 3 for additional details.)

2.34 Because hospital costs are so much higher than those of outpatient services the burden of payment is significantly greater, and therefore the lack of access to subsidized services and/or third party payers becomes a more serious impediment to access. It is evident from the foregoing that there are inequities in the system and that hospital care has in the past impoverished lower income

Table 2-4: AVERAGE PERCENTAGE OF MONTHLY ANNUAL HOUSEHOLD PER CAPITA INCOME EXPENDED ON HOSPITAL CARE BY INCOME GROUP AND REGION, 1981						
Region	Average Monthly Per Capita Family Income					
	< $25	$25-50	$51-100	$101-200	$200-1,000	>$1,000
Brazil	18.9%	21.5%	22.1%	18.6%	18.4%	0.8%
North	11.0%	24.3%	27.4%	21.2%	15.4%	0.8%
Northeast	31.6%	21.3%	17.4%	14.8%	14.8%	0.7%
Southeast	9.1%	14.9%	21.5%	24.0%	29.4%	1.3%
Central	22.6%	23.3%	23.4%	17.5%	12.6%	0.7%
South	22.1%	28.5%	24.2%	15.0%	9.9%	0.4%
Source: Iunes (1991) based on PNAD (1981).						

households, especially in the Northeast. The recent reforms under the *Reforma Sanitária* may help to relieve the problem through physical and financial access under the public reimbursement system for hospitalizations and for outpatient services. However, there are no guarantees that this is the case since overall demand for health care remains high and resources have not kept pace with improved access. Unless carefully managed this can lead to political, economic and health difficulties.

E. Summary Assessment

2.35 The characteristics of providers, financing arrangements and demand for and equity of health services outlined here indicate the complexity and richness of Brazil's health care system. This chapter has presented a background picture of Brazilian health care and its relationship to consumers across various subgroups. Brazil's system is unique in its diversity of providers and payers. That diversity, combined with the breadth of needs and administrative capacity across states provide a challenge to both government and managers. Moreover, as will be discussed in Chapter 3, the rules have been under constant revision for the better part of the last two decades, resulting in confusion of responsibilities for provision as well as oversight. Given the constantly shifting ground, Brazil nonetheless appears to have expanded some basic preventive services, broadened access to undeserved regions and improved the equity of publicly financed care. Although the verdict on overall performance is still unclear and much remains to be done, there has been definite progress.

2.36 The data in this chapter are generally over a decade old, and the behavior of consumers, providers and payers has been radically altered over the past decade and a half in response to legal, policy and institutional changes. Understanding those changes can help to shape future policy to better achieve social objectives and fulfill government promises of universal access to acceptable health care.

2.37 The lack of adequate and appropriate and updated information on hospitals and on consumer demand (e.g., ability and willingness to pay) for health services impedes efforts to develop rational

policies. A great deal has changed, and to adequately grasp how the system is functioning and changing, regular information on the following elements is essential: (i) demand (use and payment source) for health care and insurance coverage; and (ii) characteristics and behavior of suppliers including public and private, non-profit and for-profit providers, and the payers of health care. Part of the latter were provided until the early 1990s through IBGE's annual health provider survey (*AMS*). Although rudimentary, the survey offered statistics on the nature, distribution and types of suppliers. That information is vital to policy decisions, and to the kind of analysis needed to monitor and understand provider and consumer behavior. Analysis of these actors should provide the basis for policy. Otherwise, decisions will continue to be made without regard to how the system currently works or to a diagnosis of the bottlenecks and difficulties undermining effectiveness, efficiency and equity. Concerted effort are called for to analyze existing data, and to regularly collect complementary information on provider and payee performance, and the combined effect on patients and the operation of the system.

2.38 The *Reforma Sanitária* set in motion new institutional arrangements and established the structure for a decentralized system; however, as a politically driven agenda, it ignored important signals and failed to comprehend the dramatic parallel changes occurring within the public and private insurance systems. Thus the reforms have addressed part of the problem in the health services sector, but have been completely oblivious to other shifts. Understanding those changes is essential to ensure appropriate government incentives and interventions to meet social objectives. The balance of the paper considers the evolution of the public and private delivery and finance and the key issues emanating from those shifts and those driven by the *Reforma Sanitária.*

3. CHANGING INSTITUTIONAL STRUCTURES AND POLICY DIRECTIONS

3.1 The history of health care in Brazil is complicated by two general factors that merit discussion. The first is that Brazil has a federal system of government with responsibilities and powers at the central, state and municipal levels that are sometimes clearly delineated and sometimes overlapping or ill-defined, and with substantial financial flows from one level to another. The second factor is that the constitutional and legal definitions of rights and responsibilities concerning health have been evolving throughout the country's history, and the corresponding efforts to put the law into practice have often overlapped through time or across levels of government, so that at any moment there may not exist a simple relation between legal definition and actual implementation. Sometimes constitutional provisions come first, and are without effect until the system "catches up;" at other times real change occurs first and leads to, or is ratified by, legal change. This chapter provides a short summary of these matters, with particular attention to legal development, flows of public financial resources, and the changing division of responsibilities for health among public entities and between the public and private subsectors.

3.2 The first part of Section A provides a chronological history of institutional evolution in public health care. The Early History subsection is too detailed for all but those committed to understanding the continual shifts and combinations among institutions in Brazil. The Recent History subsection is highly relevant to this as well as subsequent chapters. The two following sections on the 1988 Constitution and on the Implication of the *Reforma Sanitária* summarize, respectively, the steps taken and a preliminary assessment of what these changes (will) mean. The fourth section reviews fiscal levels and transfers to provide a financial context for the report. The last section identifies some emerging issues.

A. The Historical Context of Health Care in Brazil

Early History

3.3 As in other Latin American countries, health care in Brazil in the pre-modern era -- before medicine began to have a net beneficial effect on people's health -- was not always sharply differentiated from other kinds of assistance, and was provided from three sources. These were private physicians, private charitable institutions such as the religious Holy Houses of Mercy, originally established by the Portuguese Crown and transferred along with other institutions to Brazil; and the Municipal Councils of the empire and later of the republic. These councils had two kinds of responsibility, defined by the Law of 1 October 1828, provide, or support Charitable Centers which served as orphanages, hospitals and centers for (smallpox) vaccination (Borja, 1989).

3.4 Since such charitable centers might already be operated by the Catholic Church or other philanthropic bodies, one can interpret this provision of the law as an early example -- probably the earliest in Brazilian history -- of a public guarantee to pay for at least some care for individual patients, even when that care was provided by a private institution. It was understood that this subsidy would apply only to the indigent, and that people with the means to pay private doctors would look after their own health.

3.5 During the remainder of the 19th century, as medical knowledge began to advance, there was some expansion of health care institutions: more public hospitals were founded, as were medical schools. Public health and sanitation continued to be the responsibility of the municipalities. When

the Empire ended and Brazil became a federal republic, this division of responsibilities continued, and the Constitution of 1891 did not modify the legal status of health care nor the degree to which the State was to provide it. So far as the State regulated the private medical market, it was concerned chiefly with the ethical responsibility of physicians and particularly with sanctions for acts of omission or commission sufficiently dangerous to health to be considered criminal.

3.6 Health appears for the first time as a specific, but still circumscribed, right in the Constitution of 1934. The Union and the states, not just the municipalities, were enjoined to care for public health and welfare: this opened the way to much larger public commitments. The State did not yet assume a general responsibility toward all citizens; and the emphasis was still on the destitute. Instead, the principal change in relation to health care introduced by this constitution was the creation of a "corporate" right to such care as part of the rights of workers. The *Instituto Nacional da Previdência Social* (INPS) was created in 1967, and workers who contributed to it became entitled to health care, including care for pregnant wives or working women and maternity leave before and after childbirth. Because this right was employee-related, it did not reach the large share of the population in the informal sector or self-employment, including the labor force in agriculture; and it provided only minimal benefits to workers' dependents, favoring infants but not older children, for example.

3.7 This logic of the right to health -- related either to poverty or to employment -- was repeated in successive Brazilian constitutions through that of 1967, the last before the new Constitution of 1988. The Constitution of 1967 expanded the State's responsibility for specific aspects of health and health care, and provided the framework for the establishment of the National Health System in 1975. It also defined health care explicitly to include hospitalization and the benefits of preventive health measures. Legally, these are rights to be demanded of employers, because workers pay for them through their social security contributions.

3.8 Between the Constitution of 1934 and that of 1967, there were several important institutional developments. One was the creation in the 1940s of the *Serviço Especial de Saúde Publico* (SESP), whose main functions were in public health and preventive medicine, but which became the principal source of individual health care for remote populations with no access either to social security systems or to private providers. Another was the creation of numerous programs of the Ministry of Health to deal with specific communicable diseases, especially by preventive means. Still another was the consolidation in 1966 of pensions, disability and health care programs into a single public entity, the *Instituto Nacional de Previdência Social*. The creation of the *Instituto Nacional de Assistência Médica da Previdência Social* (INAMPS) a decade later, merging INPS with the health services of several other public agencies, was the next step in this process (Piola and Vianna, 1991).

3.9 Between 1934 and 1980 the principal legal changes were embodied in Law 2312 of 1954 and Law 6229 of 1975. The first of these defined the spheres of the federal and state governments in health, leaving to the states the organization and operation of health services and the execution of federal laws, and giving the federal government responsibility for research, planning, health education and coordination among the states and territories. The Law of 1975 was intended to specify the institutional structure of the health sector and the responsibilities of the Ministry of Health, particularly that for making policy and coordinating the activities of other agencies and levels of government. However, the lack of political consensus on the respective roles of different federal, state and municipal agencies meant that the law was so full of ambiguities as to "preserve the status quo" (Piola and Vianna, 1991). The subsequent steady growth in importance of INAMPS relative to

the Ministry in providing and financing health care made the Ministry's coordinating role increasingly moot.

3.10 Despite the failure to implement a coherent health policy once and for all, there continued to be substantial changes and experiments in the Brazilian health system during the 1970s and 1980s. The first of these, adopted in 1975, was the *Plano de Pronta Ação* (PPA), which provided for emergency care in INPS's own and contracted facilities to anyone, without requiring the patient to be a beneficiary of the social security system. This was the first step toward universalization of INPS, and later INAMPS services, and the transformation of a corporate or job-related right into a right of citizenship. One of the consequences of this opening was an excessive use of emergency facilities for routine medical care, since non-beneficiaries could get care in emergency rooms which they would be denied in ordinary ambulatory care. This only added to the tendency to over-use emergency rooms as a way to avoid queuing for ambulatory services, and -- since emergency services cost more than ordinary outpatient care -- contributed to an explosion of costs.

3.11 The next step toward universalization was more complex because it involved both INAMPS and the Ministry of Health, as well as state and municipal services. This was the *Programa de Interiorização de Ações de Saúde e Saneamento* (PIASS), initially set up in the Northeast, PREV-SAUDE (in 1976), and later extended to the whole country in 1979. The Ministry of Health financed an expansion of health posts and centers, and also water supply and sewerage, for towns of under 20,000 inhabitants; the states and municipalities assumed responsibility for operation of the systems, and INAMPS helped pay for their maintenance. As Piola and Vianna (1991) emphasize, this program was significant in two ways: it established services in the poorest and least well served parts of the country, and it involved INAMPS in preventive activities rather than just medical care. The principal obstacle to its implementation was the incapacity of state and municipal health secretariats.

3.12 Both these experiments took place during the phase of rapid expansion of health care coverage which preceded the recession of the 1980s. Between 1964 and 1980 coverage by services either provided or financed by INAMPS went from less than one-fourth to about 50% of the Brazilian population. Between 1971 and 1979 alone, the share of the population hospitalized during a year, the number of ambulatory medical visits per person and the share of births in hospital all more than doubled (Table 3-1). There was a further attempt to expand the system's coverage and at the same time rationalize its operation, in the *Programa Nacional de Serviços Básicos de Saúde* (PREVSAUDE) of 1980. This program was meant to include

Table 3-1: **COVERAGE OF MEDICAL CARE IN BRAZIL, 1971, 1979 AND 1985**

Type of Care	1971	1979	1985
Hospitalization (Percentage of Population Hospitalized during Year)	3.2%	8.8%	8.9%
Ambulatory Care (Visits per Person per Year)	0.5	1.3	1.8
Hospital Deliveries (Percentage of all Births in Hospital)	32.0%	67.0%	74.0%

Source: Piola and Vianna (1991) .

an ambitious US$3 billion investment program, which was abandoned due to opposition from physicians and possibly to the recession that began to affect Brazil, and its institutional aspects had little effect in the absence of the planned investment. However, the program had a strong impact on later reforms.

3.13 The recession which struck Brazil in 1982 nearly put an end to further investment in public health care. Total federal health expenditure fell by 20% between 1980 and 1983, and spending by INAMPS fell even more (Vianna et. al., 1990). The number of medical consultations continued to grow slightly, but both the total hospitalization rate and the share of births in hospital declined slightly between 1980 and 1986. In fact, there had probably already been overexpansion of capacity, to judge by utilization rates during the 1980s; and the reduction in public spending on health, which affected investment most sharply, began to translate into deterioration of the capital stock.

Recent History: 1980-1993

3.14 The experiments and policy changes of the past decade are characterized by two major themes which may seem, but are not in fact, contradictory: decentralization of responsibility for health care services to the state and municipal levels; and, centralization or integration of the different agencies responsible at the federal level. In 1980, the *Comissão Interinstitucional de Planejamento* (CIPLAN) was formed by decree to coordinate the activities of the two principal ministries involved in health, together with the Ministry of Education and Culture, which was and is responsible for university hospitals. The principal function of this commission was to determine how the MOH and MPAS would transfer federal funds to the state and local levels. In 1980, the *Conselho Consultivo de Administração de Saúde Previdênciaria* (CONASP) consisting of representatives of seven federal ministries, together with representatives of unions, firms and the medical professions, was tasked with reducing costs in response to the pressure of reduced budgets. The objectives of this plan -- eventual creation of a unified health system, emphasis on primary care, greater reliance on underutilized public health facilities and corresponding lesser use of contracted private services, control of high-cost medical procedures, control of overall spending, and simplification and cost reduction in the payment of contracted services -- became the agenda of the *Reforma Sanitária* or Health Reform of the next several years, culminating in the Constitution of 1988 and subsequent legislation.

3.15 This strategy, which went into effect in 1984, was named *Ações Integradas de Saúde* (AIS - Integrated Health Actions), and is credited by some observers (Piola and Vianna, 1991) with improving coordination in the sector and stimulating both decentralization and efficiency in service delivery. It is claimed that a good deal of "fat" was burned when the Brazilian public health sector was forced to "diet" under budgetary restrictions, but there are no precise estimates of savings. The clearest example of saving is probably the shift of resources back to INAMPS's own hospitals, which were underutilized; the marginal cost of providing more services there was below the cost of contracting those services to private providers. Early in the implementation of AIS, in 1985, the excess capacity of public hospitals was still quite high. The alternative of closing some public facilities so as to save their fixed costs, and relying more on private providers, does not seem to have been considered. A second source of saving was the reduction in total hospitalization and the slight increase in outpatient consultations. It is not clear, however, whether this represents a substitution of ambulatory care for the same conditions, a shift of resources to different medical problems or, as some have claimed, reduction in fraudulent billings.

3.16 The next phase of reform was the creation in 1987-88 of the Unified and Decentralized Health Systems (*Sistemas Unificados e Descentralizados de Saúde* - SUDS), which went beyond the principles of AIS chiefly in proposing the transfer of INAMPS's staff and facilities to the control of state and municipal Health Secretariats. Each state was expected to constitute a single "system" rather than a part of a nation-wide system. This step would effectively eliminate the distinction between the two federal Ministries, universalize access to what had been the social security health system, and convert INAMPS to INSS (*Instituto Nacional de Segurança Social)*, a purely financing or insurance agency, responsible for transferring resources to lower levels of government and to private providers, but no longer directly providing medical care. INAMPS Regional Offices were therefore abolished, and their functions transferred to state Health Secretariats. Besides changing the relative power of different agencies, this proposal required much larger financial transfers than before, to states and municipalities, to accompany the transfer of physical capacity; and it required confronting the problem of greatly different pay scales for staff of INAMPS, of the Ministry of Health, and of the state and local Secretariats. It also implied substantial change to a system which had not yet completely absorbed the changes implicit in the AIS.

3.17 Because it was understood that municipalities were not always ready to take on greater responsibility, SUDS involved the transfer of INAMPS hospitals to state governments, and of state health centers and local hospitals down to the municipalities. Similarly, the authority to contract with private providers -- the bulk of INAMPS's provision of care -- was passed to state governments, with the intention of eventually handing it over to those municipalities able to handle it (Couttolenc, 1991). This meant that control over the health system continued to be divided rather than "unified" during what might be a very long transition period, and that the speed of the reform would vary from state to state, and even within states. While these might be considered practical responses to the immense difficulty of actually decentralizing the Brazilian health system, they also led to confusion over roles and powers and to frustration with the reform -- conditions which affected the next phase of change.

B. The Constitution of 1988 and the Unified Health System

3.18 In the new Brazilian Constitution of 1988, legislation overtook and ratified changes which had been occurring in the country's health system over the preceding two decades, and opened the way to further change. The Constitution also left some questions unresolved, and failed to address some problems where political consensus was blocked by interest groups. It thus has clear implications for some aspects of health policy and management, while leaving others in confusion or as sources of difficulty. The translation of the constitutional principles into legislation is the third major reform of the health system, the creation by Law 8080 of 1990 of the Single Health System (*Sistema Único de Saúde* -SUS). Both the title and the content of this reform can be seen as the consolidation of the efforts begun in AIS and SUDS, or -- in some important respects -- as a retreat from those principles.

3.19 The principal change from previous constitutions is the declaration of a right to "universal and equal access to [health] actions and services" (Constitutional text, cited by Piola and Vianna, 1991), independently of one's income or occupation, and of whether the service in question is preventive, protective, curative or rehabilitative. Public funds for health care are, in principle, to be used without discrimination among citizens. In practice, this means only that the services provided by INAMPS and by the Ministry and secretariats of health are open equally to all. Private providers' services are accessible to everyone, to the extent that public resources are used to pay for them. Since this was

essentially the case already in Brazil, the Constitution ratifies the evolution of INAMPS toward a universal provider, and the trend toward integration of its functions with those of the Ministry of Health and corresponding state and municipal bodies.

3.20 The other major decision reflected in the Constitution is that health, pensions and public assistance are treated together and are therefore in direct competition for public funds.[1] While this may create conflict and confusion within the federal government, that is a minor difficulty compared to the problem of definition of roles across levels of government -- a problem exacerbated by the continuing existence of federal agencies which are partly collaborative and still partly at odds with other government functions.

3.21 This problem arises because the Constitution is vague concerning the exact responsibilities of federal, state and municipal governments for health care -- but highly specific about the distribution of federal funds among the three levels. The share to be retained by the federal government is falling, from just over half in the late 1970s, to 36.5% by the end of 1993. The share going to the states is to rise slightly, and that going to the municipalities will increase by more than half, from 14 to 22 percent.

3.22 Whether this is a bonanza or a burden to local governments depends on whether their responsibilities increase by less or more than their revenues. The only clear directive in the Constitution is that all public health services are to be provided by the municipalities, "with the technical and financial assistance of the Union [federal government] and the state." However, if the municipality is responsible for everything, then the problem of high and increasing costs (see Chapter 6) is also transferred; and it is not clear who has the authority to control the system or its costs. Similarly, the municipalities inherit the system of paying for public and privately provided care through INAMPS reimbursements. If the federal and state levels are to provide financial as well as technical assistance, there arises the further question of whether the municipalities have the right to call on more resources than those transferred under fixed percentage revenue sharing. At the same time that municipalities are required to provide all kinds of health care, the states and the federal government may continue to provide or finance care. Thus the Constitution does not make clear which functions, if any, the federal level should continue to exercise because of externalities, economies of scale, or particular competence.

3.23 The provisions relative to health in the Constitution include a number of ambiguities or even contradictions (Piola and Vianna, 1991), but one failing in particular is quite serious. The "unique" health system represented by SUS focussed almost exclusively on the public sector. There is no policy of even the most general sort for making the private sector fit into this scheme or for influencing the scale, type and location of private sector health facility investments.

3.24 As with previous constitutions, the generalities and ambiguities of the Constitution of 1988 can only be settled by legislation, in this case by the Law 8080 of 1990, which established the SUS. The various constitutions, laws and programmatic reforms mentioned in this brief history are

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[1] It was decided not to separate these functions or to create earmarked funds for each, as was originally proposed by those who wanted to take INAMPS's health functions away from MPAS and incorporate them into a much enlarged Ministry of Health.

summarized in Box 3-1. It is relevant that the acronym is missing the letter "D" for "decentralized" of the earlier SUDS, because the new system is in fact a partial re-centralization of federal authority (Alcântara, da Costa and Coelho, 1991). This appears most dramatically in the requirement of federal approval, based on technical analyses, of the use states and municipalities propose to make of federal funds, before those funds can be transferred (Piola and Vianna, 1991). This reflected the continuing central power of INAMPS, which was preserved as an institution in the Law rather than being entirely merged into the Ministry of Health: INAMPS was accustomed to controlling the transfer of funds to hospitals and clinics, either through its own budget or under contract in the case of private providers, and maintained that role.

3.25 In fact, INAMPS was effectively saved from extinction under SUS -- its Regional Offices were re-established, and the Ministry of Health, which had nominally absorbed INAMPS, fired the directors of hospitals and health posts, notwithstanding the supposed transfer of those facilities to state and municipal control. Under the Law, the lower levels of government may have to negotiate for resources which they expected would arrive automatically. Similarly, the relations between private providers and the state and municipal governments which can now contract with them for services, continue to be controlled from the center. SUS also limits the power of state and municipal Secretariats by maintaining federal university hospitals -- which account for about one-tenth of all public hospital beds in the country -- under the control of the federal government rather than the local health authority. All of these limitations can be seen as a response to the difficulties of decentralization under SUDS, and as an attempt to give municipalities only as much power as they can handle. They can also be seen, more cynically, as a "coup" carried out by federal officials eager to save their institutions. However, in mid-1993, INAMPS was officially abolished, although its functions remained with MOH.

3.26 The problem of federal transfers to states and municipalities for ambulatory services is the subject of a subsequent Law, 8142, also of 1990: this establishes population as the criterion for the volume of transfer, with the further restriction that at least 70% of the monies are to go to local governments and no more than 30% to the states. It is not clear how this is to be reconciled with the overall percentages specified in the Constitution, and still less how it is to be matched to actual needs. What is clear in any case is that the Constitution, together with the two laws intended to put its directives into practice, has not succeeded in defining the responsibilities of different agencies and levels of government, in accord with the simultaneous principles of decentralization with control by a single agency at the local level, and equality of access and distribution of resources according to need. The extraordinary process of repeated and superimposed reforms of the Brazilian health sector is still incomplete in those respects and still subject to political impasse. This situation jeopardizes the gains from the institutional and financial reforms that have already taken place and makes difficult the remaining reforms needed to make the system totally functional.

C. Consequences and Implications of the *Reforma Sanitária*

3.27 It is too early to be sure of all the implications for health policy and management that follow from the new Constitution and the legislation establishing the SUS. Furthermore, most of the issues

BOX 3-1: EVOLUTION OF CONSTITUTIONAL AND ORDINARY LEGISLATION CONCERNING HEALTH IN BRAZIL, INCLUDING RIGHTS, POWERS AND PUBLIC INSTITUTIONS, 1824-1990

Early History

1824 First Constitution of independent Brazil establishes right to "public aid" without specific mention of health
1828 Law of 1 October defines public health responsibilities of Municipal Councils, including medical care of the destitute
1891 Constitution retains general right to public assistance, without differentiating health
1923 Establishment of first employment-related pensions and retirement schemes to pay for workers' health care
1934 Constitution establishes "corporate" right to job-related health care, lays base for social security system
1940s Creation of *Serviço Especial de Saúde Publica* (SESP)
1954 Law 2312 defines federal and state responsibilities in health care
1960 Social Security law
1966 Integration of separate social insurance institutions into *Instituto Nacional de Previdência Social* (INPS)
1967 Constitution reaffirms employment-related right to health care and expands federal responsibilities in health
1975 Law 6229 establishes structure of *Sistema Nacional de Saúde* (SNS) and roles of INPS and Ministry of Health
1975 *Plano de Pronta Ação* (PPA) opens INPS facilities to all, for emergency care
1976 Merger of INPS with other public social insurance schemes to form *Instituto Nacional de Assistência Médica e Previdência Social* (INAMPS)
1976 Creation of *Programa de Interiorização de Açoes de Saúde e Saneamento* (PIASS): collaboration of INAMPS and Ministry of Health, in Northeast
1979 Extension of PIASS to entire country
1980 Creation of *Programa Nacional de Serviços Básicos de Saúde* (PREVSAUDE)

Recent History

1980 Creation of *Comissão Interinstitucional de Planejamento* (CIPLAN), jointly among INAMPS, Ministry of Health and Ministry of Education and Culture; subsequent creation of *Comissões Interinstitucionais de Saúde* at state level and *Comissões Locais Interinstitucionais de Saúde* at the municipal level
1981 Creation of *Conselho Consultivo de Administração de Saúde Previdênciaria* (CONASP)
1982 *Plano de Reorientação da Assistência à Saúde no Ambito da Previdência Social* ("Plano do CONASP")
1984 *Programa de Ações Integradas de Saúde* (AIS)
1984 SAMHPS/AIH (*Sistema de Assistência Médico-Hospitalar da Previdência Social/Autorização Hospitalar*), the inpatient prospective payment system launched.
1987 Decree 94657: Establishment of *Sistemas Unificados e Descentralizados de Saúde* (SUDS)
1988 Constitution establishes unrestricted, individual right to health care. Municipalization of provision of care, with technical and financial assistance of federal and state governments
1990 Law 8080: Establishment of *Sistema Único de Saúde* (SUS)
1991 Normal Operacional Básico shifted power from state to municipal secretaries
1991 UCA (*Unidade de Cobertura Ambulatorial*), the outpatient prospective payment system launched
1993 INAMPS abolished, general revenues substituted for Social Security revenues
1993 Demise of INAMPS with transfer of functions to MOH

discussed in the remainder of this report would exist even without these most recent reforms. But it is possible to draw a few preliminary conclusions.

3.28 The first of these is that the steady trend to universalization of services will *ceteris paribus* raise expenditures, unless offset by effective policies to reduce use. The fact that responsibility for most health care is municipalized, and that specified federal transfers will be used to finance such care, does not constitute any sort of global budget or ceiling on spending -- because states and municipalities can supplement expenditures with their own funds for health, because no legal requirement specifies the allocation of transferred funds among sectors, and because the responsibilities of the three levels of government are still not clearly enough defined to avoid duplication or incoherence.

3.29 The second implication is that while the consolidation of services at the municipal level should simplify the task of management (with all facilities and staff under the same control), this principle is breached both by the exclusion of some facilities which continue to operate independently and by the fact that control has not been entirely relinquished by the state or federal government. As with the decentralization of public functions generally in Brazil, it appears that municipalities may have been "given" more of the problem than they have been given the means to solve. Indeed, the vast majority of the over 5,000 municipalities do not have the capacity to administer and manage their health care systems. And in some cases, placing responsibility at that level does not relieve state and federally financed services. The heterogeneity of municipal capacity to operate health services results in many of them very much needing state and federal technical help. Moreover, some functions probably should not be decentralized at all. The question of who answers to whom, and who has the authority to do what, is still not fully resolved even after three waves of reform spread over a decade and a half.

3.30 A third implication is that as the system is decentralized, however imperfectly, and the federal role must become more financial and regulatory, with less medical delivery responsibility, the question of how individual hospitals and clinics are actually managed should become steadily more important. If states and municipalities genuinely take over this function and are no longer subject only to central decisions about investment, staffing, inputs and other matters, it should become more important to them to get value for money. The problem of cost versus quality would therefore be expected to gain in urgency. However, federal interference and confusion over responsibilities may still mean that incentives for efficiency or quality are not transmitted to municipal-level managers; and municipal secretariats themselves may be obstacles to sensible management of the system, because of inexperience, corruption or lack of effective accountability to the population they serve. Moreover, although locally elected officials are technically more accountable, they are just as likely to spend on visible, costly construction projects such as hospitals, leaving operating cost problems to future elected officials.

3.31 Between these two levels, the federal and the municipal, are the state governments, and states are potentially the most important actors in the system. Health care delivery needs to be integrated within states, and tertiary care as well as planning functions are most efficiently accomplished at the state rather than municipal level. A specific state role is key. States' responsibilities and powers need to be defined so as to avoid over-management from the center but still to allow for the variation in capacity between states, and among the municipalities in any one state. Moreover, experimentation at the state level can guide federal policy, extending successful experiences to other states or to the

federal government. This was recognized in SUDS, which greatly increased the resources and powers of the State Secretariats of Health. But because resources and authority were not always passed on to the municipal level, state governments assumed the powers formerly held by the federal ministries. SUS reduced the states' role in the system and municipalities received transfers directly from the federal level.

3.32 Just as it is hard to be sure of the implications of recent reforms, it is hard to determine what has actually been accomplished as a result of AIS, SUDS and SUS so far. There is no doubt that much was accomplished in the way of expanding health care coverage in the last two decades. The reform efforts all came after the recession had temporarily stopped or reversed the growth of spending, so that for a while, physical expansion also came to a halt. That being the case, AIS, SUDS and SUS should be judged not only by changes in physical production of health services but by other criteria -- by whether costs were reduced for a given level of output, whether quality of service improved, and by still less tangible measures such as whether states and municipalities successfully enlarged their roles and learned to operate the more decentralized system. The results differ from one period to another, depending on the availability of resources and on the specific steps involved in the different phases of reform.

3.33 The first thing to note in this assessment is that AIS, SUDS and SUS are not self-implementing measures. Each reform has required, in order to take effect, that agreements or *convênios* be negotiated and signed between two levels of government, within the scope determined by the respective law or decree. This means that states and municipalities can "adhere" to a program or system at different times and in different ways. Thus although AIS formally began in 1984, effective *convênios* were not in force in most states until 1986. When SUDS was implemented, the process was rapid in some states but very slow in others: by the end of 1990, almost all the municipalities in São Paulo state had joined the system, but in some states few municipalities ever did so. However, typically the largest municipalities (like São Paulo) refused to be "municipalized" and assume responsibility for costly medical services without guarantees of adequate resource transfers. Even when many municipalities in a state did join SUDS, political rivalry between state governors and metropolitan mayors kept many large cities out of the system: thus municipalization of state health facilities did not occur in Rio de Janeiro, São Paulo, Curitiba, Salvador and Recife. The transfer of state facilities to municipal control could even be reversed under SUDS, as happened in Bahia, where 112 municipalities received state hospitals and clinics under one administration but had them taken away under the next government (Couttolenc, 1991). Overall, medium-sized municipalities like Campinas in São Paulo state benefitted most from the various reforms as it allowed consolidation of authority and an infusion of funds. Their smaller size may also have contributed to success.

3.34 The nature of "municipalization" also varied from state to state. In Maranhão, no state facilities were turned over to local governments; in São Paulo, the public facilities were transferred but not the responsibility for dealing with private providers financed by INAMPS; and in Rio, both these functions were given to those municipalities participating. It is clear both that the legislation establishing SUDS was not very precise about what was supposed to happen, and that SUS established a direct transfer from the federal to the municipal level. Different states have had very different experiences with health reform, depending on how quickly and thoroughly they embraced SUDS. São Paulo's experience is the most extreme example of rise and subsequent fall in the resources and authority of a state health secretariat (see Box 3-2).

BOX 3-2: THE CONTRADICTIONS OF CHANGE: THE STATE OF SÃO PAULO UNDER AIS, SUDS AND SUS

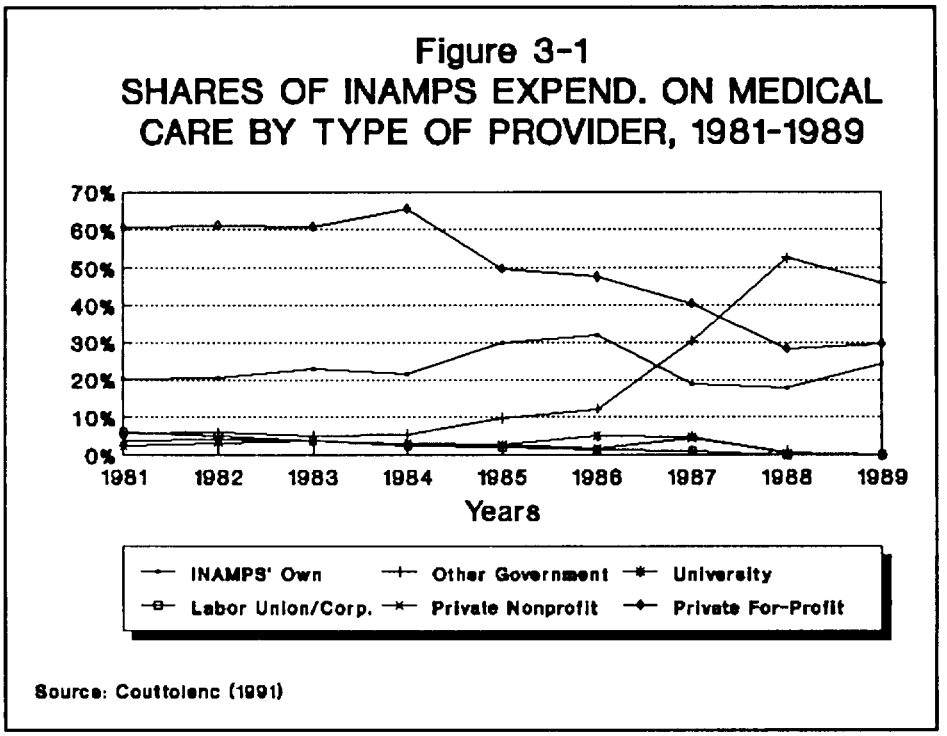
São Paulo is not only the richest state in Brazil, it is often where structural and political changes start before spreading to other states. São Paulo was among the first states to elect a governor from an opposition party, and the first to embark on restructuring the public health system in 1984. It was the main support and lever for the implementation of AIS and SUDS. It also went farther than most states in the implementation of such significant changes as the provision of extended primary medical care in health centers and the "regionalization" of the health care system.

São Paulo also started early and went farther in decentralizing the system. Unlike many other states, the State Secretariat of Health quickly and effectively absorbed all of INAMPS's units when SUDS was established, including the responsibility for supervising and paying private providers with social security contracts. It also transferred all health centers and local hospitals to municipalities, except for the municipality of São Paulo, where political rivalries with the state government prevented any coordinated efforts until very recently. Meanwhile, most of the state health care facilities and programs previously run by other secretariats or state autonomous agencies (such as the *Hospital das Clinicas* complex) were consolidated under the State Health Secretariat's authority.

As a result of the process, the State Health Secretariat, historically used to meager funding, found itself in the unique position of handling an unprecedented 12% of the state budget and effectively being responsible for the coordination of health policy, the supervision of all health care services and the allocation of all public health resources in the state. The relative success of the reform in São Paulo was not without difficulties. Because the proposed changes were implemented very early, and were supported by many committed health professionals at all levels, the state was able to "ride the wave" of change at its peak, and therefore take advantage of the dynamism that characterized the reform in its first years.

This success and the exceptional financial and political power the State Health Secretariat enjoyed as a consequence turned into a disadvantage when the federal government gradually reversed its decentralization policy starting in mid-1988, and even more with the implementation of SUS in 1991. From 1988 to 1990, the funds transferred by the federal government decreased by 11%, and the proportion of funds retained by the Secretariat dropped by 81%. By directly negotiating with and paying private providers and municipalities, SUS deprived the State Secretariat not only of its previous power, but also of its ability to effectively coordinate health care activities in the state.

3.35 The second feature of importance in the *Reforma Sanitária* is the shift of resources and activity -- from federal to state or municipal governments and also from private providers financed by INAMPS to public providers. This relative increase in public provision came as a share of all publicly financed medical care, not necessarily as a share of all health care in Brazil, because the private sector financed by private insurance was growing very rapidly during the 1980s, sometimes faster than the public sector. Total INAMPS expenditure was low in 1983-85 because of the recession, so that in absolute amounts, spending on its own facilities also fell in those years. Of course the largest shift was the increase in spending on state and local facilities, as these were handed over by the federal and state governments to the next level down. Figure 3-1 shows the percentage distribution of INAMPS expenditure by type of provider over the period covered by AIS and SUDS; since SUS mostly affects the balance between state and local governments, further changes would increase the "other government" category. Minor categories such as labor unions and corporations disappeared entirely, private non-profits were transferred to some states, and private profit-making



providers lost a large share of INAMPS's business. The data also show the beginning of recentralization in 1989, as resources moved back from state and municipal governments to INAMPS' own facilities.

3.36 The shift from private to public providers and the decentralization to municipalities were both meant to increase ambulatory care relative to hospitalization and to shift resources toward prevention and away from curative care. There is clear evidence of the inpatient to outpatient shift in the use of INAMPS resources (see Table 3-2), and this change occurred in every region of the country.[2] It is harder to detect any change in the relative importance of preventive and curative care: visits to medical facilities for "control or prevention" actually declined slightly as a share of all visits between 1981 and 1986, as indicated in Table 3-3. The preventive/curative distinction is impossible to draw sharply in the available data, and perhaps not very useful anyway because preventive services are not invariably cheap and effective, nor are curative services systematically more wasteful of resources. It cannot be concluded that the reforms failed to improve the balance between the two types of care. In fact, the most important effect of the reforms in this respect, may have been to break down the distinction between a purely curative-oriented institution, INAMPS, and a Ministry of Health with a more preventive emphasis (although it still provided much curative care). And so far as the objective was to save money rather than to improve health, the greater relative use of outpatient treatment by itself represents success.

3.37 Finally, AIS and SUDS may have had the positive effect of creating an atmosphere of reform in which experimentation was fostered and simple, valuable improvements in service could be

[2] It has been alleged that the increase was merely an artifact of improved notification, but no evidence exists on this.

Table 3-2: **HOSPITALIZATIONS AND AMBULATORY VISITS FINANCED BY INAMPS, BY REGION OF BRAZIL, 1982, 1984, 1987**

Region and Type of Care	1982	1984	1987
Hospitalizations per Person per Year			
Total Brazil	.103	.096	.081
North	0.71	0.66	0.55
Northeast	0.60	0.66	0.62
Southeast	1.14	1.08	0.88
South	1.43	1.26	1.09
Center-West	1.23	0.96	0.81
Ambulatory Visits per Person per Year			
Total Brazil	1.63	1.78	1.67
North	1.02	1.08	0.88
Northeast	1.05	1.19	1.09
Southeast	2.07	2.34	2.20
South	1.80	1.69	1.76
Center-West	1.32	1.39	1.23

Source: Couttolenc, 1991.

offered. In São Paulo state, for example, these changes included keeping clinics open longer and allowing patients to be seen immediately rather than making an appointment and then having to return for care (Couttolenc, 1991).

D. Resource Levels and Flows Among Federal, State and Municipal Governments

3.38 Brazil is sometimes regarded as spending a relatively small share of national product on health care, given the country's income level. There is however no way to judge the adequacy of either total or public spending by itself, without reference to what the money is spent on and what health problems the population suffers. This question of the "right" level of expenditure is therefore not treated. Health expenditures in Brazil have been largely budgetary exercises, as there has never been a systematic policy built on priorities and tempered by budget realities. The Constitution and its supporting legal framework lay out exemplary goals to which every society aspires. However, the costs of achieving those goals, and the fiscal realities that underpin their financing, are ignored or

dealt with separately as budget issues. As a result, goals are framed in terms of universal access, rather than in terms of what amount and type of health care can be provided to what segments of the population under given budget constraints. This results in ad hoc and constantly changing policies, and a lack of clear benchmarks and achievements. For instance, even though universal access has been accomplished, but lack of resources to adequately serve that need has not been acknowledged, and the system limps along. This section summarizes expenditures and sources of funds from all levels of government, as well as the allocation of resources by program and input to delineate the institutional arrangements and budgetary limits facing the various levels of government and where implicit or explicit priorities lie.

Table 3-3: REASONS FOR SEEKING MEDICAL CARE, 1981 AND 1986 (PERCENTAGES OF ALL REASONS FOR SEEKING HELP)

Reason or Cause	1981	1986
Illness	70.39%	73.01%
Accident (Injury)	6.86%	6.15%
Control or Prevention	15.91%	12.39%
Immunization	1.89%	a/
Dental Care	a/	4.84%
Other or More than One Reason	4.94%	3.59%

a/ Reasons other than illness, accident and control or prevention are classified differently in the two surveys from which these data come.
Source: PNAD (1981) and (1986).

3.39 Until recently, public expenditure on health in Brazil originated in the general revenues of federal, state and municipal governments and also in the so-called "social funds" -- FAS, FPAS and FINSOCIAL -- at the federal level. These funds collect specific, earmarked taxes such as the payroll tax paid by employers and employees, which finances social security, or other revenues (e.g., from lotteries); the federal government also contributes directly to FPAS. Resources then flow to specific facilities and activities via federal allocations to the Ministry of Health, including the budget of INAMPS; smaller allocations to health care by other federal ministries and agencies; direct allocation by state and municipal governments to their Secretariats of Health; federal transfers to both state and municipal budgets; and state government transfers to municipal treasuries. SUDS and SUS have successively modified the relative importance of these flows, by transferring facilities and responsibilities from one agency or level of government to another; and the Constitution of 1988 modified them by augmenting the global federal transfers to lower levels of government, as well as by incorporating INAMPS in the Ministry of Health budget.

3.40 In mid-1993, INAMPS was abolished, and general revenues were substituted for social security transfers in health. A proposal to apply revenue from the embattled financial transaction tax (IPMF) was considered, but since legality of the tax is being questioned, debate on its allocation is irrelevant. Moreover, the functions of INAMPS have simply been absorbed into the Ministry of Health with the same staff and leadership structure. Although INAMPS no longer exists, this report retains references to MOH/INAMPS to distinguish the source of public action and to provide continuity in the discussion.

3.41 Although the "social funds" are, in principle, distinct from the general revenues which finance the federal budget (*Orçamento da União*), in practice the two kinds of revenue are at least partly substitutable (Piola and Vianna 1991). The uses to which any particular social fund is put have also varied from one year to another. Thus, for example, FAS began as a fund directed primarily to health expenditure, specifically to finance infrastructure investments, but its resources were subsequently used also for urban development and prison construction. The share of FAS resources devoted to health exceeded 50% in 1980 and again in 1983 (although it was barely 30% in 1981), and fell all the way to 12% in 1987 (Piola and Vianna, 1991). Similarly FINSOCIAL, created in 1982, started out as an autonomous fund but was gradually incorporated in the federal budget starting in 1984; after 1986 its contribution to federal health care spending is subsumed under the general budget. The share of total FINSOCIAL revenue going to health also declined, from 41% in 1982 to only 12% in 1985 and 16-17% in 1986-87 (Piola and Vianna, 1991). The sources of federal expenditure on health are treated briefly in the next subsection, but it should be evident from this brief discussion that the total matters much more than the composition, and that apart from FPAS, there are no substantial funds which are guaranteed to be spent on health care, and future directions remain unclear.

Sources of Federal Financing and Allocation

3.42 As Table 3-4 shows, the bulk of federal revenue dedicated to health historically came from FPAS, the fund which finances social security (INAMPS) health care. The share in the late 1980s was slightly lower than at the start of the decade, despite the extension of coverage under INAMPS; data available in 1991 run only through 1988 and therefore do not show any changes attributable to SUDS or SUS in more recent years. One other change of note is that from 1985 on, the federal government greatly reduced its own contribution to FPAS; this was offset by increases in other revenues rather than by a greater relative contribution from employers and employees, who provided close to 90% of the revenue in most years.

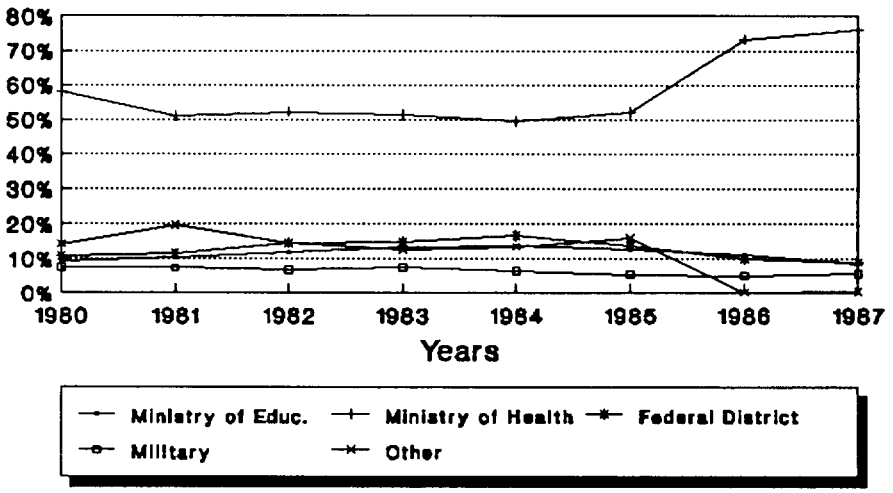
Table 3-4: **PERCENTAGE COMPOSITION OF FEDERAL REVENUES DEDICATED TO HEALTH EXPENDITURE BY MINISTRY OR AGENCY, 1980-1987**

Source	1980	1981	1982	1983	1984	1985	1986	1987
Federal Budget (União)	**12.9**	**14.5**	**15.7**	**18.8**	**16.8**	**20.9**	**22.7**	**19.4**
From: FINSOCIAL				2.0	2.2	2.5	0.3	--
FPAS (all INAMPS)	**85.2**	**83.8**	**82.8**	**79.8**	**82.4**	**78.2**	**76.9**	**80.2**
From:								
payroll taxes	78.1	73.4	76.5	71.5	70.8	70.1	70.6	65.3
federal govt	4.4	8.0	3.8	6.6	9.1	3.4	3.0	0.7
FAS	**1.5**	**1.2**	**1.4**	**1.3**	**0.7**	**0.9**	**0.5**	**0.3**
Other Sources	**0.4**	**0.6**	**0.8**	**0.2**	**0.1**	--	--	--

Source: Piola and Vianna, 1991.

3.43 Most of the remaining resources come from the federal budget, that is, general revenues. The federal contribution to FPAS, mentioned above, also comes out of general revenues, so total health resources from general revenues are somewhat larger than they appear; the FPAS contribution makes a substantial difference in 1983-84 in particular. Other sources, including the social funds FINSOCIAL and FAS, have never amounted to more than 3.5% of total federal health care spending. Historically, half or slightly more of the federal budget was spent via the Ministry of Health, but that share rose to around three-quarters in 1986-87, as shown in Figure 3-2, when general revenue effectively ceased to be used to finance MPAS.[3] The other principal users of these revenues are the Ministry of Education, which operates the teaching hospitals attached to federal universities and therefore accounts for a sizeable, but recently declining, share of the public sector's hospital capacity; the military services, which operate their own health systems, and the government of the Federal District (Brasilia). If federal expenditure on the Federal District were treated the same way as federal transfers through the Ministry of Health to state and municipal governments, then the MOH share would be around two-thirds in 1980-85, rising to about five-sixths in 1986-87.

Figure 3-2
DISTRIBUTION OF HEALTH EXPENDITURES TO PUBLIC FINANCIERS, 1980 - 1989



Source: Piola and Vianna, 1991

Allocation by Program and Purpose

3.44 A recent World Bank study (1989) summarizes nonmedical (primary) prevention efforts, and provides examples of the theoretical cost and effectiveness of secondary prevention initiatives that can

[3] The subsequent incorporation of INAMPS and its budget into the Ministry of Health has eliminated this distinction.

clearly be delineated as preventive. This report examines expenditure patterns and components of actual programs to determine the distribution of preventive and curative services, and assesses to the extent possible how funds are allocated. Program expenditure in health care can in principle be classified in many different ways -- by the nature of the health problem addressed, by the degree to which the problem could have been avoided or treated earlier or more cheaply, by type of activity, by the institutions undertaking the activity, by type of input, by geographic location, and so on. Unfortunately, Brazilian data do not permit many of these classifications. Activities are supposedly aggregated into "programs" of considerable heterogeneity. It is possible nonetheless to describe the distribution among programs, among institutions, among inputs, and according to certain types of activities. A small number of such activities account for a large share of total spending, so it is valuable to study them as a guide to how the system might perform better.

3.45 Table 3-5 shows, for the whole period 1980-1990, the distribution of expenditure among the major programs, as well as the separation between the Ministry of Health and INAMPS. It is immediately evident that the great bulk of federal health expenditure goes for medical care for individual patients, most of it through INAMPS. The share fell slightly, from around 80 to around 70%, over the decade. What is not evident is whether this allocation is too large, too small or about right. The data do not discriminate between ambulatory care and hospitalization, nor among preventive, curative and rehabilitative actions; and even if they did, it would not be clear whether the inpatient/outpatient balance or the prevention/cure balance was "correct" in the sense of buying the most health output, or buying it at least cost (see Box 3-3).

3.46 To take a specific example, the share spent on "control of communicable diseases" has risen considerably, from about two percent in the early 1980s to around four percent at the end of the decade, but there is no estimate of whether this greater expenditure has led to reduced spending on the treatment of those illnesses -- and in the case of malaria, spending on control efforts may have lagged behind the resurgence of the disease. Moreover, it is suspected that some expenditures for control and prevention, including immunizations, are in fact included in the "medical care" category. This program also includes all expenditure on drugs used in hospitals, with only drugs for distribution directly to patients included in "prophylactic and therapeutic products" (Piola and Vianna, 1991). This latter category is quite variable, taking 6-7% of the total in recent years. Nearly all care for women and children, of course, is included in the "medical care" program.[4]

3.47 If all expenditure on surveillance (roughly constant at 0.1% of the total) and on control of infectious diseases are counted together with the part of prophylactic and therapeutic products, (primarily laboratory reagents and vaccines), it can be estimated that at a minimum, some five percent of total federal health expenditure went for preventive activities in 1990. Adding several primary health care programs included in "medical care" under INAMPS, along with spending on technical assistance and on blood banks, would bring the share up to 7.5% (Piola and Vianna, 1991). This is an overestimate, because the primary care programs, although they stress prevention, also provide basic curative services; and it is an underestimate, insofar as other "medical care" components are really preventive in nature. This is a much lower share than the 21% estimate that results from the crude assumption that all INAMPS spending is curative and all Ministry of Health spending is preventive; the latter assumption is particularly erroneous.

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[4] Between 1985 and 1989, a separate maternal and child health program was distinguished in the Ministry of Health and represented about one percent of spending.

Table 3-5: **PERCENTAGE DISTRIBUTION OF FEDERAL HEALTH EXPENDITURE BY PROGRAM AND INSTITUTION, 1980-1990**

Program and Institution	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Medical Care	**85.4**	**83.2**	**83.2**	**82.4**	**84.6**	**79.9**	**79.8**	**68.1**	**80.9**	**74.2**	**79.7**
INAMPS	80.0	76.9	75.9	74.0	77.3	72.2	71.0	60.6	73.4	63.7	68.6
MOE	1.8	1.9	2.1	2.3	1.8	1.7	2.8	2.8	2.0	3.4	4.3
MEC	1.2	1.5	1.9	2.2	2.0	2.3	2.5	1.7	1.9	2.8	2.5
Fed. District	1.4	1.7	2.3	2.5	2.5	2.6	2.2	1.8	2.5	3.2	3.2
Prophylactic and Therapeutic Products	**1.9**	**4.7**	**4.3**	**4.0**	**3.6**	**4.7**	**5.0**	**3.9**	**3.8**	**7.2**	**5.9**
MOH	0.0	0.0	0.4	0.2	0.0	4.0	2.5	2.5	4.7	3.0	
MPAS	1.8	2.7	2.2	2.1	1.9	2.9	--	--	--	--	--
INAMPS	--	2.0	1.8	1.6	1.5	1.8	1.0	1.4	1.4	2.6	2.9
Disease Control (all MOH)	**2.4**	**1.8**	**2.2**	**2.1**	**2.2**	**3.5**	**5.2**	**3.9**	**4.1**	**6.2**	**3.9**
Maternal/Child (all MOH)	--	--	--	--	--	**0.8**	**0.8**	**0.6**	**0.8**	**1.1**	--
Other	**10.3**	**10.3**	**10.2**	**11.4**	**9.6**	**11.0**	**9.0**	**23.3**	**10.3**	**11.1**	**10.2**
MOH	3.2	3.6	3.5	3.8	3.1	3.3	3.4	4.8	5.0	4.9	2.8
INAMPS	5.2	4.9	4.5	4.1	3.6	4.2	4.9	18.2	4.7	6.0	7.5

Source: Piola and Vianna 1991.

Production, Purchase and Transfers

3.48 As was indicated earlier, a large share of expenditure by INAMPS consists either of purchases of medical services from private providers, or of transfers to other levels of government. The Ministry of Health also uses some of its resources for both these purposes, although in much smaller amounts.

3.49 The impact of the reforms in the Brazilian health system can be seen in the pattern of expenditures. INAMPS used to spend two-thirds of its resources to purchase services from third parties, but that share fell sharply after 1984, reaching levels of 30% or less. Only a small part of this reduction was offset by greater production in INAMPS' own facilities, although the increase was of the order of 25%. Transfers, primarily to states, took up the difference. There were huge transfers to states in 1988, under SUDS, and a slight retraction and shift toward direct transfers

Box 3-3: QUESTIONS ABOUT THE PREVENTIVE/CURATIVE BALANCE IN BRAZILIAN EXPENDITURE

Is the output of health care services -- by the Brazilian health sector as a whole, by the public sector generally, by INAMPS in particular -- readily separable into curative and preventive services ? Most services performed do fall clearly into the curative or the preventive category; it is easy to tell surgery from vaccination. However, some outputs may be misclassified, in the way that oral rehydration is regarded as preventive when it neither cures nor prevents anything but simply helps the patient to survive while the immune system does the job. Some services don't fit neatly into either box: screening for hypertension or cervical cancer is a good thing, as it leads to early treatment or more survival, but what it leads to is best classified as curative.

In the case of an unambiguously curative service, is there a well-defined preventive intervention ? "Well-defined" means that the technology exists, that it could reasonably have been applied in time to make the curative service unnecessary, and that it would have a fairly high probability of success. Where prevention is essentially impossible, curative service can still be questioned on the grounds that it costs too much relative to the health results obtained, but that is a different issue from the question of excess cure relative to prevention. Effective preventive actions against many diseases exist (most particularly those preventable by vaccination), but the case is less clear for many cardiovascular and other chronic health problems, and preventive efforts against AIDS are so far of variable and uncertain effectiveness.

How long ago should the prevention have been applied in order to avoid the current curative expenditure ? The appropriate prevention might exist today but might not have existed a decade or more ago, when it would have been needed to prevent the problems being cured or treated today. This may particularly be a problem for elderly patients suffering from conditions which could not have been prevented when they were younger but which can be prevented for younger people who have not yet developed those conditions. Even when there was no technical barrier to prevention in past decades, lack of information and inappropriate societal attitudes may have made such efforts impossible or ineffective: action against smoking is an example. Where there are long lags and also rapid scientific progress, the health system is unlikely to be in equilibrium. In the case of Brazil, disequilibrium is accentuated by the rapid expansion of health care coverage in recent decades: many people are now in the system for curative care, but were out of its reach earlier.

Is the health care sector the right locus for preventive activities ? If it is -- as in the case of measles, where both vaccination and case treatment are health services -- then more expenditure on prevention sooner or later means less on curative care and affects the composition of sector spending. But if the right preventive intervention takes place outside the health sector -- as in reducing vehicular accidents -- then whether effective prevention reduces curative spending depends on where the money goes that is saved by treating fewer accident victims. If the next most cost-effective intervention happens also to be curative, then the balance will not shift, although prevention has increased and health has improved. Outcomes can be arbitrary, because they depend on who conducts and pays for non-medical preventive activities.

Where a preventive technology exists and is applied within the health sector, is it cheaper than curing the condition ? Prevention is sometimes clearly cheaper than cure but this depends on the relative unit costs of the two activities and on the number of "preventions" necessary actually to prevent one curative episode. It is rare for these to be have a "one-to-one" correspondence, even for vaccination. When the preventive activity is a health education message or other inducement to change behavior, the relation becomes even looser. Finally more prevention may actually raise costs.

Would success in prevention ultimately raise the need for curative care and expenditure, by allowing people to live longer and develop more, and more expensive, chronic conditions ? Cancer is the clearest example; the incidence of most cancers rises with age, so that a longer-lived population simply has more total cancer, even if nothing happens to age-adjusted rates. If people live longer and stay active later in life, and get all the care that really makes a difference to their condition, then an increased curative share of total spending is partly a sign of success rather than of failure. Brazil's experience in this respect is no different from that of most other countries.

to municipalities as SUS began to be implemented in 1990. The greatly increased recurrent transfers to lower levels of government have been accompanied by capital transfers which amount to four percent of INAMPS' budget. (See Table A2-1 for annual data on federal expenditures by category and over time.)

3.50 Up to the mid-1980s, INAMPS was an agency that mostly financed health care, and provided relatively little through its own facilities; the Ministry of Health chiefly provided services, and financed very little. That relation also has changed. The Ministry uses only 30-40% of its budget to provide services directly. This is much less than the category of "recurrent expense" in the Ministry's accounts, because the latter includes around 20% for transfer of personnel. The Ministry also spends 45% of its resources on transfers that finance personnel who actually work at other levels of government, and the MOH spends a larger share than INAMPS does on capital transfers.

Public Expenditures on Health Care

3.51 Public health expenditures encompass spending on direct provision, transfers across levels of government, and reimbursement of private providers. Federal expenditures include expenditures of all federal ministries and agencies, not only INAMPS and the Ministry of Health; it excludes spending both on food and nutrition programs, and on sanitation and environmental protection, which are not considered in this report. State and municipal expenditures capture only own revenue allocations.

Table 3-6: CONSOLIDATED PUBLIC EXPENDITURES ON HEALTH CARE, 1980 - 1990 (1990 US$)

Year	Total Federal State & Municipal (mil US$)	Per Capita (US$)	Share of GDP (Percent)
1980	9,784.1	81.44	2.34
1981	9,241.2	75.44	2.36
1982	9,580.4	76.64	2.36
1983	7,874.6	61.70	2.14
1984	7,959.7	61.04	2.15
1985	9,541.2	71.57	2.23
1986	10,643.7	78.35	2.27
1987	12,749.1	92.06	2.81
1988	10,924.8	77.34	2.67
1989	14,543.4	100.89	3.26
1990	12,930.7	87.87	3.19

Source: Piola and Vianna, 1991; Medici, 1993.

3.52 Table 3-6 summarizes the consolidated public health expenditures between 1980 and 1990. What is most dramatic in these numbers is the much higher level of expenditure in 1987-90 than

previously: the universalization of coverage significantly affected spending. Of course, it has also changed the meaning of spending per capita; and since a larger share of the populace now has access to federally financed care, expenditure per person has risen, but spending per patient has declined. The economic crisis of 1988 is evident in the drop in total and per capita spending in 1988. Indeed, 1980 spending per person exceeded that of 1988.

Table 3-7: DISTRIBUTION OF HEALTH EXPENDITURES ACROSS LEVELS OF GOVERNMENT, 1980-1990
(millions of 1990 US $)

Year	Total	Federal	States	Municipalities
1980	9,784.1	7,336.5	1,743.5	704.1
1981	9,241.2	6,826.8	1,710.0	704.4
1982	9,580.4	7,126.1	1,649.6	804.7
1983	7,874.6	5,697.1	1,506.9	670.6
1984	7,959.7	5,938.6	1,429.3	591.8
1985	9,541.2	6,836.5	1,799.4	905.3
1986	10,643.7	7,319.1	2,212.8	1,111.8
1987	12,749.1	10,590.0	1,130.5	1,028.6
1988	10,924.8	9,979.0	-668.5	1,614.3
1989	14,543.4	11,264.6	1,688.1	1,590.7
1990	12,930.7	9,404.8	1,995.9	1,530.0

Source: Medici, 1993.

State and Municipal Expenditure

3.53 Table 3-7 provides a breakdown of health expenditures across levels of government, and indicates the composition of those trends. State and municipal spending exhibit overall rising trends, with considerable vacillation in state expenditures, but steady increases in municipal spending. In the aggregate, despite the decentralization promoted by AIS, SUDS and SUS, state and municipal spending from own resources declined slightly as a share of the total, from 25% in 1984-85 to 10% in 1988, and 23% in 89 (Figure 3-3). However, state and municipal shares continued to rise, and in 1990 reached 27%. Despite the last year's rise, this appears simply to indicate that generally increased federal transfers substituted for state spending, and therefore transfers have not resulted in a dollar-for-dollar increase in total expenditure. This is hardly surprising, given the huge increase in federal transfers under AIS, which between 1983 and 1985 expanded almost 24 times.

3.54 Of course, the pattern varies greatly among states, depending on their economic capacity to expand health coverage and on the degree to which they embraced decentralization and assumed financial responsibility for it. In São Paulo, for example, spending by municipal governments increased nearly ten times in real terms between 1984 and 1990, and rose from 4.9 to 23.8% of total public health expenditure in the state. Spending by the state government rose by a factor of 3.5 in the same period, and went from 21.1 to 37.9% of the total. The contribution of INAMPS rose sharply in

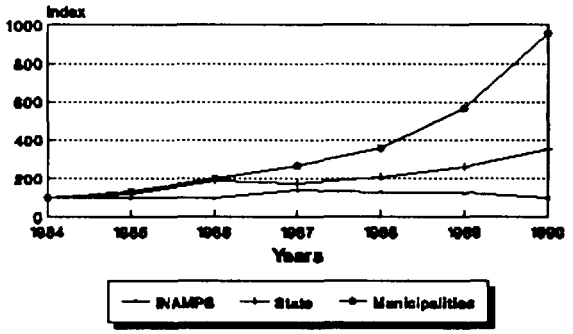
1987 and then gradually fell back to the level of 1984; its share in the total dropped from 74.1 to 38.2% (Piola and Vianna 1991). These trends just for São Paulo are shown in Figure 3-4. Total federal transfers did not fall quite so much, because of transfers from the Ministry of Health, but these were small compared to INAMPS funds. Federal spending is more likely to provide relief to state and municipal budgets in poorer states.

Figure 3-3
DISTRIBUTION OF PUBLIC EXPENDITURES IN HEALTH, 1984-1988

Source: Piola and Vianna, 1991; Medici, 1991

3.55 The dependence of states and municipalities on the federal government for health spending is not typical of total public expenditure in Brazil. In 1980 and 1984, two-thirds or more of total state government revenues were from own resources (although an unmeasured proportion are actually transfers). For municipalities, the share was even higher (78-82%) if automatic (non-specific) federal transfers are included, and still over 40% if those transfers are not counted (Couttolenc, 1991). (See Annex 2 for discussion of state level data for the Northeast states between 1982 and 1988.)

Figure 3-4
EVOLUTION OF PUBLIC HEALTH FINANCING IN SAO PAULO STATE, 1984-1990



Source: Piola and Vianna, 1991.

3.56 The logic of decentralization, under any of the various forms essayed in Brazil in the last decade, means changing the relations among different levels of government and the responsibilities of each for provision of care, financing, and other functions such as regulation. What these analyses show is how far from stable the inter-governmental financial relations have been. To the extent that state or municipal governments merely pass money through to the same facilities and providers, regardless of the origin of funds or the channel by which they arrive, this instability does not matter very much. But it does matter for the operation of the system, when large changes in flows affect: (i) which facilities and providers are financed; (ii) whether the public provision or financing of care is adequately and stably funded; and (iii) what entities are ultimately responsible and accountable.

E. Emerging Issues

3.57 The dramatic changes that have occurred over the past decade effectively restructured health care in Brazil. The process has involved multiple steps, has occurred rapidly, and consequently has introduced a certain element of chaos. Unstable financial flows, lagging legislation, uncertain authority and constant readjustments to new incentives and policies are to blame for much of the

difficulty. The need to consolidate gains and establish clear lines of authority and responsibility are essential.

Implications of Reforms

3.58 There are two major implications of the *Reforma Sanitária*. First, coverage has been extended to all citizens. Second, the municipalities have inherited primary responsibility for health care provision and receive the bulk of federal health transfers. These changes place heavy burdens on public finances and create expectations among the population. But, responsibility for organizing, delivering and financing health care under the newly unified and decentralized system remains vague. This applies to the relationship across government entities (federal, state and municipal levels) and between government and the private sector, which currently delivers the bulk of services with public financing. These will be discussed at length in the next two chapters.

3.59 Although coverage increased, resources may not be adequate to meet demand. Indeed no new federal funding is envisioned, despite the increase in eligibility, and the "Emergency Social Fund," which actually reduced funds. This squeezes the system and can lead to arbitrary forms of health care rationing, a topic that will be discussed further in subsequent chapters.

3.60 Probably the most important institutional effect of the *Reforma Sanitária* is the shift in federal, state and municipal roles and responsibility. Of particular concern is the precise role of states who under SUDS had responsibilities for coordinating health services at the state level, but under SUS remain in a state of suspended animation with neither clearly defined roles nor responsibilities, but with ultimate accountability. These circumstances make the need for defined functions key to making the SUS work effectively.

Institutional Issues

3.61 The federal government retains the responsibility for overall policy and for ensuring some semblance of fairness in resource allocations across states. Although its service delivery function has been curtailed, federal activity is warranted in: establishing clear policies toward the delivery and financing of health care; analyzing the functioning of the public and private health systems; establishing standards for delivering and financing health care; developing broad regulations for performance in health care to protect individuals and institutions; and assisting states, and to a lesser extent municipalities, develop the administrative, managerial and regulatory infrastructure needed to take over the oversight and delivery functions previously under the purview of the federal government.

3.62 States require some authority for health care delivery and oversight within their boundaries. It is difficult for the federal government to have separate linkages with over 5,000 municipalities, each with a different set of needs and level of administrative competence. Similarly, having separate administrative units is inefficient for all but the largest municipalities (e.g., metropolitan areas), since none can benefit from economies of scale and few can justify tertiary facilities that require a significant population base. The need to ensure that municipalities are not at the mercy of political decisionmaking (a particular problem when the state and municipality represent different parties) can

be mitigated through transparent resource allocation criteria and performance evaluations that are standardized rather than based on political whim.

Emerging Agenda

3.63 Further definition of roles and responsibilities across levels of government, and the issue of how care will be rationed in response to either rising demand and/or declining resources is central to consolidating the recent reforms. In addition to these areas, there are others where government involvement is essential to ensure a basic quality of service, fairness in access and maximum efficiency. In the past, government efforts to promote quality through regulation or penalties on transgressors have been minimal. Similarly, provision and financing more broadly by public and private entities have been left largely unregulated. Given the dominance of public payment in health care and the lack of market incentives to contain costs and quantity of health care, government must play a significant role in attempting to control costs. These issues represent neglected elements in the *Reforma Sanitária*. The balance of this report addresses these issues.

PART II: FINANCING OF HEALTH CARE IN BRAZIL

4.1 The previous three chapters outlined the circumstances in the health sector in Brazil. With these as background, the next two chapters will detail the private sector and the public insurance system, and the interrelationships between them.

4.2 The *Reforma Sanitária* focused on questions of access and decentralization and the narrow focus proved important to achieving those two ambitious goals. Other issues that define the health care system and how it operates were not part of the reform and have evolved in parallel but without benefit of policy direction. The two areas where change has been most significant are in the public insurance system (INAMPS) and in the role of the private sector.

4.3 Private provision of health care has been a major component of publicly financed care in Brazil. However, over the last decade the private sector has emerged as a major payer of care as well. The public reimbursement system underwent a major transformation over the same period, adjusting the nature of reimbursement and patient eligibility. The implications of both shifts are important for health policy in Brazil because together they finance the bulk of health care delivery. Moreover, these components must fit into the broader policy choices of the Brazilian government, and focused attention is needed to complement the dramatic changes under the *Reforma Sanitária* and consolidate its achievements.

4. THE PRIVATE FINANCING OF HEALTH CARE

4.4 The Brazilian private health sector is dynamic, diverse and flexible. Although there has always been a substantial private presence, it has grown rapidly over the past two decades, driven largely by new markets and market segments (i.e., in finance and new geographic areas). Particularly noteworthy is the expansion into the private financing of care. Initially concentrated in the cities of the Southeast, particularly São Paulo, the private financiers and providers of health care are expanding to all parts of the country, with certain firms creating a growing niche in serving new, lower income communities. The demand for private financing is being driven by the crises in the public reimbursement system and the perceived deterioration of publicly provided care (Medici, 1990a; TFP&C, 1990). As already discussed, government incentives in the form of tax deductions for private insurance premiums also contributed.

4.5 This chapter describes the private health care payers in Brazil and analyzes their performance and contribution to health care in the country. These issues are important background for comparing public and private payers, and for identifying the issues that require government attention in the organization, financing and delivery of health care services in Brazil.

A. Characteristics of Private Financing Options

4.6 The private sector is the predominant provider of health care, particularly for inpatient services, and is financed by both private and public insurance or other methods of private payment. Four major forms of financing exist: (i) prepaid group practice (PGP) where beneficiaries pre-pay and usually only have access to specified providers of care; (ii) medical cooperatives (MC), based on pre-payment and defined providers; (iii) company health plans (CHP) where employers ensure

employee access to services under various types of arrangements; and (iv) health indemnity (IP) plans consisting of traditional third party coverage. Each type of plan includes a wide variety of subplans from basic individual/family coverage to comprehensive executive coverage.

4.7 Private financing is a growth industry. Table 4-1 summarizes existing private financing options, including characteristics of the plans, size, enrollment, location, source of care and limitations of plans. Table 4-2 outlines some of the financial characteristics of the plans, including primary payer, existence of co-payment/deductibles, basis for provider payments, regulation, and the and profitability of these investments.

4.8 Private financing plans covered 32 million people in 1989, over 20% of the population, and have become standard bargaining items for labor. Between 1987 and 1989 population coverage rose by 39% and estimated revenues increased 31% (TFP&C, 1990). Most plans originated in the Southeast, particularly in São Paulo, but virtually all have expanded beyond the region. A prime example is the leading MC, UNIMED, that already has a foothold in a number of Northeast states, is constructing facilities there, has just launched a national health insurance arm, and is negotiating possible management contracts for hospitals in the Northeast states.

4.9 The first major financing program, prepaid group practice, saw rapid enrollment growth in the 1970s and early 1980s but slowed at the end of the decade as other options emerged to compete in the lucrative health care market. Between 1987 and 1991, PGP enrollment growth was less than 5% with growth exclusively attributed to increases in non-profit plans; at the same time, MC, corporate plans and insurance each grew by over 50%. Despite this pattern, PGP remains the market leader, as shown in Figure 4-1, with almost half of all enrollees (47%).

Prepaid Group Practice and Medical Cooperatives

4.10 Both forms of financing rely on upfront capitation payments, mingle the provider-financier role, and administer their own financing and delivery programs. Who actually pays the capitation fee varies by plan. As Table 4-2 shows, such plans are most commonly group plans sponsored by employers, but both offer coverage for individuals and families. Neither prepaid group plans nor medical cooperatives generally require co-payments, deductibles or premium contributions in employer-sponsored plans, but criteria diverge substantially for individual plans, which tend to be more expensive with less coverage. Individual/family plans only constitute about 10-20% of enrollees.

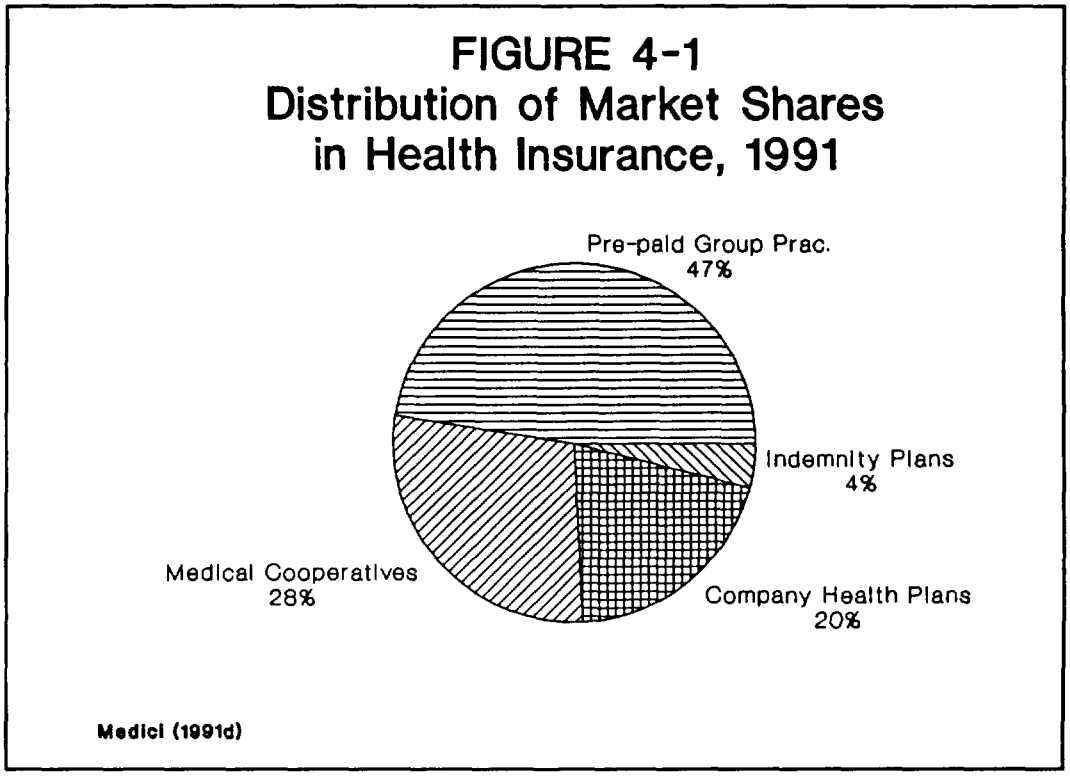
4.11 PGP and MC services are offered through various modes: (i) own facilities and staff ("staff models"); (ii) contracted staff and hospitalization ("group models"); and (iii) networks of "preferred providers" that limit choice to particular physicians and hospitals ("Individual Practice Association" or IPA model). PGP plans favor the staff model. MC rely most heavily on the IPA model for outpatient services. Physician cooperative members and a mix of own and contracted hospital services form the provider base. Access to a mix of provider arrangements allows maximum flexibility in meeting consumer needs in the most cost effective and profitable manner. Physician outpatient services are paid according to some multiple of the Brazilian Medical Association's (ABM) schedule of approved fees, as are MD services under every private financing plan. PGP hospital rates are negotiated individually based on volume.

TABLE 4-1: TYPES & CHARACTERISTICS OF PRIVATE HEALTH CARE PLANS IN BRAZIL

TYPE	SUMMARY CHARACTERISTICS	LOCATION	SIZE/POPULATION COVERAGE (1991)	PROVIDERS	LIMITATIONS & EXCLUSIONS	COMMENTS
Prepaid Group Practice (PGP)	Pre-paid capitation with specified access to services; providers generally specified. Usually for-profit. Corporate & individual family plans available.	50-60% in the Southeast; present in most cities > 40,000 population.	300 different plans; 13.5 million covered.	36% rely on own services, the rest contracted. MDs from own staff, affiliated MDs or contracted.	Varies; most common: specialized diagnostic & therapeutic procedure; mental illness; chronic infectious diseases. Ceiling on LOS & total days hospitalized.	MDs not at risk; limited emphasis on prevention.
Medical Cooperatives (MC)	Prepaid capitation. Structured network of autonomous companies. Cooperative linked by standardization of contracts. Owned & staffed by MDs. Corporate & individual family plans.	37% in São Paulo state, 19% in the other SE states; 32% in South; 12% elsewhere.	130 local cooperatives, 12 regional federations & 1 national confederation. 7 million covered.	1,800 hospitals owned or contracted for exclusive use. Most associate MDs, some contracting.	Varies; most common: contagious infections, work injuries, chronic illnesses, organ transplants and mental illness. Ceiling on LOS & total days hospitalized.	MDs at risk (profit sharing after costs).
Company Health Plans (CHP)	Mixture of company & employee contribution. Operating/contracted by employer as provider or contractor of services, some as PGP.	All parts of country depending on company location(s).	200 corp., 1/3 state corp. and gov.; 7-8 million covered.	Mostly free choice, 25% limit choice. MD services mostly contracted. Hospitalization concentrated in new facilities.	Comprehensive usually covering prevention and occupational health.	Mostly self-managed, 14% contract administration.
Indemnity Plans (IP)	Annual premium paid by employer/employees offered by for-profit firms. Services reimbursed to patient/provider.	Mostly in large cities especially São Paulo.	Offered by 4 insurance companies & 2 banks (Itau & Bradesco). 1.2 million people covered.	Free choice; some plans have agreements to directly pay some providers instead of reimbursing patient.	Home care, reportable infectious disease, mental illness, prosthetics, physio-therapy & dialysis. Maximum LOS.	

Source: Couttolenc (1991); ABRAMGE; TFP&C (1988); Medici (1991b); Medici (1991d).

TABLE 4-2: TYPES & CHARACTERISTICS OF PRIVATE HEALTH CARE PLANS IN BRAZIL					
TYPE	**PRIMARY PAYER**	**BENEFICIARY CONTRIBUTIONS**	**BASIS FOR PROVIDER PAYMENTS**	**REGULATION**	**EARNINGS/YEAR ENROLLEE 1991 US$**
Prepaid Group Practice (PGP)	80% group plans through employer.	Only for individual plans. One or more months grace period for individual plans plus premium up front.	AMB schedule up to international cost, but depends on plan. Hospitals owned or paid 3 to 8 times SPAS. Schedules negotiated individually.	Voluntary PGP compliance with CONAMGE ethics code & their protocol with PROCON; MOH refused request to regulate.	$149
Medical Cooperatives (MC)	90% group plans through employer.	Only for individual plans.	AMB schedule or multiples thereof. Hospital fees negotiated individually.	None except self regulation through standardization and stressing of medical ethics code.	$120
Company Health Plan (CHP)	Employer	Varies. Fixed monthly contribution, or co-payment proportional to salary with % of salary as ceiling.	AMB schedule or multiples thereof. Hospital fees negotiated individually.	None.	$113
Indemnity Plans (IP)	Employer	Co-payments and deductibles common.	AMB schedule or multiples of it. Reimbursement of hospital services.	Authorized & regulated by SUSEP.	$172
Source: Couttolenc (1991); ABRAMGE; TFP&C (1988); Medici (1991b); Medici (1991d).					



4.12 Ninety-six percent of PGP plans are employer-financed benefits; the rest are individual plans. Of these, 64% rely on contracted providers rather than the staff and facilities of the PGP. The majority (73%) of PGP group plans have 100,000 or fewer enrollees and only 9% serve over 300,000 beneficiaries. Two major subgroups, non-profit and for-profit firms with 45% and 55% of the market respectively, have distinct structures and practices. For-profits are more expensive (by about 30%), are more likely to rely on own staff and facilities in health care delivery, and have fewer hospitalizations and higher profits (Medici 1990a).

4.13 Grace periods (a period of ineligibility for health services use) for PGP after up-front payment on individual plans are common; some PGP plans have been criticized in the press for unethical practices specifically breaching contractual agreements with individual plans once the grace period ends, but no legal action has ever been taken. Faltering market shares (from 55% in 1986 to 47% in 1991) reflect consumer dissatisfaction, a stronger appeal of alternative financing plans and a perceived decline in the quality of the standard package that 95% of group plans purchase (Medici, 1990a). The open choice plans where enrollees select the providers and facilities without restrictions (2% of PGP plans), however, suffered the biggest decline (13%). TFP&C (1989) suggest that those purchasing the free choice executive plans have increasingly turned to health insurance and away from PGP plans.

4.14 Regulation of PGPs is virtually nonexistent despite initial efforts by the national PGP trade association ABRAMGE (*Associação Brasileira de Medicina de Grupo*) that includes 45% of all PGP

Plans among its members, to obtain federal regulation over its members. It has been noted that opening a sidewalk stall is more cumbersome than setting up a prepaid group practice, and "fly-by-night" investors have allegedly taken advantage of the regulatory vacuum.

4.15 Major differences between PGP and MC include built-in incentives for efficiency and quality, and the degree to which external or internal regulations affect production. Under the PGP, commonly compared with Health Maintenance Organization (HMO) "staff models" in the United States, physicians are not at financial risk for quality and have virtually no need to control outpatient volume or costs. Both, however, characterize staff model HMOs, where physician salaries are tied to company performance. Hospitalizations are carefully monitored as they are in HMOs. Regulation is voluntary and sanctions for unethical, inappropriate or illegal behavior neither exist nor are contemplated. In contrast, UNIMED, the dominant Medical Cooperative, places its physicians at risk, since their earnings are based on distribution of profits once administrative costs are covered. In addition, the organization has established standards and incentives to ensure a basic level of care across the cooperative. Cost and volume containment are not part of the incentive scheme, however.

Company Health Plans

4.16 Company health plans (CHP) have existed since the mid-1960s when growth was fueled by the government waiver of a portion of the wage-based tax earmarked for health services under social security. CHPs are concentrated in state corporations and government agencies including INAMPS (33% of the total), multinational corporations, and large domestic industrial and financial groups.

4.17 A recent survey of companies indicates that employee health plans: enable companies to attract high quality employees, enhance the security of their workers as well as their productivity, and ensure good relations with management. Social consciousness and the need to compensate for the deficiencies of the public sector are almost as important in managers decisions to underwrite health care (Montigny Woerner, 1990). These compelling factors have fueled the expansion of CHP; however, firms are increasingly questioning their viability due to rapidly rising costs and the seeming inability to control costs.

4.18 Firms typically establish their own health care plans because it allows them more control over utilization and costs, although spiralling medical costs may be negating that advantage (see Box 4-1 on Petrobras' experience). Employers most frequently provide ambulatory services through their own facilities but contract out hospital services, usually to a few large providers. Financial arrangements vary widely from no cost to participants to a fixed monthly deductions from wages to co-payments, none of which ultimately covers even half the cost of service. Administration of company health plans can be a company responsibility or contracted to a third party; 14% of plans contract out administration.

4.19 The form of financing and delivery varies across firms, but encompasses: (i) on-site ambulatory care (plans used by USIMINAS, a recently privatized major steel company, and SEPACO, the paper and cellulose industry health plan); (ii) group health plans contracted with prepaid group practice, medical cooperatives or health insurance companies; (iii) employee reimbursement for health costs; (iv) company administered medical authorizations that permit employees to obtain care; (v) establishment and administration of a health insurance plan (as is the case with Furnas, the electric conglomerate); and, (vi) contracting out management individually or through company consortiums.

Box 4-1: THE WELL RUNS DRY ON EVEN THE WELL HEELED: THE CASE OF PETROBRAS's HEALTH CARE PLAN.

Petrobras's health care plan was created in 1976, at a time when the "Brazilian miracle" and high energy prices made Petrobras one of the most profitable corporations in the world. Its story is representative of many health plans in Brazil (both in the public and private sectors), initially set up with generous benefits and few volume or cost control mechanisms and later confronted with spiraling costs.

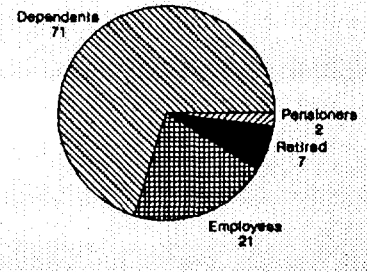
Like most company health plans, Petrobras's program is a fringe benefit to attract and retain a qualified work force, and complement the low quality care provided or paid for by the social security network. It is financed through Petrobras's profits and by workers' co-payments, which vary across types of care; a ceiling of 3.5% of the payroll was initially established for the company's participation. The plan's administrative structure reflects that of the corporation, with central coordination by the Human Resources Department and regional offices responsible for the company's operating regional divisions.

The plan relies on its own facilities as well as those of contracted clinics and hospitals. The wide geographic dispersion of the company's offices requires a large number of accredited physicians and facilities to permit a wide choice of providers and services. A close monitoring of the quality of care exists, with regular visits to hospitalized patients. Service coverage is among the most comprehensive in Brazil, and includes dental care and chronic disease treatment.

As Brazil's economic growth came to a halt in the 1980s and high inflation persisted, restraining oil and gas prices become one of the government's few instruments for curbing inflation. As a result, Petrobras experienced its first losses in 1990. In addition, it had diversified into riskier ventures, such as petrochemicals and off-shore drilling that raised occupational health problems and therefore health service demand among its employees.

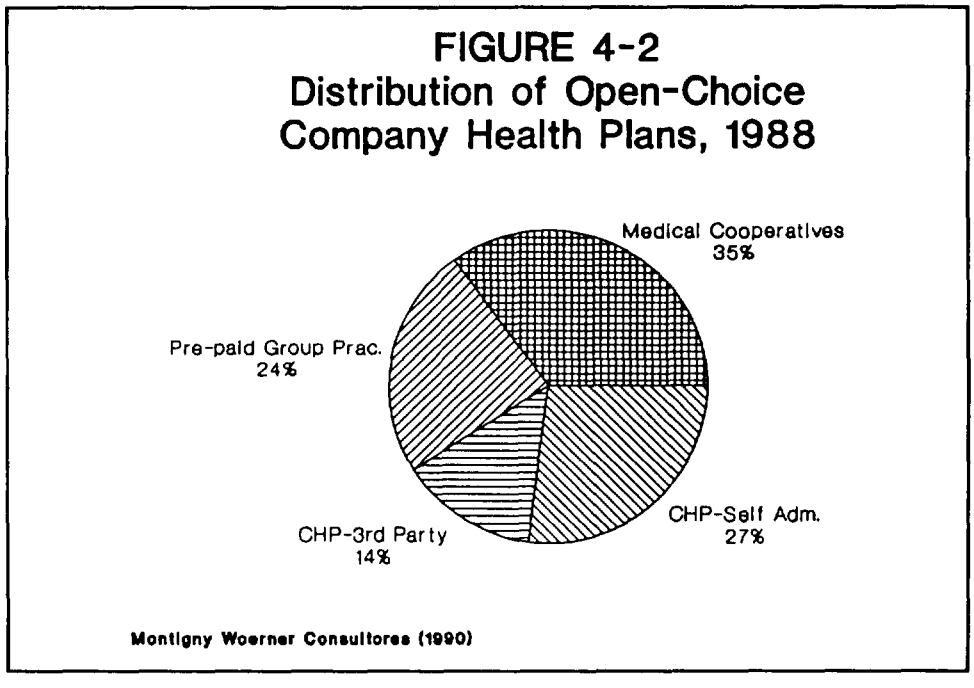
Coverage expanded with company growth and total enrollment jumped from 153,000 in 1976 to 272,000 in 1990. A liberal definition of "dependent" and inclusion of retirees also made the ratio of active to inactive enrollees one of the highest in a Brazilian Company Health Plan (See Chart). Finally, the costs of health care services contracted by the plan have risen (to US$ 279 per beneficiary) more rapidly than inflation or the company's revenue, as they have in the health care market in general. Petrobras's commitment to quality services has also contributed to increased system costs.

PETROBRAS's MEDICAL CARE PLAN:
DISTRIBUTION OF BENEFICIARIES, 1990



Today, Petrobras's praised health care plan is in crisis, due to poor company performance, rising health care costs, heavy employee use, virtually no volume controls and only limited co-payments. Petrobras is a microcosm of health care in Brazil, but particularly of the generous company health plans that have grown out of control, and may no longer be financially viable (Medici, 1991d).

Generally company health plans contain a combination of these, although as noted, a few focus on just one approach. The distribution of these plans across a sample of 230 firms and 456 company health plans is shown in Figure 4-2. Over half rely on group medicine and medical cooperatives, just over a quarter provide services directly, and only 16% purchase health insurance for employees. Among these plans, 46% are open choice plans, and of those, three quarters are either financed through health insurance or the companies' own plans. The open choice plans are largely reserved for managers, with more restrictive plans offered to other employees (which is why the number of health plans exceeds the number of firms with CHP).



4.20 Most company health plans operate under a global budget, with the expectation they will function within those limits, although they tend to offer comprehensive coverage, including drugs (76% of them do) and dental care (80% do). In recent years many have exceeded the budget and run deficits financed by company profits. Deficits stem from one or more of the following factors: general decline in real wages (upon which health plan resources are based), growing proportions of older employees and retirees (many of whom are also covered), and the rapid rise in the cost of health care. The experience of Petrobras, the well-endowed Brazilian public oil company, vividly illustrates this point: a well-financed company health plan that is out of control, due to rapidly rising medical costs and heavy use (see Box 4-1). The breadth of coverage and willingness to underwrite expensive procedures such as organ transplants may also have contributed. It is the company plans that pay for high technology care at the new public health foundations like INCOR, the world class hospital center in São Paulo specializing in heart disease. The experience of company health plans and the resulting cost spiral are reflective of medical trends more generally.

Indemnity Insurance

4.21 Indemnity plans (IP) began in the late 1960s and represent a small segment of the market, but it is the most lucrative in terms of earnings per enrollee per year (Table 4-2). The traditionally preferred option of the upper class, they are an increasingly popular vehicle for executive health care plans. IP is concentrated in São Paulo and has only slowly expanded to other urban areas. Five companies dominate the health indemnity market: Saúde Bradesco (part of the Bradesco banking group) that covers more than half of all enrollees; Hospitau (part of the Itau banking group);[1/] Sulamerica, an arm of a large insurance group; Golden Cross; and AMIL. The latter two also offer Prepaid Group Plans. UNIMED has recently launched a sixth company, and there are ongoing market assessments by a number of national and international firms (Medici, 1991d).

4.22 Unlimited choice of providers characterizes health indemnity plans. Moreover, they cover a broader range of diagnoses and treatments, including chronic diseases, unlike the group health plans (PGP and MC). A few plans also have a list of providers whom the plan will pay directly rather than reimbursing the user, probably as a way of circumventing the legal restrictions on IPA arrangement under indemnity insurance initially stipulated by insurance regulations. These providers are paid electronically, reducing administrative costs to the insurer and patient. Under such arrangements the insurer functions as a preferred provider organization (PPO), intermediating the relationship between users and a list of participating providers. Although not binding, such services are attractive since patients do not have to wait to be reimbursed by the insurance company and the amount of co-payment is established. Otherwise a maximum value is allowed by the company, and because no agreement on price exists between the insurer and provider, the patient is potentially at financial risk.

4.23 Indemnity plans have become increasingly flexible. The PPO equivalent just described is an example. Evidence from the United States has shown improved efficiency of patient-use and lower costs for the insurer where lower rates can be negotiated with providers based on anticipated volume. They are also increasingly offering group plans, usually with a maximum annual reimbursement as well as co-payments, due to SUSEP's (*Superintendência de Seguros Privados*), the regulatory body for private insurance) lifting of restrictions on health indemnity plans offering IPA arrangements. Alternative health indemnity plans allow trade-offs between premiums and level of reimbursement for medical costs, and the lifting of the restrictions just mentioned will open up additional opportunities for insurance companies.

B. Issues Across Private Financing Plans

Restrictions and Exclusions

4.24 Restrictions and exclusions exist in each plan, with illegal procedures such as abortion commonly exempted along with dental care and AIDS. The restrictions listed in Table 4-1 are meant to convey the narrowness of plans. Company health plans tend to be the most generous followed by indemnity insurance. The free choice across providers makes most of them more flexible for enrollees. The limitations of the simplest plans under PGP restrict access to basic services such as

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[1/] In the late 1980s, Itau incurred heavy losses due to an overly generous health insurance plan and was forced to stop operations for a year to restructure its insurance packages.

specialized diagnostics like CAT scans. The exclusion of chronic diseases and other catastrophic occurrences (e.g., mental illness, dialysis) is at odds with the concept of risk sharing. The rationale for health insurance coverage (or alternative financing arrangements like those mentioned here) is to spread the high cost of unanticipated, catastrophic health problems. Of these plans, only company health plans offer full catastrophic coverage, and not all of them do. As a result, catastrophic care and other excluded components can only be obtained through publicly financed services either directly at public hospitals or, more commonly, through MOH/INAMPS financed facilities.[2/]

4.25 Exclusions and variations in the scope and nature of coverage is an integral component of private financing plans, and allow a range of options to be offered. However, there are serious lapses in consumer information and understanding, and in the alleged honesty of plans. Moreover, coverage is only offered to low risk populations. This process of adverse selection, as the practice is known, permits insurers to provide services to low risk populations leaving high risk patients either without coverage or reliant on the public system. Similarly, enrollees who acquire costly diseases such as mental or chronic illnesses that are not covered by most health plans are "dumped" on the public system.

Regulation

4.26 The profit motive offers powerful incentives for flexibility, creativity and responsiveness to consumer preferences, but without oversight it can translate into unscrupulous and illegal practices that maximize profits but neither meet the need for acceptable health care services nor respect consumer rights. Oversight can take the form of self regulation through associations that set standards and monitor performance. In their absence, government regulations are necessary to ensure safety, fairness and basic quality. Unnecessary restrictions and "nuisance" controls are common, and effective regulations are few in Brazil, and enforcement of what does exist is uneven at best.

4.27 Regulation of prepaid group practice, medical cooperatives and company health plans is virtually nonexistent; health indemnity insurance recently came under SUSEP's regulatory purview, as already discussed. Despite the regulatory framework, abuses persist, mostly regarding exclusions of certain types of enrollees as well as of costly diagnostic and treatment options. The Regional Medical Council of Rio de Janeiro recently held that the exclusion of coverage for AIDs patients is unethical but their recourse under noncompliance is unclear (Silver, 1992).

4.28 The loss of market share among prepaid group practice plans allegedly is due to uneven and inconsistent quality of services attributed to cost cutting and quality lapses in an effort to maximize profits. Federal inflation control programs froze enrollee premiums at the end of the 1980s while utilization and costs climbed, squeezing company profits and forcing cuts in quality or scope of programs. Regardless of how common such practices are, the reputations of PGPs have been compromised and reversing perceptions is difficult.

4.29 Although Brazil has insurance regulations on the books, recent efforts by the PGP trade association, ABRAMGE, to acquire public regulation was rebuffed. The group has created its own regulatory body, CONAMGE, that has issued an ethics code and a protocol signed with PROCON,

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[2/] The following chapter describes the INAMPS payment system.

the consumer defense agency. Because the program is voluntary and sanctions are weak, it falls short of an effective body to oversee the quality of services and the integrity of financial arrangements under either health insurance or prepaid plans. But the concept has merit and strengthening its functions of authority could offer a viable form of self regulation. By contrast, UNIMED has established performance standards and common basis contracts which unify the cooperative. The fact that physicians own and operate the venture and are at financial risk if patients are not satisfied may also affect the consistency of health care quality.

4.30 Regulation is a key issue for private sector expansion, primarily because it affects consumer confidence in private alternatives for the delivery and financing of health care. Moreover, as consumers look to government to safeguard their interests in health, government must either encourage private regulatory initiatives and assist them in enforcement, which is preferable, or the public sector must regulate private payers. Regulation is explored in greater depth in Chapter 8.

Inflation

4.31 While health care is becoming more sophisticated and discretionary, medical inflation exceeds the overall rate of inflation. A recent study in Minas Gerais showed that between January and August of 1990 the average costs of hospitalization and outpatient consultations increased by 1266% and 1031%, respectively, in contrast to IBGE's Consumer Price Index (IPC) that rose by 976% (Medici, 1991d). Between 1980 and 1991, cumulative inflation in Brazil reached 4,336,834,523%. Volume and price controls are difficult under comprehensive, nonexclusionary plans. They are best addressed through negotiated arrangements between providers and payers, assuming that the payers are a sufficiently large group to have market clout and can put pressure on providers to cut costs and improve efficiency in the interests of maintaining their lucrative business.

C. Costs and Utilization under Private Financing Plans

4.32 The major drawback of private insurance is the built-in incentive to raise the volume of care and therefore costs. The issues discussed in Chapter 1 regarding moral hazard (overconsumption) and its presence under third party payer arrangements apply here, although it applies to both public and private health insurance. A lack of concern with volume and cost controls emerges when neither the provider nor the consumer are at risk and neither has any incentive to limit expenditures. Evaluation of the costs and utilization of services under alternative financing arrangements allows evaluation of consumer and provider responses to different incentives. They can also suggest approaches to effective cost controls and the possible need for government incentives or intervention. This section assesses the cost and volume structure of different financing mechanisms, and explores the incentives underlying volume and cost behavior.

4.33 The cost structure of individual plans is largely attributable to the nature and extent of incentives to contain costs and/or volume of services and to the profile of enrollees. Table 4-3 summarizes the cost structure of three of the four financing options as well as those for three PGP sub-plans, and shows averages for Health Maintenance Organizations in the United States and INAMPS for comparative purposes. Under the open ended company health plans, inpatient care represents a significant proportion of costs, although inpatient physician fees compare favorably with those of medical cooperatives. INAMPS spent 50% its budget on inpatient care, a decline from

Table 4-3: **COMPARISON OF THE DISTRIBUTION OF INPATIENT AND OUTPATIENT COSTS FOR PRIVATE FINANCING PLANS, U.S. HMOs AND INAMPS**

Type of Plan (Year)	Outpatient Services (%)	Inpatient Services (%)	Inpatient Physician Fees (%)	Administrative Costs (%)
Prepaid Group Practice (1988)				
Average	52	28	7	20
Own Services	55	26	n/a	19
Contracted Services	49	29	n/a	22
Medical Cooperatives (1990) [a]	30-35	15-20	15-20	8-10
U.S. HMOs (1988)	54	29	n/a	17
Company Health Plans (1988)	33 [b]	37 [b]	15	15
INAMPS (1988)	50 [c]	51 [c]	n/a	+8 [d]

[a] Based on data from UNIMED; auxiliary costs are accounted for separately.
[b] Auxiliary services included under inpatient services.
[c] Auxiliary services divided evenly between outpatients and inpatients.
[d] Excludes state, local and hospital administration, and the proportion across inpatient and outpatient services is unknown.

Source: Medici (1990a); Campos (1988); UNIMED (1991); Couttolenc (1991).

earlier years when hospitalizations dominated INAMPS's service profile (World Bank, 1991). The distribution may be biased, however, by the fact that administrative and physician fees are excluded for INAMPS. The pattern, however, is similar to those found in Portugal and Spain.

4.34 The outpatient-inpatient breakdown for PGPs mirrors that of United States HMOs, although the latter's administrative costs are slightly lower. The virtue of HMOs is their emphasis on

prevention and outpatient services as a means of discouraging unnecessary inpatient care. This strategy can lower costs and raise quality by creating incentives for more prevention and early intervention to reduce hospital care. Although less precise than the PGP and HMO figures, the medical cooperatives data indicate slightly higher inpatient costs, possibly due to less aggressive efforts to promote outpatient care and preventive measures, and the lack of both administrative controls and "gatekeeping" to certify the necessity of hospitalization (TFP&C, 1990).

4.35 Administrative costs for PGP plans are lowest for United States HMOs, although the PGP "own service plans" are not much higher (19% versus 17%). Administrative costs for INAMPS are incomplete estimates because the costly overhead and public administration and planning functions are not factored in. Administrative costs of self-managed company health plans account for between 5% and 15% of health care costs, but rise to between 15% and 25% for contracted administration. Cost control measures are rare when services are contracted, since earnings are tied to volume of transactions and services, which may account for the large discrepancy in the relative costs of administration. It is the larger CHP that contract out; higher costs may also reflect diseconomies of scale as programs become large. UNIMED reports rising administrative costs as cooperatives become larger, although their data are not of consistent quality.[3/] Experience in the United States, where administrative costs are extremely high, shows that multiple insurance companies, each with their own forms and variable rules, raise costs unnecessarily.

4.36 The actual charges and costs for the four private options are determined by the coverage in each plan, their geographic distributions, and whether they are individual, group staff or executive plans. The range of company health plans is shown in Table 4-4. Plans average US$96 per capita per year (1987-88). Costs are highest for executives and for public corporations. State companies are more expensive than private ones, but less costly than the mixed public-private firms (Medici, 1991d).

4.37 Health insurance costs represent 3% to 7% of payroll and increase with the size of the firm (Medici, 1991b), again suggesting possible diseconomies of scale. Prepaid group plans are the least expensive option with medical cooperative prices slightly higher because they rely on private clinics, offer more choice and do not have staff physicians. Table 4-5 summarizes average costs for own and contracted services under standard and open choice company health plans. Open choice places the strongest pressure on costs, and every option is more than double the cost of a comparable standard plan for both own and contracted providers and for both medical and dental care. Standard plans define the services enrollees may use and establish pricing agreements with each provider. The data further support the contention that contracted providers are generally more costly than own staff and facilities, particularly for medical care. However, the differences are less pronounced for dental care, and contracted costs are lower than own providers under standard plans. The difference in average costs between standard plans with own staff and facilities, as compared to contracted open choice models, is almost 300%. The next section discusses some of the reasons for this discrepancy.

[3/] Although data on administrative costs of private insurance are not available, evidence from elsewhere suggests the potential for escalating costs in general, particularly for administration under private insurance. In the U.S., private and public insurance administrative costs are considerable. Estimates of the proportion of total costs allocated to administration are as high as 25%, suggesting gross inefficiency in administration. Lack of incentives are largely to blame.

4.38 Comparable data are not available for health indemnity insurance, although the newspaper Folha de São Paulo (August, 12, 1991) reports a range from US$37 per month (US$444 annually) for basic plans for enrollees under age 59 to US$106 per month for executive plans (US$1,272 annually). Although for a different time period (1991 versus 1987-88), indemnity insurance is by far the most costly. The same source estimates a similar annual cost for high end executive plans under some PGP programs, suggesting either a rapid rise in costs between 1989 and 1991, a broadening of coverage at the high end among some types of payers or an artifact of exchange rate adjustments. Given the experience of Petrobras (Box 4-1), increased utilization may have also contributed to the rise in costs.

Table 4-4: **VARIATION IN AVERAGE PER CAPITA COSTS OF HEALTH CARE COVERAGE FOR ABRASPE MEMBER COMPANIES BY TYPE OF FIRM AND OWNERSHIP 1987/88**
(Current US$)

Ownership	Firm Type			
	Services	Industrial	Banking	Other
Private	$31	$25	$96	-
State	$42-229	$88-182	-	-
Parastatal	$4-301	$312	$80	$63

Source: Medici (1991d) based on ABRASPE data.

Table 4-5: **AVERAGE COSTS PER EMPLOYEE UNDER ALTERNATIVE COMPANY HEALTH PLAN OPTIONS, 1989**
(US$ 1989)

Type of Plan	Type of Administration	
	Own Providers	Contractual Providers
OPEN CHOICE		
Medical Care	47.8	86.7
Dental Care	27.0	41.9
STANDARD PLAN		
Medical Care	22.8	25.6
Dental Care	8.0	6.1

Source: Medici (1991d) based on a sample of 456 CHPs from Montigny Woerner Consultores (1990).

4.39 Total service volume across plans follows market shares, with prepaid group practice plans providing 60 million visits and over a million hospitalizations in 1989. Medical cooperatives have less than half that number of outpatient visits (24.5 million) but almost as many inpatient stays (960,000). Company health plans treated 21 million outpatients but allowed only 530,000 hospitalizations, demonstrating a strong bias toward outpatient services, although the ratio indicates a greater use of inpatient care than PGP plans. The gross volume figures for INAMPS are consistent with earlier data that show greater outpatient volume for INAMPS's own

services and a strong bias toward inpatient care for reimbursed services. Part of this is attributable to supply constraints, as discussed in Chapter 3. Diagnostic tests are considerably higher than other plans because of the much higher volume of patients.

4.40 The per enrollee service use figures presented in Table A4-2 permit greater insights into the workings of the private financing plans. Frequency of outpatient visits is clearly dominated by the PGP Plans. Health indemnity plans are the lowest with an average of 0.75 visits per enrollee. Some plans, however, do not include outpatient care, which obviously translates into low rates of utilization. In keeping with policies to control volume and efforts to discourage inpatient care, PGP and company health plans have relatively low rates of hospitalization; medical cooperatives rates at 1.32 per enrollee are almost double those of the highest PGP (0.7) and company health plans (0.7). Average lengths of stay are related to the rate of hospitalizations and range from a low of 2.8 under health indemnity plans to 5.38 for the low use hospital plan under company health plans (see Annex for gross volume comparisons).

4.41 Low rates of outpatient and inpatient services characterize health indemnity patients, perhaps reflecting the relatively good health of their high income earning clientele. Indeed, the plans that focus on upper class groups have lower rates of utilization, although they also tend to be more open-ended. "Gatekeepers" that control inpatient use also appear to affect overall volume. PGP plans insist that patients be seen by staff physicians prior to being admitted to the hospital. Most self administered company health plans have primary care physicians on staff that coordinate all employee health care and authorize hospitalizations. At the other extreme, medical cooperatives make more intensive use of hospital care and ancillary services than other plans and have no incentives for volume control.

4.42 Under INAMPS's reimbursement system, average outpatient visits for the estimated relevant population (estimated at 110 million people, those not covered by private financing plans) is below average, possibly reflecting the inpatient emphasis of the INAMPS financed services as well as the supply of public outpatient clinics or reliance on fee-for-service providers. Inpatient services at 1.06 per 10 enrollees are high on average, but lower than the rate for medical cooperatives. It is likely that the INAMPS figure overestimates utilization by the designated population, since some of the hospitalizations will include services to patients in private health care plans who have incomplete coverage or have reached their inpatient day ceiling. Surprisingly, the volume of diagnostic tests is quite low in comparison to private plans both absolutely and with respect to the levels of inpatient and outpatient service use. This probably reflects private provider response to reimbursement by procedure under the prospective payment system, and the judicious (or insufficient) use of diagnostic tests, issues that are addressed in the next chapter.

4.43 All third party payers face "moral hazard," the overconsumption of services because the beneficiary bears no cost of the service. Rising volume and costs due to both volume and range of services are commonly associated with indemnity coverage. In Brazil indemnity insurance is a relatively new service serving a relatively well-off population segment. Evidence from other insurance forms, notably CHP, show sharply rising volume and costs. As the IP plans mature, the cost rises observed in CHP and in private insurance in OECD countries are likely because the incentives are in place to push volume and costs upward.

4.44 Utilization of services and the associated costs can be controlled through various mechanisms. The lump sum reimbursement by diagnosis or procedure, as in prospective payment, is one important means. For all types of third party payment (private or public) co-payments and deductibles can serve as a strong deterrent to overuse, a problem that plagues free, open systems and raises their costs. Evidence in the United States shows the importance of financial deterrence (Manning et. al. 1984; Manning et. al., 1987), the limited information for Brazil suggests a likely similar pattern. For example, in company health plans with co-payments, visits/enrollee/year are 2.7, but 6-7 in plans without enrollee contributions.

D. Summary Assessment

4.45 The growth in private sector finance has produced a broad array of financing options for consumers, and a fifth of income earners are now covered by some form of private health insurance. This has been achieved in a little over a decade, attributable to rising incomes in the 1970s, which is generally correlated with increased investment in health care coverage and consumption, and a perceived deterioration in the social security system causing consumer dissatisfaction and a search for alternatives. Insurance -- prepaid group practice, company health plans, medical cooperatives and indemnity coverage -- offers immediate medical attention and protection against the perceived (but not measured) unreliability and uncertain quality of the public sector. Market shares are as follows: prepaid group practice 47%, medical cooperatives 28%, company health plans 20% and health insurance 4%. Those covered by private payers also retain the right to free care in public facilities.

4.46 Financing options encompass a broad set of arrangements and offer enrollees virtually tailor-made plans at varying costs. For example, some, such as health insurance and some company health plans, offer enrollees open choice of providers with only nominal co-payments or deductibles. Other plans, particularly prepaid group plans, provide access only to a preselected set of outpatient and inpatient providers either hired and operated by the plan or contracted under special financial arrangements. Prices rise with the degree of choice and extent of coverage. Company health plans and indemnity plans provide the most generous coverage and are also the most costly. Scope of plans varies and most exclude a number of conditions including dental care, infectious diseases, chronic diseases and mental health care. Exclusion of enrollees with preconditions or the potential for health problems occurs in individual/family plans.

4.47 Costs are highest for free choice, open-ended services because they have no incentives to control the costs or volume of care. Co-payments and deductibles help to correct this pattern, but equally or more effective are "gatekeepers" that regulate inpatient use and promote prevention and outpatient services as alternatives. Medical costs are rising in general and the most effective means of controlling expenditures and use are through prudent use of services and improved efficiency in managing coverage. Administrative costs are highest for contracted management and administration, and larger group plans. Government administration has never been fully costed.

4.48 Little government involvement has allowed unfettered competition and the proliferation of providers and financiers, but its absence is associated with abuses stemming from limited regulation and lax enforcement of those that exist. Public insurance and subsidized loans for hospital construction spurred the expansion of private facilities (see Chapter 2 regarding FAS). In addition, government directly subsidized activities through income tax deductions for private health expenditure

and health insurance premiums. Until 1982 employers could deduct 7% of the costs of health care or health insurance premiums offered employees, which further encouraged company health plans. In turn, those programs built demand for private providers, financiers and administrators. In short, the government has unwillingly played a somewhat facilitator role in private health sector growth, but has not fulfilled its role as regulator and partner with the private sector.

4.49 A stronger regulatory role for government or medical associations (of either hospitals or physicians) is required to ensure safety of products and services, fairness in access, cost containment, financial accountability and basic quality in the delivery of care. Consumer confidence in the medical system is beginning to erode and citizen pressure is beginning to be felt (see Chapters 7 and 8). Given the multiple options available, quality may determine consumer preferences and define the market of the future. In the short term, and in the absence of such forces, government and the medical community need to jointly ensure that private providers and payers of health care meet basic standards of access, quality and performance. The growth of private finance relieves government coffers for some health services. But government also has a role in establishing incentives to achieve desirable standards, and to control inefficiency if the private sector will not.

4.50 Incentives for specific kinds of financing, particularly prepaid group practice models and those that limit choice and promote outpatient care, have particular promise as means of controlling costs and of emphasizing prevention and simple procedures over hospitalizations. Requiring quality assurance, overseeing financial operations, and expanding licensing systems to incorporate health insurance and its offshoots are the kinds of initiatives government needs to consider.

4.51 These issues and specific recommendations emanating from them are presented in the subsequent chapters on costs and cost containment (Chapter 6), quality (Chapter 7) and regulation (Chapter 8). The systemic implications are explored in Chapter 9.

5. PUBLIC FINANCING OF HEALTH CARE: THE PUBLIC INSURANCE SYSTEM

5.1 Brazil has one of the largest public insurance systems in the developing world. It evolved from the social security benefit package of the early 1940s and now covers the entire population through a nationwide prospective payment system, one of the most sophisticated anywhere in the developing world. Brazil's size, heterogeneous population and regional diversity have made the task of health service provision a difficult and complicated task. Indeed, the current system with all its problems and drawbacks (discussed below) resulted from dissatisfaction with alternative experiments. The structure of the system reflects a strong underlying belief in the effectiveness of public-private partnerships and in consumer benefits from multiple supply options, a stand similar to that of the United States. Government, however, pursued the approach for a practical reason: inadequate public capacity. Many of the problems facing Brazil's reimbursement system are not dissimilar to those facing the United States, although prospective payment is affecting most Brazilians in contrast to only the poor and the elderly in the United States. In some ways this allows avoiding some of the most difficult political problems facing the United States in attempting reform, but it has serious financial implications.

5.2 As with the private sector, the *Reforma Sanitária* left the prospective payment system untouched although it made equal access to its services a constitutional right, and effectively reduced its resource base in favor of municipal transfers. This chapter outlines the evolution of the current system, describes the prospective payment system, analyzes the trends in health service quantity and costs under prospective payment, and raises a number of current and anticipated issues affecting the operation and affordability of hospital reimbursement. Section A is entirely background and can be omitted without losing the thread of argument. It sheds light on how the existing system evolved and provides a context for subsequent discussion. Similarly, Section B provides details of the prospective payment system. The levels, trends and expenditures in admissions under prospective payment are discussed in Section C.

A. Evolution of Brazil's Prospective Payment System

5.3 From the administration of João Goulart (1961-1964) until the military coup of 1964, government policy emphasized public provision of health care, although the social security system began contracting for private medical care in the early 1960s due to supply constraints in its own system. In 1964 the National Institute of Social Welfare (INPS, *Instituto Nacional de Previdência Social*) formally established medical coverage for all participants of the social security system, resulting in a rapid increase in the demand for health care services among social security participants, effectively formal sector wage earners. Health care was financed by employer and employee contributions and contracting private providers was a central component of the new approach (Medici, 1990b). All preventive activities remained with the Ministry of Health.

5.4 Implementation became more formalized in 1966 with the company grants (*Convênio Empresa)* to HMOs, and then in 1974 under Regulation 39 creating the Program of Immediate Action (PPA-*Programa de Pronta Ação*) under MPAS (MPAS - *Ministério de Previdência Social*), which determined that: (i) high technology care would only be provided in social security hospitals; (ii) companies must provide health care to their employees; (iii) physicians were to be licensed; (iv) social security participants were to choose their providers; and (v) priority was to be given to private hospitals that offer emergency services. Later in 1974, Regulation 78 specified regulation of private

health insurance. Under this law MPAS authorized health insurance, pre-payment systems, physician cooperatives and the other forms of private finance (Medici, 1990b).

5.5 INAMPS (The National Institute of Medical Care of Social Security - *Instituto Nacional de Assistência Médica da Previdência Social*) was established within MPAS in the 1970s. In 1976, INAMPS initiated a payment mechanism, the National System for the Control and Payment of Hospital Billings or SNCPCH (*Sistema Nacional de Controle e Pagamento de Contas Hospitalares*) that reimbursed contracted private providers under fee-for-service arrangements.[1/] The GIH (*Guia de Internação Hospitalar*/Guide for Hospitalization) and the Physician Fee Schedule, respectively, determined and managed hospital and physician payments. Billings and oversight were provided by the parastatal DATAPREV.

5.6 Despite improvements in data quality and account auditing, problems with managing the paperwork of billings, uncontrolled expenditures, inability to predict expenditures at the federal and hospital levels, and widespread accusations of fraud led INAMPS to consider alternative organizational and payment structures by the late 1970s. The process was further fueled by an October 1981 INAMPS audit in 400 contracted hospitals in São Paulo, Rio de Janeiro, Minas Gerais and Rio Grande do Sul that found irregularities in close to 90% of examined cases. Major problems included: nonexistent patients, falsified diagnoses, nonexistent complications, overcharging for room and board, charging for diagnostic exams and drugs not completed or used, double billing, unnecessary hospitalizations and diagnostic tests, and irregularities in charges for ICU and surgery (Gentile de Mello, 1983).

5.7 Growth in public and private medical coverage combined with surging economic growth in the 1970s led to rising demand for health services and an inability of the private market to respond due to capital constraints. The Fund to Support Social Development (FAS - *Fondo de Apoio ao Desenvolvimento Social*) was established in 1984 to provide capital to expand and upgrade hospital supply. Funded by federal and sports lotteries, almost 80% of the U.S.$224.1 million (1987 dollars) was allocated to loans for public and private health sector investments; the rest expanded and upgraded the public system that continued to exist alongside the expanding private network (Medici, 1990b).

5.8 Under the guidance of a national commission of experts selected from the public and private sectors, including representation from hospital labor unions, the national hospital association (FBH) and physician groups (*Federação Nacional de Médicos*/Brazilian Medical Association AMB), INAMPS explored options. The commission established key parameters for a new system, stressing the need for: (i) allowing patient access to services of their choice; (ii) defining standards for hospital participation in the system; (iii) defining mechanisms to readjust payments to providers; (iv) determining criteria for hospital admittance; (v) separating hospital and physician payments; (vi) facilitating financial control and oversight; and (vii) linking payments with hospital performance.

5.9 In 1980, the commission unveiled a proposed prospective payment system: the Physician-Hospital Service System of Social Security or SAMHPS (*Sistema de Assistência Médico-Hospitalar da*

[1/] Fee-for-service arrangements mean that the provider sets the price and INAMPS concurs and reimburses at that level.

Previdência Social) that was subsequently endorsed by INAMPS and private providers. The main components of the system were: (i) clinical procedures defined along the lines of the International Classification of Disease (ICD-9) Codes of the World Health Organization; (ii) fixed reimbursement levels for hospital and professional services for specific procedures (or diagnoses); (iii) an attribution system for each procedure (or diagnosis) based on points similar to those of DRGs in the United States Medicare Program; and (iv) a hospital adjustment payment, IVDH, (*Índices de Valorização do Desempenho Hospitalar*/Index of Hospital Value) that applies a multiplier to billings of tertiary care facilities to compensate them for their costly infrastructure and higher operating costs (Levcovitz, 1992).

5.10 In conjunction with DATAPREV, INAMPS pilot tested a variety of new payment mechanisms in 1980 in Curitiba, the state capital of Paraná. The pilot area expanded to encompass the entire state of Paraná for two years, and a prospective payment system was established nationwide between August 1983 and February 1984. The system was based on reimbursement for clinical and surgical procedures authorized by INAMPS medical auditors prior to admittance. The authorization for hospitalization, or SAMHPS/AIH (*Autorização de Internação Hospitalar*), adopted during the pilot phase, has become the shorthand term for the prospective payment system. Reimbursement levels were set according to the average of billings under GIH for each procedure. Initially, participating hospitals consisted of: *convênios* with FUNRURAL, *convênios* with nonprofit hospitals and contracts with for-profit hospitals. Public university hospitals were added in 1987 with the establishment of SUDS, outpatient and emergency services included in 1990, and public hospitals added in 1991. The system has adapted to the institutional changes over the last decade, completely transforming the system and loosening federal control in the process.

5.11 In early 1985, the Interministerial Commission of Planning and Coordination (CIPLAN/MPAS/MS/MEC) established a ceiling on lengths of stay by state under SAMHPS/AIH. In August of that year a new, numbered system for AIH was introduced to control admittances through establishment of a maximum number of AIH forms, and physician auditors were contracted to oversee the system at the hospital level. In 1986 IVDH was extended to non-profit hospitals. A system for accrediting high technology services was developed to ensure appropriate and adequate treatment at properly equipped facilities and to compensate providers through accompanying adjustments in IVDH.

5.12 When university and teaching hospitals were added in 1987, with a new IVDH based on degree of integration with the publicly financed service network, unit complexity and profile of teaching loads, the reimbursement levels of the IVDH accreditation/classification arrangements were updated and revised. With the onset of SUDS that year, the federal government transferred SAMHPS/AIH operating budgets to the state secretariats of health (SES) that were progressively to assume the functions of allocating the AIH forms and therefore hospital admittance, controlling and evaluating individual hospitals, and submitting completed AIH forms to DATAPREV. Payment was and continues at the federal level.

5.13 1988 brought extensive change with a new Constitution, a new non-military government and alterations in SAMHPS/AIH. The Constitution established SUS and converted universal access granted in 1985 into a constitutional right. The new administration reversed progress toward decentralization, and SAMHPS/AIH received its most profound structural changes since its inception.

5.14 Under the Collor government in 1990, INAMPS was transferred to the MOH and the new Minister of Health took on the implementation of the municipalization of health care under authorization from the *Lei Orgânica de Saúde* (No. 8080/90) that officially established SUS. It also created the *Sistema de Informações Ambulatoriais* or SIA/SUS, know as UCA (*Unidade de Cobertura Ambulatorial*/Coverage of Ambulatory Care), to include emergency and outpatient care under a separate prospective payment system. The objectives were similar to those of the hospital payment system and replaced an ad hoc outpatient system, but with the added intent of blunting some of the perverse incentives under AIH to hospitalize patients in order to be reimbursed. In 1991, the SAMHPS/AIH network was renamed SIH/SUS (*Sistema de Informações Hospitalares do SUS*/Hospital Information System of SUS). IVDH was dismantled except for university hospitals that received a multiple of payments based on FIDEPS (*Fundo de Incentivo ao Desenvolvimento do Ensino e Pesquisa em Saúde*/Incentive Fund for the Development of Health Teaching and Research). The result of the payment readjustment was to increase payments to lower level facilities to the point where payments exceeded those to facilities of higher complexity (Levcovitz, 1992).

5.15 With the advent of new Ministers of Health in early 1992, early 1993, and September 1993, the system remains in flux, with each successive administration leaving its mark on the system.

B. Description and Operation of the Prospective Payment System

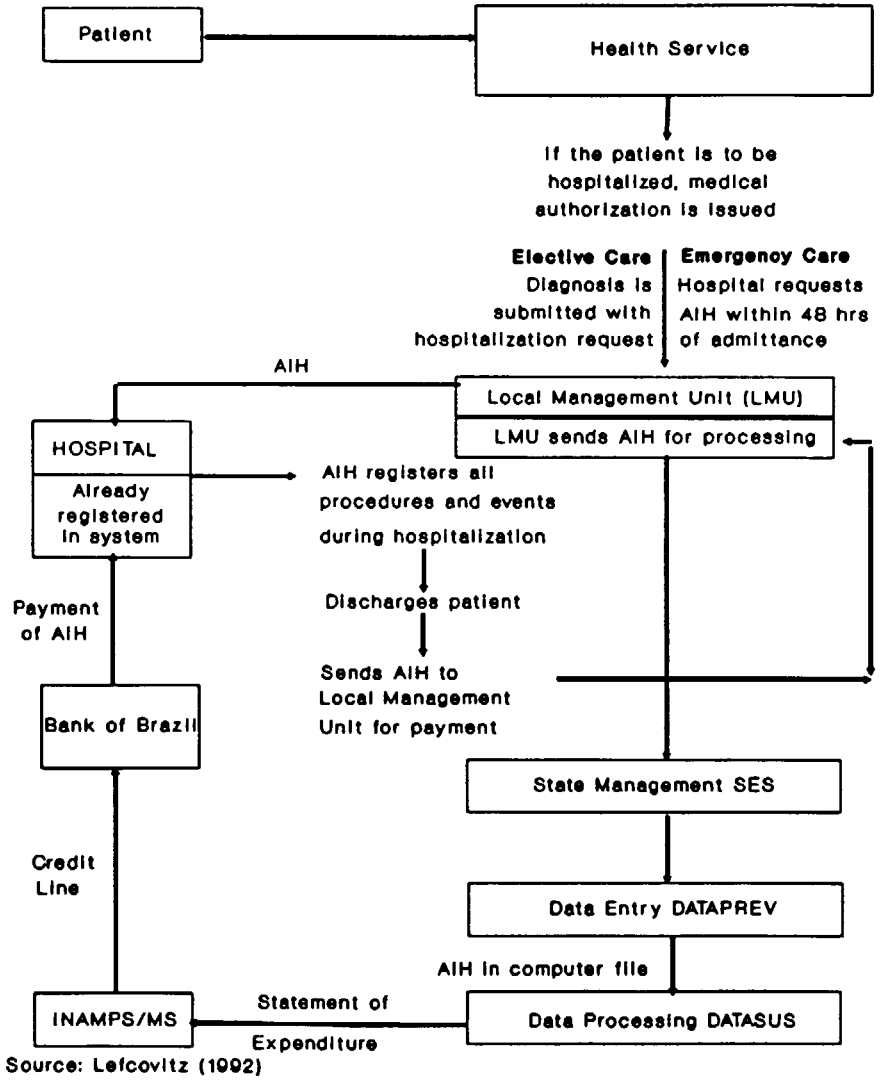
5.16 SIH/SUS is a prospective payment system that reimburse private and public hospital providers for specific treatments based on a fee schedule set by the Ministry of Health, and theoretically based on actual average hospital costs. It is patterned on and similar to the DRG (diagnosis related group) system used in the United States in the Medicare program for the elderly. SIA/SUS is a prospective payment arrangement for ambulatory and emergency care, also based on a fixed fee schedule but without the experience SIH/SUS has to draw upon.

5.17 Prospective payment is first and foremost meant as a method of cost control and data generation, and that was the intent of its Brazilian creators. Its strengths are its ability to anticipate and control the magnitude of expenditures, and the potential for using incentives to enhance hospital productivity, reduce the incidence of unnecessary diagnostic exams, lower lengths of (hospital) stay and achieve other efficiency gains. The system implicitly assumes that patient diagnoses are generally homogeneous, and display similar characteristics.

5.18 The need for stringency, and the complicated apparatus required by a prospective payment system, stem from the market failures discussed in Chapter I. Its drawbacks are hospital reluctance to treat severely ill patients, too early discharge of patients, and reduced use of needed technologies, all of which reduce costs since the diagnoses-specific payment remains the same regardless of the provider's costs (Veras, 1989). Price differentials across states and limited accommodation of case severity cause difficulties for providers. The fraudulent behavior described above that was specifically targeted for reform (para. 5.6) is also possible, and no doubt exists, under prospective payment, although it can be easier to trace than in an open-ended payment system.

5.19 AIH forms collect information about patients, the quantity and types of services received, which when filled out are submitted to DATAPREV for payment. The process under SUS is summarized in Figure 5-1. AIH functions as a potential information source for hospital managers and

Figure 5-1
SCHEMATIC OF AIH PROCESS



Source: Lefcovitz (1992)

MOH overseers regarding patient profiles, costs of services and service utilization. It also provides essential information regarding the patient's hospitalization that can serve as a back-up patient record, a particularly important function for hospitals with sloppy patient files. The AIH forms are controlled by imprinted numbers and are distributed monthly to hospitals according to the number of hospitalizations authorized for each facility. Once submitted to DATAPREV reimbursements are to be made within about 45 days.

5.20 Under UCA, data collection is weak, with virtually no readily available information except on transfer amounts (suggesting that SIA -- Ambulatory Information System -- is a misnomer). Unlike AIH, states and municipalities receive billings from providers, prepare spreadsheets with the registration number of each provider to be reimbursed, and submit these to MOH/INAMPS, which in turn is expected to reimburse the designated providers within 45 to 60 days. No amount above the allocated transfer is considered, and reimbursement requests must not exceed budgeted funds. In theory, states and municipalities should cover the difference, but no data exist on how frequently that occurs (Czapski, 1993). Unused funds revert to state or municipal coffers.

5.21 How well the systems work is unknown. Alleged abuses in billing nonexistent patients, "inflating" diagnoses so patients fall into higher reimbursed categories (see below) and disregarding the accuracy of patient information (e.g., length of stay, employment status) are reportedly common, but a dearth of data prevents their fair assessment. Such perceptions also suggest a lack of public oversight and accountability.

Mechanisms of the AIH and UCA Reimbursements

5.22 The reimbursement fee schedule (*Tabela Básica*) includes around 2,000 procedures organized into 266 groups. The fixed reimbursements are attributed to the groups which have an undetermined number of procedures, theoretically diagnoses that are clinically related and have similar costs. The schedule is divided into the following treatment categories: clinical/pediatrics, surgery, obstetrics and chronic/psychiatric. Clinical/pediatric are further divided into groups of diagnoses according to specialty (e.g., cardiology, infectious diseases) that assume an average degree of complexity. Surgical procedures are defined by the medical service category again grouped by specialty (e.g., orthopedics, neurosurgery) and adjusted for complexity.

5.23 Procedure reimbursements are based on inflation adjusted payments of the costs reported under the fee-for-service reimbursements under GIH, which preceded SIH/SUS. The reimbursement payment is divided into four major components: room and board (SH),[2/] professional service (SP), diagnostic tests and special therapies (SADT), and consumables and drugs (MAT/MED). Each procedure (or diagnosis) has three other characteristics: number of points for medical service indicated in the fee schedule; number of points for anesthesiologist (for surgical procedures); and expected average length of stay (ALOS). The fixed reimbursements for each procedure, however, are not intended to meet the cost of that patient's care but to ensure that the monthly operating costs of the hospital are covered (Chiyoshi, 1983).

[2/] SH was originally divided into *Diária* (Room and Board) and *Mat/Med* (*Materiais e Medicamentos*/Consumables and Drugs), although these were later collapsed into a single component.

5.24 UCA procedures are contained in the Tabela SIA/SUS. Reimbursement levels do not reflect costs, as these were not available when UCA went into effect. As an alternative, a per capita transfer was designated for the states and municipalities based, theoretically, on population, supply capacity, performance, case mix and historical expenditures. In practice, population and historical expenditures serve as the basis for transfer amounts. Tertiary care centers receive higher per capita transfers than other states due to their greater capacity and more sophisticated services.[3/] Table A5-1 contains the monthly allocations for and population of each of the states.

Value Index of Hospitalization (IVDH)

5.25 The system of fixed payments by procedure does not accommodate the higher fixed costs of tertiary care facilities nor the uncompensated (charity) care provided by nonprofits. The costs of acquisition and maintenance of technologically sophisticated and specialized equipment and the relatively sicker patients treated in tertiary or specialized secondary facilities need to be compensated to ensure patient access to high level care. IVDH is based on the following hospital criteria: square footage 10%; equipment and installations 25%; human resources 30%; and performance indicators 35%. Table 5-1 summarizes the types and evolution of IVDH up to 1990 when it was eliminated with the establishment of SIH/SUS. A reinstatement of IVDH is possible, with the reinstatement of the structure in Table 5-1. Annex 5 contains additional details on the calculation of reimbursements.

Co-payments

5.26 The legality of co-payments for impatient care is somewhat ambiguous and remains in a state of flux. In 1980, INAMPS for the first time endorsed supplemental payments from users, but only for upgraded hotel and nursing services (Regulation MPAS 2.079) with outpatient services specifically excluded. These revenues assisted hospitals to recoup earnings from the fee-for-service payments whose real value was lagging between 1965 and 1983 due to rising inflation and minimal payment adjustments from INAMPS. This position was modified in 1982 by Regulation MPAS 2837, which stipulated that co-payments could not exceed the price schedule of the Brazilian Medical Association (AMB), which at the time was more than eight times the INAMPS schedule. In December of 1986, another MPAS regulation rescinded restrictions on supplemental payments for upgraded services. The result was a rapid rise in patient charges that approached private fees largely because of the continued underpayments by INAMPS (Medici, 1990b).

5.27 The 1988 Constitution does not address the issue of co-payments or user charges in public hospitals, but the universalization of services prohibited "external" payments. Patient payments are not permitted under UCA. The 1990 *Lei Orgânica de Saúde* specified that free public and privately contracted health services would be preserved but contracting (government purchaser) would be relegated to states and municipalities, which will allow broad interpretation of the acceptability of co-payments over the coming years (Medici, 1990b). Given tight budgets it is possible that co-payments will become a necessity, but the verdict is still out.

[3/] The distribution according to population resulted in a shortage of funds in the urban areas, especially São Paulo and Rio de Janeiro, and surplus funds in less densely populated states.

Table 5-1: **IVDH MULTIPLIERS & THEIR APPLICATION ACROSS HOSPITAL OWNERSHIP, 1990**

Multiplier	Hospital Legal Status (Type of Agreement)		
	Private (Contracts)	University (Public)	Non-profit (Convenio)
Hospitalization	Yes, except for professional services	Yes, over the entire value of services	Yes, except for professional services
Outpatient Visits	No	Yes	Yes
Special High Cost Procedures	No	Yes	No
Multiplier Range	1.00-1.20	1.20-2.30	1.05-1.80
Date Introduced	1984	1985 (only IVH) 1987 (added SP)	1986

Source: Levcovitz (1992)

5.28 The history of patient contributions in the contracted hospital system suggests that co-payments would not be either alien or new, and therefore more easily introduced. Given the openness of the system and the need to both raise revenue and limit overconsumption (the moral hazard problem discussed in Chapter I), co-payments are key. It is one of the few tools available to address both moral hazard and the need to begin to ration health care that is so central to maintaining a solvent health care system.

Characteristics of Suppliers

5.29 There are currently 6,380 participating hospitals in the SIH/SUS system, up from 4,500 in 1987. Almost all of this growth is due to the absorption of public hospitals into the INAMPS system, as there are indications that private sector participation is being reduced (Levcovitz, 1992). Although figures are not available, the withdrawal of participating providers is allegedly occurring under UCA as well.

5.30 In 1988 INAMPS spent 36.8% of its US$5.95 billion budget on hospitalizations and another 34.5% went to ambulatory care. The remaining resources covered diagnostic tests (19.3%), therapeutic services (2.8%) and primary care (3.4%) (Campos, 1988). These proportions in general are consistent with what would be expected given the relative importance and costs of outpatient and inpatient services.

Table 5-2: **SIH/SUS EXPENDITURE PER HOSPITALIZATION BY HOSPITAL OWNERSHIP, 1988[a]**
(Current US$ Millions)

Hospital Ownership	Total Expenditure ($)	%	Hospitalizations (Thousands)	Expend. per Hospitalization ($)
For Profit	911,000	41.6%	5,509	165
Non-Profits	760,000	34.7%	3,571	213
Public	332,000	15.8%	2,593	128
University	158,000	7.2%	637	249
Union	20,000	0.9%	169	120
Company	8,000	0.4%	138	60
Total	2,189,000	100.0%[b]	12,563	174

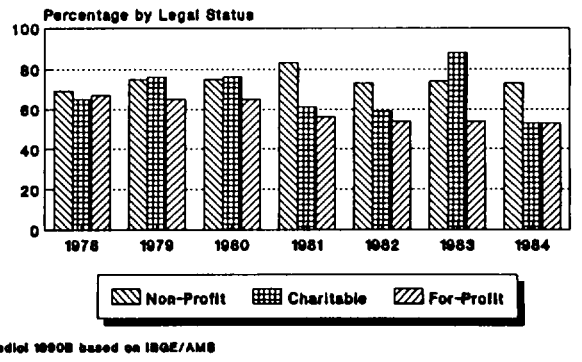
[a] These are estimates made by INAMPS for its 1988 budget. Conversion was done at the average exchange rate for 1987.
[b] Adds to more than 100% due to rounding.

Source: Campos (1988), from INAMPS/SP: *Programação de Atividades Físicas e Demonstrativo Orçamentário* 1988.

5.31 The pattern of patient admissions by hospital ownership is shown in Table 5-2 reflecting the allocation of INAMPS expenditures. In 1988, contracted for profit and *convêniado* (nonprofit) hospitals received the largest share of INAMPS funds at 42% and 35%, respectively, public hospitals received 15% and university facilities 7%. Similar breakdowns under UCA are not available.

5.32 The trends in participating hospitals by legal status are provided in Figure 5-2 for the 1978-1984 period. For profit hospitals decreased their participation over the seven years as did charitable (*beneficientes*) hospitals. Only among the nonprofits (*filantrópicos*) has participation risen, probably due to the preferential treatment accorded these hospitals, a trend reinforced by the 1988 Constitution that reserved certain privileges only for these hospitals. Within participating hospitals, roughly 89% of beds were allocated to INAMPS patients in 1988, although the concentration is higher for non-profit and lower for for profit hospitals. The extent of INAMPS financed patient access to private beds in any

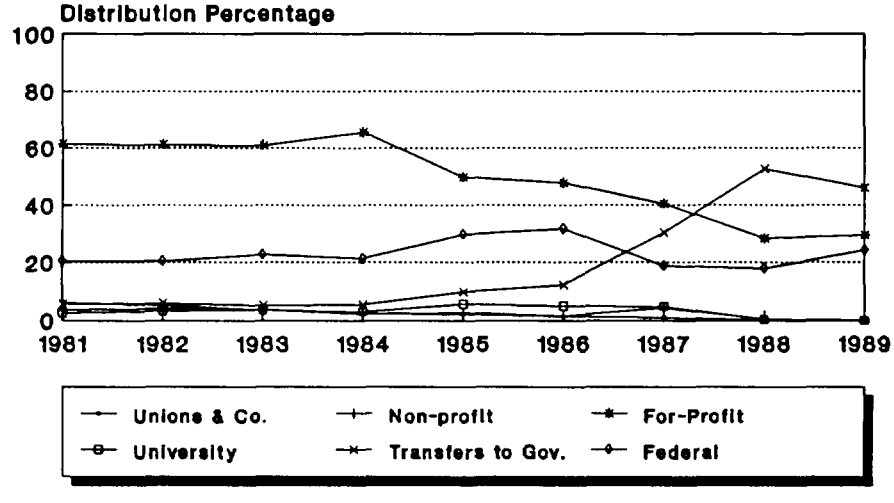
Figure 5-2
HOSPITAL PARTICIPATION IN SAMHPS/AIH 1978-1984



participating private hospital is a point of contention among hospitals who want flexibility in determining their mix of private and INAMPS financed patients. Total committed bed days would remain the same, but hospitals want to determine the distribution of INAMPS patients at any given time during a particular month (Medici, 1989a). Figure 5-3 summarizes the trends in INAMPS service distributions across types of providers. The distribution shows the significant shifts that occurred between 1981 and 1989 with intra-governmental transfers (to states and municipalities) replacing for profit, nonprofit, and union and company *convênios*. This reflects the decentralization of health care delivery in Brazil.

5.33 Overall in 1978, 67% of private hospitals had contracts or *convênios* with INAMPS; by 1984 the average had declined to 58%. Although survey data are not available, private health insurers suggest that the proportion of participating private hospitals has declined to around 50% due in large part to dissatisfaction with reimbursements, an issue that will be discussed below in detail. In 1984, the private sector was also reimbursed for about 60% of outpatient consultations (Medici 1989a).

Figure 5-3
TRENDS IN INAMPS EXPENDITURES BY TYPE OF PROVIDER, 1981-89



Medici (1990b) based on DATAPREV

C. Levels and Trends in the Volume, Components and Value of SAMHPS/AIHs

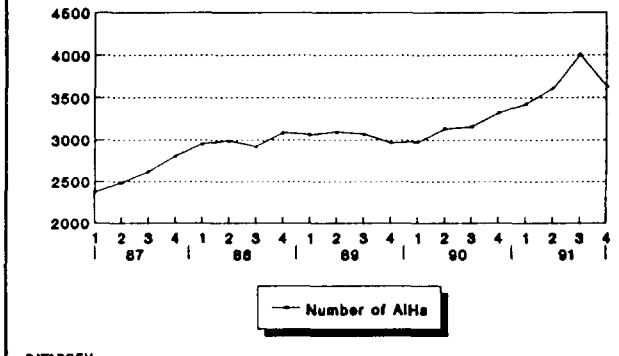
5.34 The reimbursement system has grown rapidly over the past five years as it adjusted to changes in the number and types of service providers, to the broadening of the patient-base through the reforms discussed earlier and adjustments for chronic diseases, and to the addition of UCA.

Growth has occurred in both the number and value of the AIHs, although length of stay and the disease composition of patients has remained relatively constant.

Levels and Trends in AIH Volume

5.35 By the end of 1991, SIH/SUS was admitting over 1.2 million patients per month with an average length of stay of 6.4 days, a level that has remained stable over the past decade. This situation is attributed by some to automatic reporting of allowable days rather than of actual hospital days. (No confirmation of either is possible.) Between 1987 and the end of 1991 the number of AIHs, or admitted patients, went from a low in February 1987 of 767,000 to a high of 1.625 million in August 1991 when public hospitals joined the system. The total number of quarterly admittances jumped from 2,370 million to 3,629 million, a 53% increase in just 5 years, a time during which population increased by only about 2% a year. Figure 5-4 shows the quarterly trends in the number of AIHs over the five years. Part of the expansion is due to the opening of the system to all citizens whether or not they participate in the social security system, and some of it is allegedly due to fraud.[4/]

Figure 5-4
TRENDS IN THE NUMBER OF PATIENTS (AIHS) BY QUARTER, 1987-1991



5.36 Expenditures across three of the major components of AIH -- SH, SP and SADT -- have changed somewhat over the five years. Hospital Services (HS) have absorbed an increasing share of the total payment at the expense of both diagnostic tests (SADT) and physician services (SP), although the trend reversed slightly during the last half of 1991. To understand the dynamics and causes underlying these trends requires analysis of individual patient experiences that is not yet available, although the data exist in DATASUS files (See Annex 5 for additional data).

5.37 The frequency of hospitalization (see Tables A5-2 and A5-3 in Annex) is consistent with Brazil's disease profile, endemic disease incidence and age distribution, with adult health problems (obstetrics, respiratory illness, psychiatric treatment and diseases of the circulatory systems) predominating in the three southern regions and endemic diseases and obstetrics important in the North and Northeast (World Bank, 1989). Psychiatric problems are the second most common reason for hospitalization in Brazil due to high rates in the Southeast (a whopping 11.1% of all hospitalizations there). This pattern may be supply driven to some extent given the large and growing number of providers, particularly in the Southeast (see Annex 5 for state level examples for Rio de Janeiro and São Paulo).

[4/] In 1993, a public hospital strike of over a month did not result in a decline of AIHs, and there has been no accounting of those expenditures, suggesting some level of irregularity.

5.38 In keeping with the diversity discussed in Chapter 2, disease profiles vary regionally. For example, malaria treatment dominates in the North. In the second half of 1991, malaria represented 6.5% of all procedures in the North. In some of the Northern states, however, the proportions are very high; for example, in Rondônia, Roraima and Amapá malaria treatment represents 20.2, 12.4 and 9.6%, respectively, of all inpatient admissions. This further highlights the heterogeneous nature of diseases in Brazil and the resulting importance of tailoring programs and reimbursement efforts to meet very different needs.

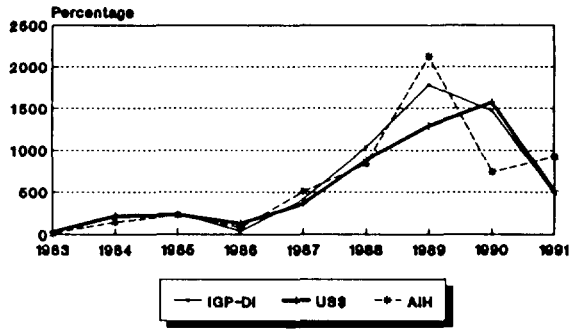
Trends in SUS Expenditures: Causes and Implications

5.39 Expenditures under SIH/SUS have been a point of constant controversy stemming from high inflation that has distorted the value of reimbursements and made management difficult, a belief that SIH/SUS, in particular, is so politically driven that fairness is impossible, and the lack of information on performance. This subsection examines a range of issues regarding expenditures under both reimbursement systems, complementing the previous section and setting the stage for discussion of the key policies for the sector.

AIH Expenditures and Inflation

5.40 Cumulative inflation in Brazil between January 1980 and December 1991 reached 4,337 million percent, with quarterly rates in the triple digits for some periods. As costs have risen, MOH/INAMPS has used a general inflation deflator (INPC-IBGE) to adjust reimbursements, which does not necessarily reflect cost escalation of medical care (see Chapter 3), nor was it consistent with the respected inflation measures relied upon by the private sector. Figure 5-5 shows trends in the percent changes in the Fundação Getulio Vargas price index (IGP-DI), the U.S. dollar and AIHs (see Figure A5-1 in Annex 5 for inflation adjustment trends across the 4 AIH components). The latter does not follow the same pattern, adjusting later but by greater amounts, allowing the government to benefit from the "float" created by lagging inflation adjustments. UCA shows a similar pattern; and although transfer values are adjusted monthly, inadequate adjustments allow the government savings. In addition, the lack of re-estimation of diagnosis treatment costs since the establishment of AIH in 1981 has exacerbated the problem since not only was the real value eroded but real costs rose without appropriate compensation. INAMPS effectively reduced costs by delaying reimbursement payments, significantly reducing the real value of payments even where payments were only two weeks late (Levcovitz, 1992; Medici 1990b).

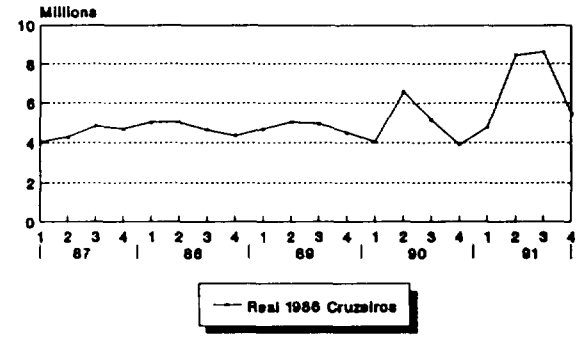
Figure 5-5
COMPARISON OF PRICE INDEXES & AIH VALUE ADJUSTMENTS, 1983-1991



5.41 Quarterly real expenditure growth in AIHs is shown in Figure 5-6 for the period 1987-1991. The upward trend in nominal amounts is unmistakable, even as the recession began in the late 1980s although the real trend shown is more erratic. Reductions at the end of most fiscal years (4th quarter)

occur frequently, dramatically so in 1990 and 1991, reflecting end of fiscal year (December 31) resource shortfalls. Erratic growth over 1990 probably reflects adjustments to a new administration; however, on an annual basis real expenditures in 1990 slightly exceeded those of 1989. The average costs of AIH rose over the period from US$138 in the first quarter of 1987 to US$295 in the third quarter of 1991 (the last quarter drops after a rising trend). Thus not only are the number of AIHs increasing, as seen in the last section, but the average and total expenditures are as well. Chronic underpayments during the period stem in part from disproportionate increases in admittances and more modest growth in real expenditures.

Figure 6-6
QUARTERLY TRENDS IN AIH EXPENDITURES, 1987-1991



Levcovitz (1992) based on DATAPREV

UCA Expenditures

5.42 As a relatively new program, UCA expenditures are not necessarily representative. However, they indicate the level of federal resources devoted to ambulatory care over a short trend of three years. Table 5-3 summarizes available information on the value of monthly SIA/SUS transfers based on data for January of 1991, 1992 and 1993. Expenditures and billings (not necessarily the number of consultations, which is not available) declined by 19 and 6%, respectively, between 1991 and 1992, but are projected to more than recover in 1993, suggesting increased public funding for outpatient services. Data from the three years prior to UCA indicate that U.S. dollar equivalent expenditures under INAMPS were almost twice as high as those allocated under UCA (Czapski, 1993). Why this occurred is unclear, but presents a potentially disturbing trend.

Table 5-3: UCA Expenditures and Billings for January of 1991, 1992 and 1993

Year	Total Cruzeiros	US Dollars	Exchange Rate	Percent Change (in US$)	Average Number of Monthly Billings
1991	Cr$ 28,104	$145,618	193	n/a	46,692
1992	140,625	117,481	1,197	-19%	43,835
1993	2,815,157	200,239	14,059	+71%	53,862 a/

a/ Projection.
Source: MOH

Distribution of Hospital Expenditures

5.43 The distribution of hospital expenditures can most easily be seen by assessing the most frequent procedures and those that make the largest claims on resources. Table 5-4 lists the twelve most common diagnoses treated with MOH/INAMPS funding in 1991 along with the relative

Table 5-4: **TWELVE MOST FREQUENT HOSPITAL PROCEDURES/DIAGNOSES FINANCED UNDER SIH/SUS**
Second Half 1991

Diagnosis/ Procedure	Frequency	Frequency as % of Total	Average Expenditure	ALOS	ICU Use Rate
Normal Birth	889,380	12.1%	7,773,328	1	0.13
Psychiatric Treatment	574,795	7.8%	13,423,351	129	0.00
Cesarean Birth	408,641	5.6%	12,833,913	3	0.42
Congestive Heart Failure	219,736	3.0%	18,967,301	6	5.09
Abortion Complication (D&C)	172,928	2.3%	5,134,656	1	0.02
Enteric-infection (Pediatric)	164,675	2.2%	6,331,012	4	0.25
Enteric-infection (Adult)	147,853	2.0%	6,194,247	4	0.19
Bronco-pneumonia (Pediatrics)	143,130	1.9%	11,098,223	5	0.74
Hypertensive Crisis	127,518	1.7%	6,133,223	4	1.15
Stroke	125,196	1.7%	17,455,353	7	6.63
Unspecified Pneumonia	113,301	1.5%	10,849,883	6	0.46
Broncho-pneumonia	104,356	1.4%	10,955,185	5	0.70

Source: Levcovitz (1992) based on DATAPREV.

frequency, average expenditure, ALOS and ICU use rates for each. Three of the top five procedures financed by MOH/INAMPS are gynecological-obstetrical procedures. In keeping with the patterns observed in Rio de Janeiro and São Paulo states, psychiatric treatment is among the most common reasons for hospitalization (7.8%), as is congestive heart failure (3.0%), reflecting the aging of the Brazilian population. Together these diagnoses account for over 30% of all expenditures (see Annex 5 for additional data).

5.44 Enteric infections in children and adults, bronco-pneumonia of children and adults, hypertensive crisis, stroke, and unspecified pneumonia are the remaining diseases on the list. Of this group, many are diseases that can be prevented (e.g., enteric infections and hypertension) through

non-medical interventions such as water and sanitation, or earlier diagnosis and preventive measures through out-patient care (hypertensive crisis, congestive heart failure, and stroke). The high proportion of hospitalizations for these conditions when compared to developed countries suggests a failure of outpatient care and a costly approach to treatment.

5.45 Two particularly costly services that figured prominently in 1988 in overall expenditures are orthotics and prosthetics (2.2%) and kidney dialysis (1.0%), two treatment areas that are unlikely to have decreased over time. The frequency of the former is due in large part to limited private supply, and therefore of competition, and the latter to the high cost of dialysis. Thus MOH/INAMPS covers a disproportionate share of these expensive services (Campos, 1988). Both are special cases but figure prominently in budget allocations. They also represent services commonly excluded from private insurance plans, which tend to cover, and pay for, lower cost services.

5.46 The two most important factors affecting costs are ALOS and Intensive Care Unit (ICU) use. Psychiatric treatment is notable by its extremely high ALOS at 129 days. The highest average cost items, congestive heart failure (Cr$ 18,967,301) and stroke (Cr$ 17,455,353) have an average ICU rate of 6.6 and 5.1, respectively. In general, however, frequent treatments are low cost in comparison with the most expensive procedures listed in Table 5-5.

5.47 The ten costliest diseases are characterized by higher than average lengths of stay and often ICU stays. Trauma resulting from multiple injuries is the single most expensive treatment at Cr$ 41,625,002 although it is relatively infrequent (0.24%). Preventive medical interventions in this area are difficult, as associated with violence, car accidents and other behaviorally linked causes.[5/] The "procedures outside the schedule" have long lengths of stay but no ICU use, suggesting that these tend to reflect treatment in long-term residence facilities for contagious, untreatable diseases such as leprosy, as discussed above. Except for low birthweight, most of the other diagnoses are difficult for the medical system to prevent, although some, such as myocardial infarctions, can be prevented to some extent through diet and other behavior changes (World Bank, 1989), and hospital-induced septicemia controlled through improved quality control. Low birthweights stem from poor prenatal care, congenital problems and unanticipated circumstances.[6/] While the proportion is quite low, it is costly to treat, suggesting the need for more systematic efforts to reach pregnant women more effectively and possibly earlier in pregnancy.

5.48 The ICU stays shown in Table 5-5 are the longest of any diagnoses, but overall are quite short with a maximum of 14 days for low birthweight and an average of 2 days (excluding "procedures outside the schedule"). What is striking is the low level of ICU use for the precarious diseases listed. Stroke and myocardial infarctions, for example, normally require much longer periods of ICU observation and attention than is being provided under MOH/INAMPS financing. Why ICU use is so low is not clear, but may be due to either inadequate capacity or underutilization, perhaps because of the reduction in real reimbursement levels that do not compensate hospitals

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[5/] World Bank (1989c) discusses this problem, its causes and appropriate non-medical interventions.

[6/] However, low birthweight may actually reflect better prenatal and antenatal care because high risk pregnancies are brought to term.

Table 5-5: **TEN MOST COSTLY PROCEDURES UNDER SIH/SUS, THEIR FREQUENCY & OTHER CHARACTERISTICS**
Second Half 1991 (Current $Cr)

Diagnosis/ Procedure	Average Costs	Number of Cases	Frequency %	ALOS	Avg ICU Use
Trauma Resulting from Multiple Injuries	41,625,002	17,895	0.24%	7	1.25
Surgery	40,756,936	69,335	0.94%	5	1.91
Septicemia (Pediatric)	36,159,991	24,444	0.33%	10	3.46
Septicemia (Adults)	33,917,482	16,799	0.22%	9	1.49
Low Birthweight	33,179,066	23,410	0.31%	14	4.80
Myocardial Infarction	29,619,165	20,080	0.27%	7	3.91
Procedure Outside the Schedule	29,561,656	69,899	0.94%	199	0.00
Acute Respiratory Failure	28,347,421	18,854	0.25%	6	1.58
Acute Pneumopatios (Pediatric)	26,581,109	18,512	0.25%	6	0.72
Cholecystectomy	26,334,484	30,873	0.41%	3	0.01

Source: Levcovitz (1992) based on DATAPREV.

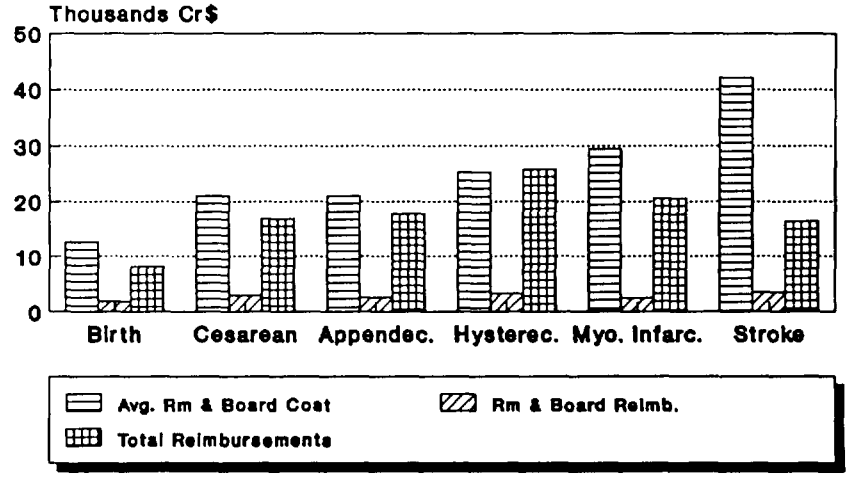
adequately in general, much less for extensive ICU care. Hospitals may be limiting costly ICU days. The impact on quality has not been assessed, but should be because such practices would be expected to adversely affect morbidity and mortality.

AIH Reimbursement Levels versus Costs

5.49 MOH/INAMPS's financial irresponsibility has taken a toll on the participating private hospitals, as just suggested. The eroding value of reimbursements and the lack of re-costing of diagnoses to account for new technologies and drug therapies have resulted in serious underpayments to hospitals and reduced fees for physicians. A recent estimate of room and board average costs (SH) for a sample of 15 general hospitals in São Paulo, Minas Gerais and Paraná with MOH/INAMPS reimbursement payments for three consecutive months at the end of 1990 and beginning of 1991 showed that on average MOH/INAMPS only covered 8-10% of hospital room and board costs. Although the discrepancy may vary across components, SH represents the largest single component of AIH. Moreover, drugs and consumables tend to receive larger adjustments than the other three components (see Table A5-6 in the annex).

5.50 The differences can be seen on a diagnosis-specific basis in Figure 5-7 where average room and board costs for the same 15 hospitals are compared with INAMPS's room and board reimbursement. Total reimbursement for six typical procedures illustrates the degree of under-reimbursement for all services, room and board. Room and board payments represent about 10% of the actual average room and board cost for a hysterectomy and the total reimbursement slightly exceeds room and board cost; thus in some cases total reimbursements can compensate hospitals for only one, albeit the most costly, component, although as shown, even the total payment may not adequately compensate hospitals for room and board services. Particularly important, however, is the reimbursement for normal deliveries, the most common reason for hospitalization, and effectively a preventive measure. The total reimbursement does not come close to the average room and board cost (66%). Hospitals can reduce the ALOS of three days or cut corners elsewhere, but unless managers can identify where efficiencies are likely, quality may suffer in adjusting to inadequate payments.

Figure 5-7
PRIVATE HOSPITAL COSTS & INAMPS PAYMENTS FOR SELECTED PROCEDURES, DEC. 1990



Matos (1991)

5.51 Reimbursements are based on the authorized ALOS and other assumptions, as described above. The proportion of costs met by government payments varies across diagnoses with the most costly procedures being the most adequately reimbursed in some areas like São Paulo (Soulsadias, 1990). Recent evidence for a sample of hospitals in Rio de Janeiro shows low technology maternity and geriatric care among the most common services provided, suggesting that these services are profitable (Travassos Veras, 1992). The incentives are: to favor patients whose diagnosis is adequately reimbursed, to refer to other (public) hospitals those that are not, and to reduce lengths of stay and any elective activity that will raise costs. While prospective payment is meant to encourage efficiency, the practices suggested by rumor, and implicitly forced by the current operation of the

system, are a recipe for undermining quality of care. Accusation of fraud -- particularly the recurrence of the 1981 documented phantom patients -- are not surprising given the large proportion of beds devoted to MOH/INAMPS in private hospitals and the totally inadequate payment by the government. Moreover, although auditing practices in participating hospitals have been criticized, public hospitals that since 1991 have participated in PPS, have never submitted to an audit, leaving that system completely open to abuse. To operate properly, government has an obligation to oversee and administer the setting of reimbursements and the auditing of hospital quality and financial compliance of both private and public institutions with the same care and attention that DATASUS (and previously DATAPREV) exerts in ensuring that the payment mechanisms function well. This is the challenge and the key to reviving SIH/SUS.

D. Issues, Challenges and Recommendations

5.52 Over the decade of the 1980s the Brazilian government effectively coped with inflation, rising costs and efforts to expand the health system by squeezing providers through late and chronic underpayment, a combination that has undermined the system and led to abuses by providers that can be at least partly explained, if not condoned, by government actions. The accusations of hospital fraud, eroding quality and declining private sector participation all suggest dissatisfaction with the system. Growth in private insurance is largely attributed to perceived declines in the quality of MOH/INAMPS-financed services, as noted in the previous chapter. These trends have serious implications for the viability of the system because they have not only led to deterioration in physical plants, but to reduced quality of personnel, lack of appropriate new technologies and equipment, and an undermining of both the reputation of the hospital network and the public-private relationship that is so important to an effectively operating health care system like Brazil's. Efforts in mid-1992 have addressed the most egregious problems through an average 129% increase in reimbursements, but the longer term effects are much harder to reverse and even more difficult to maintain. SIH/SUS and SIA/SUS have considerable potential, but must be managed effectively.

5.53 The problems in SIH/SUS revolve around inadequate and inappropriate attention to the operation of the system, and neglected opportunities for taking advantage of the built-in incentives of prospective payment, as envisioned by the commission that recommended it. First, MOH/INAMPS never monitored the system properly to determine performance or any other characteristics. Some of these lapses are due to lack of data and distance between policymakers and providers, but much of it is due to ignoring the data available through DATAPREV/DATASUS, a potentially valuable source of basic data that could (and can) inform policy and programs on how the system is working and where the problems and bottlenecks lie. And, added to neglect at the federal level, states have not had timely access to the data for management and planning. In a similar vein, data quality under DATASUS deserves some attention, as does the dearth of reliable and timely data from UCA. Another gap is inadequate or ineffective auditing of hospitals to ensure accurate data. The current arrangement falls short of expectations and needs to be reviewed and revised. This is discussed further in Chapter 8.

5.54 Second, the AIH system has the potential for encouraging efficiency in hospital performance. Indeed, virtually all OECD countries have adapted some form of prospective payment to raise efficiency and generate information (Wiley, 1992). To date, its potential has been ignored in Brazil, again to some extent because the federal government has never monitored its network of facilities.

To design and establish workable incentives and to test whether they are having the anticipated effect requires serious data analysis and policy feedback, to identify efficiency gains and assist jurisdictions or facilities adopt appropriate reforms. Efficiency can be achieved through properly designed and implemented incentives for participating providers. Together SIH/SUS and SIA/SUS constitute the biggest single payer in Brazil's health care system. MOH/INAMPS pays for about 70% of all care through public and private facilities and thereby has considerable leverage over providers. Indeed, given the financial clout of MOH/INAMPS, reforms can be applied through moral suasion, agreements between government and private providers or outright regulation of business and medical practices. A good example is cataract surgery, an inpatient service that can be safely and cheaply performed on an outpatient basis. The same may be true of some psychiatric treatments where asylum residence can be replaced by effective outpatient services and drug therapies. These types of initiatives introduced under SIH/SUS could well spill over into the private market, a pattern apparent among insurers in the United States that increasingly are following Medicare innovations aimed at capturing efficiency gains.

5.55 An additional consideration is that many hospitals may want to reduce expenditures but have neither the expertise nor the knowledge of possible interventions to act effectively. If that is the case, without training or other assistance inefficiencies of the existing system will continue (tempered with heavy lobbying from those adversely affected).

5.56 The third serious drawback is that cost containment has been abandoned. Although AIH and UCA were aimed at cost containment, and may have partially achieved that objective, the broadening of the system, rising patient expectations and budget constraints on the horizon due to declining revenues will place increasing pressure on the public insurance system. Currently the number of AIHs has been allowed to rise sharply (Figure 5-4). Without a concomitant increase in resources, quality will necessarily suffer and the higher quality providers will leave the system. This pattern reflects what occurred in the United States Medicaid program when reimbursement levels declined. There is some suggestion that the same thing is occurring in Brazil. These circumstances make health care rationing and cost containment of central importance. Moreover, given the assumed linkage between reduced reimbursements and faltering quality, fiscal restraint options in the public health sector require consideration.[7/]

5.57 Within the AIH system, specific steps are needed for facility-level incentives to promote definition of priorities and assessment of trade-offs, in order to minimize excessive expenditures, ensure that incentives are fashioned to encourage cost containment, and guarantee that controls are placed on service volume.[8/] Innovations such as pre-paid group practice arrangements that are reimbursed for integrated health care for certain groups of households have shown promise in the United States, and may be worth considering in Brazil given the large supply of pre-paid group practices and their long-term potential. Low income beneficiaries under the Medicaid program in the United States (insurance for the poor) have received preventive care and treatment from pre-paid

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[7/] Cost containment incentives in the private sector are also relevant to ensure access and contain cost pressures on publicly financial care. Since provider response to public reimbursement is related to private reimbursement levels in a competitive market, cost increases in the private sector cannot be dismissed or ignored.

[8/] Cost containment at the country level was discussed in an earlier Bank report (World Bank, 1989c).

plans that rely on primary physician arrangements. Patients choose from a pre-selected group of firms, and dissatisfied patients can change HMO each year, which promotes competition, and therefore quality of service as well as efforts at efficiency. This is discussed further in the next chapter, but it is important to raise here given its relevance to AIH and UCA, and the former's role in leading cost containment and quality efforts, especially among private providers.

5.58 Fourth, the incentives for greater efficiency through prospective payment became so stringent due to under-reimbursements that quality has suffered, which has weakened the system and tarnished its reputation. Quality services need to be resuscitated and guaranteed through specific initiatives, the most important being sets of performance criteria that hospitals must adhere to and functioning quality assurance programs in participating hospitals. A system of hospital accreditation to ensure that only hospitals that meet basic standards are contracted by MOH/INAMPS is urgently needed. Currently, for-profit hospitals are soundly criticized for poor clinical and financial practices, but, since there are no performance standards and evidence is uneven and largely impressionistic, it is difficult to take action. These issues are discussed further in Part III, but are relevant to reform of the reimbursement systems.

5.59 Finally, co-payments are fundamental to an affordable and functioning health care system, as suggested above. Patient contributions can reduce overconsumption and help pay for health care both of which apply to private, contracted and public hospitals. Moreover, exemptions for those unable to afford patient contributions are easily accommodated, thereby retaining the equity focus of AIH and UCA, and introducing efficiency measures discouraging unnecessary health service use. Exemptions can be extended based on simple criteria such as income, location of residence or occupation. Similarly, fees need not be high nor should they necessarily be attached to every service. Indeed, pricing would be a key element in ensuring that preventive and truly emergency care remain affordable.

5.60 The performance of AIH has not met expectations, not operated as anticipated and fallen short of its potential. Although more recent, UCA also appears to be faltering. There are areas where leadership is needed to improve quality and contain costs. What is needed is a stronger structure and partnership among federal, state and municipal governments, and the private sector whereby standards of performance and payments are specified and adhered to. Specific recommendations on these topics are provided in the conclusions of the next three chapters in Part III and in the concluding chapter of this report.

PART III

EMERGING ISSUES: COSTS, QUALITY AND REGULATION

6.1 This part of the report delves thoroughly into three issues of central concern for health care delivery in Brazil: costs, quality and regulation. It differs from the rest of the report by analyzing special topics, in some depth, drawing on empirical studies and assessments to demonstrate what is known about each subject in Brazil. As a result, these three chapters provide considerable detail on narrow topics. However, the implications of these findings provide the foundation for the recommendations on reforms to improve the effectiveness, quality and affordability of health care delivery and finance in Brazil. The three issues represent key areas for government action, both federal and state, and complement and better define some of the topics already discussed in Parts I and II. Moreover, these elements are a legacy of and were neglected in the *Reforma Sanitária*, but now require attention as the next generation of issues to be considered.

6. ESTIMATING AND CONTROLLING THE COSTS OF HEALTH CARE IN THE PUBLIC AND PRIVATE SECTORS

A. The Importance of Costs for Policy and Management

6.2 Measurement of the costs of health care is indispensable to: (i) determining financial requirements of the health care system; (ii) measuring the relative efficiency and cost effectiveness of alternative delivery strategies (e.g., public, publicly reimbursed and private programs); and (iii) identifying and designing effective cost containment strategies. Cost estimates contribute to: (i) improving hospital management, because they define the trade-offs and limits of investments and services that can be provided; (ii) determining relative efficiency of alternative resource allocation formulas across facilities and across services within hospitals; and (iii) establishing fair and reasonable reimbursement schedules for publicly financed and privately implemented health care. Finally, costs should be a factor in health care rationing decisions, since the objective is to maximize access to health care in the most fair and efficient manner possible.

6.3 Despite the central importance of costs, there are few systematic efforts to measure health care costs and no standard methodology to do so. As a result, most public systems both in Brazil and elsewhere have limited information on service costs. Government transfers to facilities and gross allocations to broad categories such as personnel are typically available, but the more relevant and detailed costs of a particular diagnostic test (e.g., x-ray or laboratory test) or patient diagnosis (e.g., appendectomy, birth) generally are not. And expenditure breakdowns are of limited value because they cannot assist decision makers determine whether the allocation to personnel, drugs or other categories is either justified or efficient given the services provided.

6.4 Costing methodologies for public facilities are few, unstandardized and generally flawed. Within each of the accepted methods described in Box 6-1 (cost centers, direct and indirect costs, and

Box 6-1: MEASURING HOSPITAL COSTS: METHODS AND USES

Several alternative methodologies are available for measuring hospital costs. The simplest relies on dividing the number of patient-days or admissions by total hospital expenditures producing a rough estimate of the average cost per patient-day or admission. Despite its severe limitations, this method has been frequently applied in developing countries due to the lack of hospital costing systems to produce usable information.

The cost center methodology is the most developed and widely used system for measuring hospital costs throughout the world. Under this method, the hospital is divided into cost centers (CC), i.e., sets of physical and human resources organized to produce a specific and well defined service. CCs ideally correspond to organizational units and resources corresponding to each CC must be easily recognizable and their products differentiable from those of other CCs.

Cost centers are usually distinguished by type. Direct (productive or final) cost centers are those that treat patients and produce revenue (e.g., obstetrics). Intermediary or auxiliary cost centers produce goods or services that are part of the treatment but do not exist by themselves (e.g., ancillary services, operating and delivery rooms, intensive care units). Indirect cost centers engage in activities only indirectly related to treating patients and do not produce revenue. They encompass (i) ancillary patient services (e.g., food service, laundry); and (ii) hospital management, (e.g., administration, housekeeping, personnel).

While direct costs are assigned to a specific cost center, indirect costs are incurred on an aggregate basis and allocated to CCs according to a specified formula. All indirect and intermediary costs can be divided: across CCs (the direct apportionment method); or by resources used and costs progressively apportioned from indirect to intermediary to final cost centers (step-down method); or by using two rounds (double apportionment method); or, rarely, by a multiple apportionment method, sometimes based on simultaneous equations. The choice of apportionment method will affect final costs significantly. Generally apportionment criterion are based on square footage, number of personnel, number of patient-days, and number and/or value of requisitions.

Standard costing (sometimes called resource costing), a methodology widely used in manufacturing, has only been applied by the United States Medicare program and to a hospital in the Dominican Republic (Lewis et. al., 1990; 1992). The method establishes the standard cost of services based on what experts estimate is necessary for providing good care efficiently to an average patient by diagnosis. Patient surveys, tracking of resource use and time-and-motion studies measure the actual resources used in service delivery. A comparison of actual resource costs with standard costs allows an estimate of relative efficiency.

Different methodologies provide different types of information. Expenditure-based estimates are clearly inappropriate for most purposes. Resource costing is a flexible and reliable approach but is not a permanent system, unless combined with other costing methodologies. The cost center methodology is probably the best alternative for managerial and cost control purposes, and has been the methodology of choice for the few Brazilian hospitals with cost data. Estimating the costs of particular procedures or diagnoses, which are the most useful for comparing efficiency and resource allocation across hospitals, can be accomplished using either resource costs or cost center methodologies. Reimbursement payments benefit from reliance on resource cost measures.

In addition to methodology, data limitations affect the reliability and comparability of cost estimates. Frequently omitted measures include: equipment and building depreciation; costs incurred at the central level (in the case of public hospitals and private groups of hospitals); costs of inputs not paid for or subsidized; and physician fees (which usually are paid separately). Public hospital budgets are only loosely related to costs, and budget transfers are often irregular; moreover public hospital expenditures (and thus any costs based on them) are held hostage to the availability of funds at any given time. Finally, high inflation rates and distorted prices make cost estimates based on historical accounts difficult to interpret and compare.

simultaneous equations), the definitions, measures and allocation formula may vary, complicating and limiting the possibility of meaningful cross-facility comparisons. For example, what constitutes a costing unit is arbitrary as is, to a lesser extent, what defines indirect versus direct costs. The costing methodology selected will affect the final cost measure, reflecting the imprecision of the methods available. A standard costing method is essential, however, if costs are to be compared across facilities and time.

6.5 Costs are equally important for establishing reimbursement payments for specific procedures or diagnoses. The Medicare system in the United States relies on measures of resource costs -- the value of all necessary inputs for patient treatment, accommodating down time, coordination of patient care and other facility functions -- for each diagnosis to set physician and hospital reimbursement levels (see Box 6-1 for comparison of resource and other costing methodologies). As a result, the United States is the only country that has complete and accurate cost data for all aspects of health care and can determine why, how and where costs are rising. This detailed and resource-intensive costing method also can ensure fair payments to hospitals and other providers under prospective payment systems. Cost information within participating United States hospitals is standardized and assured by the requirement that Medicare-approved cost accounting systems be adopted.

6.6 The United States has emphasized consumer choice and competition, and has achieved efficiency gains in its prospective payment systems, but these have been at the expense of access and equity. Although the overall United States health care system is experiencing a rapid cost spiral, and limited efforts have been made to control costs, Medicare (serving almost exclusively those over age 65) has lowered hospital utilization, raised efficiency in service delivery and maintained quality (Manton et. al., 1993), and experiences cost increases well below those of the private sector. The Medicare prospective payment system promotes hospital efficiency and cost containment, both of which rely heavily on the operation of an effective costing system within hospitals, but reimburses sufficiently to maintain a broad network of participating facilities. Given that Brazil's prospective payment system is very similar to Medicare's, that experience is very relevant.

B. Public and Private Hospital Costs in Brazil

6.7 In Brazil, few public or private hospitals have costing systems that provide systematic data. The Ministry of Health has prepared costing manuals allowing the adoption of any of a set of allocation criteria for costing, thus at the outset even the parameters discourage standardization of public hospital costing. In 1984, the Ministry of Education issued voluntary guidelines on costing to university hospitals, and although most have abandoned the system, a handful of these hospitals continue to adhere to it. There have been other isolated efforts at various times to develop usable costing approaches, but these have been largely voluntary efforts and have not persisted over time. A few recent efforts, largely in São Paulo, collected and compared hospital costs in public and private institutions. These studies form the basis for the detailed discussion here. Given the technical nature of this subsection it may not be of interest to all readers. However, the detailed analysis reveals the extent of the problem and the limitations of current practices. Short summaries at the end of each subsection are sufficient to capture the arguments and discussion.

6.8 The assessment of Brazilian hospital costs is divided by study, each is discussed in turn, the approaches and findings are compared and discussed. The first study is an in-depth examination of

costs from five public hospitals in the state of São Paulo; the second describes costs in nine private hospitals in São Paulo; and the final section measures diagnosis-specific costs in a private São Paulo hospital and a public hospital in Rio de Janeiro, and compares the two former with the SIH/SUS reimbursements. These results provide not only a sense of the cost of health care but point out the limitations of existing methods and the difficulty of comparing measures across hospitals.

Costs in São Paulo Public Hospitals

6.9 The five public hospitals in the São Paulo cost study are shown in Table 6-1. Two are chronic care facilities for leprosy treatment and care (LH1 and LH2),[1/] two are general hospitals (GH1 and GH2) and one is a pediatric hospital (PH). The chronic care facilities are considerably larger than the other three hospitals with 600 and 500 beds, respectively, as opposed to a range of 86 to 225; and, not surprisingly, given their caretaking mission, have higher bed-to-physician ratios. Monthly data were collected on direct and indirect expenditures by cost centers and on the output of each (see Box 6-1 for explanation of cost centers). The number of contiguous months sampled range from six (Pediatric Hospital) to eleven (Leprosy Hospital).

Table 6-1: BASIC INDICATORS FOR SÃO PAULO PUBLIC HOSPITALS

Hospital	Years of Sample	Number of Beds	Number of Physicians	Beds/ Physicians	Number of Administrators	Administrator/ Physicians
General Hospital 1	1985	86	14	6	177	13
General Hospital 2	1985	104	18	6	175	10
Pediatric Hospital	1985/86	225	64	4	360	6
Leprosy Hospital 1 a/	1984/85	600	18	33	390	21
Leprosy Hospital 2 a/	1986/87	500	27	18	486	18

a/ Chronic care facilities. Leprosy is the fourth most common infection in São Paulo after tuberculosis and two forms of meningitis.

Source: Cyrillo (1992).

6.10 Per patient unit costs of key hospital departments vary dramatically. Despite the fact that similar (but not identical) methodologies were used, costs bear little resemblance to one another even for the same type of hospital, and the differences across hospital types are even farther apart. For example, the cost of a birth is $9.23 in one general hospital and $23.96 in the other, almost 2 1/2 times the cost. The cost of even a general outpatient consultation can vary from $1.90 (GH1) to $27.19 (LH1). Great disparities in unit costs emerge even for the same service within hospitals. Particularly high variations are recorded for dental services and inpatient surgery.[2/]

[1/] The costing approach in LH2 differs markedly from the other four hospitals and comparisons are very limited as a result, as will be seen in the analysis below.

[2/] See Table A6-1 in Annex 6 for additional details, as well as means, standard deviations and coefficient of variation figures for all service in each of the five hospitals.

6.11 Differences in indirect costs are also highly variable. Although greater convergence in costs would be expected between the two general hospitals, only some ancillary services such as food services and morgue costs are similar for GH1 and GH2, few other centers demonstrate such similarity in expenditures levels. Particularly glaring differences are apparent for expenditures on drugs. For all three facilities, pharmacy production measures (expenditure per patient, per patient day, per surgery) show little consistency across hospitals, and on a per patient day basis where variation should be reduced, GH1 spends almost 8 times as much as GH2 and 20% more than PH. Case mix differences will cause some of the disparity in costs, but average costs should be much closer for facilities with similar services and patients (see Table A6-2 in Annex 6).

6.12 Some of the variability across facilities can be explained by the trends underlying the reported averages. Uneven expenditures and output are common in public hospitals as they are dependent not only on patient volume but on federal/state/municipal transfers that often fall victim to the vicissitudes of political decision-making, inefficiency of material transfers (e.g., drugs and consumables) and frequent confrontations and strikes by physicians and other staff, which result in disruptions and highly volatile expenditure patterns.[3/] Patterns in indirect services can shed light on some of these issues.

Indirect Costs

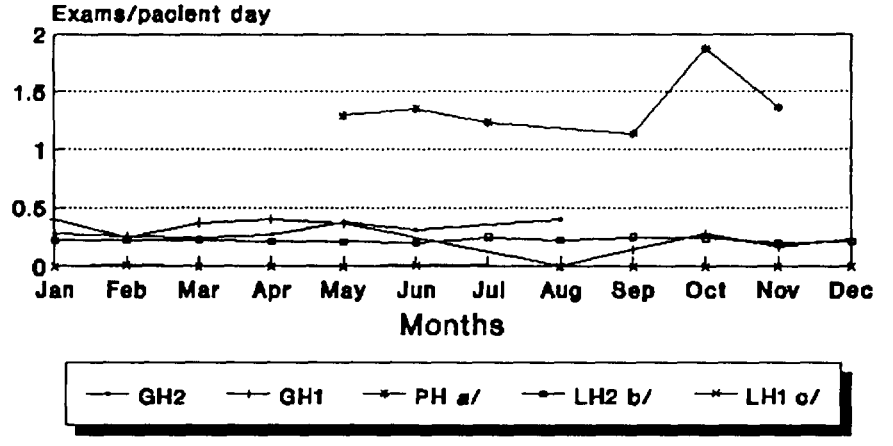
6.13 Figures 6-1 and 6-2 show the monthly trends in the volume of two of these indirect services: laboratory tests and drugs. These graphs portray the pattern of expenditure on selected, but representative, services to demonstrate the production that underlies hospital indirect cost estimates and to provide a basis for drawing conclusions about the operation of the public hospitals. Although some degree of variation is to be expected over time, Figure 6-1 shows that in GH1 in August 1985 no laboratory tests (or x-rays, that are not shown) were conducted, although during the previous month almost 0.4 tests per patient day were recorded; the Pediatric Hospital fluctuated between about 1.2 and 1.9 laboratory tests per patient day over the survey period, a significant range. On average, however, over the sampled period PH shows a relatively constant rate of use (roughly 1.3 tests per patient day).[4/]

6.14 Drug expenditures per patient day in Figure 6-2 show some equally extreme patterns. At the Pediatric Hospital, the distribution mirrors that of the laboratory during August, with a spending trough in September of US$1.00/patient day and a normal average of double that. At GH1, the patterns are even more distinct with a decline in the first part of the year and a surge in the month of December. GH2 shows a relatively low expenditure on drugs but an even and consistent pattern, more in keeping with what would be expected in a general hospital. LH1 and LH2 have very low levels of expenditure on drugs -- LH1 far less than LH2, but there is variation even at these low levels.

[3/] La Forgia (1990) and Lewis et. al. (1992) document some of these generic, special problems facing public hospital and their effects on expenditure and costs in Panama and the Dominican Republic, respectively.

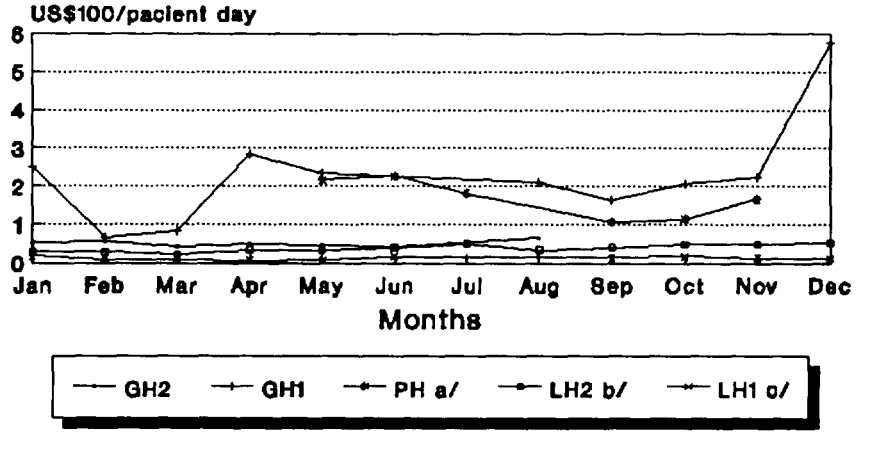
[4/] Utilization of laboratory (and X-ray) at LH1 is consistent but volume is so low that those services cannot be efficiently provided. The pattern in LH2 is somewhat similar but the average level of use is marginally higher, as shown in Figure 6-1.

Figure 6-1
MONTHLY TRENDS IN LABORATORY ANALYSIS VOLUME IN FIVE PUBLIC HOSPITALS, 1985



a/ Data for May-July are 1986 figures.
b/ Data are from 1986
c/ DAta for June-December are from 1984

Figure 6-2
MONTHLY TRENDS IN PHARMACY EXPENDITURES IN FIVE PUBLIC HOSPITALS, 1985



a/ Data for May-July are form 1985.
b/ Data are from 1986.
c/ Data for June-December are from 1984.

Direct Costs

6.15 Less variation in direct costs is observed across hospitals, partly because such a large proportion of direct costs is fixed.[5/] Not surprisingly, personnel captures the bulk of expenditures. The lower levels (62 and 68%) are reasonable, but allocations of 85% and above to staff reflects restricted purchases of other complementary inputs. The reported results further suggest that drugs are infrequently provided to outpatients or inpatients in the leprosy hospitals, a not surprising finding given that users are usually permanent rather than temporary residents. Some of the discrepancy across hospitals may be due to the fact that the federal *Centro de Medicamentos* (CEME) transfers in-kind drugs and some consumables to public hospitals, although it does so erratically. Because they are not recorded, these additional resources cannot be captured by hospitals, and imputed prices are not available.

6.16 The trends in direct unit costs over the respective sample months for outpatient consultations and inpatient surgery show less volatility. These indirect costs significantly affect monthly cost variations. Hence salaries are paid, but the volume and value of drugs, diagnostic tests, food, laundry and other ancillary services that make up indirect costs vary according to the availability of financial and human resources to purchase and undertake these functions.

Costs and Productivity

6.17 As a means of further clarifying the relationship between unit costs and services provided, Table 6-2 summarizes the results of bi-logarithmic ordinary least squares (OLS) regression coefficients for selected hospital services. Output per service is regressed on unit cost for each service in the five hospitals. The resulting output elasticities both complement the descriptive figures above and test their validity. A negative relationship between production and costs is hypothesized; the less robust the OLS coefficients the greater the likely excess capacity and/or inefficiency of production.[6/] The closer coefficients are to unity the greater the efficiency in production since average and marginal costs are close to equal; coefficients that are less than one represent decreasing returns to scale and therefore lower production efficiency.

6.18 As the table shows, the majority of the elasticity coefficients are significant and a large number appear to capture a reasonable amount of the variation, as indicated by $\overline{R}^2$ values above 0.50. Most of the significant relationships are negative and close to one, with the strongest results emerging for the two general hospitals. The findings for the Pediatric Hospital were less satisfactory and the equation for emergency could not be provided due to data problems. Outpatient medical pediatrics, however, were significant and negative with a coefficient value of 1.00, and an outpatient consultation was significant at 0.77. The results for the leprosy hospitals were poor with only three significant, negative coefficients emerging. The uneven quality of PH regression results may be an artifact of the

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[5/] Figures A6-2 and 3 in the annex provide the distribution of total expenditures across cost categories: personnel, consumables, drugs, contracted services and other, for outpatient consultations and inpatient surgeries, the most representative services across the five facilities.

[6/] This prediction obviously excludes possible problems of data quality or autocorrelation of residuals. The latter is addressed and adjusted to the extent possible using the Cochrane-Orcutt iterative process.

relatively small sample from that hospital (6 months). Statistically insignificant measures, particularly for many of the services at LH1 and LH2, suggest poor data, bolstering earlier speculation on this issue.

Table 6-2: **SELECTED REGRESSION RESULTS OF HOSPITAL PRODUCTIVITY FOR NINE HOSPITAL SERVICES IN FIVE SÃO PAULO PUBLIC HOSPITALS, 1990**

Hospital	Outpatient Consultation	Obstetric Outpatient	Pediatric Outpatient	Adult Surgery	Dental Care	Obstetrics	Nursery	Surgery	Residential
	Dependent Variable: Average Unit Cost for Specified Hospital Service *Independent Variable: Output per Specified Hospital Service*								
General Hospital 2:									
Coefficient	-0.29	-1.00*	-0.84*	-1.38	-1.32*	-1.26	-1.26*	-0.15	-
T-Statistic	-0.41	-3.25	-2.52	-2.41	-8.05	1.49	-4.18	-0.14	-
Adj. R2	0.16	0.63	0.47	0.44	0.91	0.17	0.70	0.04	-
General Hospital 1:									
Coefficient	-1.05*	-0.79*	-0.98*	-7.27	-	-0.92*	-0.76*	-0.75	-
T-Statistic	-5.41	-5.24	-16.84	-1.46	-	-2.97	-6.50	-1.71	-
Adj. R2	0.72	0.73	0.96	0.10	-	0.41	0.82	0.22	-
Pediatric Hospital:									
Coefficient	-0.77	-	-1.00*	-	-	-	-	-1.74	-
T-Statistic	-11.77	-	-2.40	-	-	-	-	-1.21	-
Adj. R2	.96	-	0.49	-	-	-	-	0.08	-
Leprosy Hospital 2:									
Coefficient	-0.35	-	-	-1.06*	-1.47*	-	-	-	-4.33*
T-Statistic	-1.08	-	-	-4.29	-5.65	-	-	-	-2.17
Adj. R2	0.01	-	-	0.52	0.63	-	-	-	0.20
Leprosy Hospital 1:									
Coefficient	-0.42	-	-	-	-	-	-	-	-
T-Statistic	-1.37	-	-	-	-	-	-	-	-
Adj. R2	0.08	-	-	-	-	-	-	-	-

* Significant at the 0.05 level.

Source: Cyrillo (1992).

6.19 The multivariate results provide a mixed set of information. First, the results for the general hospitals indicate relative efficiency of specific hospital services. The suggested excess capacity of some indirect cost services (e.g., laboratory) are supported by cost center coefficients below one, which imply underutilization. This also applies to GH1 (for nursing, a direct cost center) and the leprosy hospitals (satellite centers and residential facilities), as was the case with the analysis of indirect costs. As mentioned, the small sample size from PH may have compromised that analysis. The evidence and analysis from the leprosy hospitals indicate poor data, and possibly poor hospital management since efficiency could not even be measured in many cases.

6.20 The patterns described here, and those of the other indirect and direct costs of the five hospitals not reported here (See Cyrillo, 1992 for additional details), suggest overall inefficiency across hospitals and possible quality compromises at the two chronic care facilities. Some obvious budget problems appear to exist in all five. Volatility in expenditures on all services, but particularly in those illustrated above, probably derive from common budgetary constancy problems facing public hospitals. The data collection and accounting practices of public hospitals may be sloppy--often due to poor management and poor leadership--resulting in uneven monthly production and output figures. Alternatively, or in addition, there may be supply constraints stemming from shortages of operating funds, staff, equipment or materials that restrict production of services during certain periods. The pattern in the PH in particular suggests the latter since output in almost every category is abnormally low in August/September and then picks up in subsequent periods. Budget shortfalls may also force hospitals to reduce expenditures in selected (or all) hospital services. The virtual paralyzation of GH1 X-ray and laboratory services during some months, for example, suggests a lapse in some combination of funds, human resources and equipment since the closing of hospital services generally stems from nonfunctional equipment or absent technicians. Moreover, nonfunctional hospital services translate into lower reported "costs" because expenditures are reduced, and "costs" in public hospitals are solely based on expenditures (see Box 6-1).[7/]

6.21 In summary, the quality of the sampled public hospitals in terms of productivity and consistency of production can be loosely ranked based on the information provided above. The general and the pediatric hospitals appear to meet a minimal functional standard, although of the three GH2 appear to be the better organized and managed facilities. The leprosy hospitals face serious problems. Although by law cost accounting is standardized, the leprosy hospitals' accounting systems are unusual, that of LH1 of little utility, and their performance in comparison to the other three hospitals is quite poor. Management of services and flow of funds are erratic, and costing information is either unsystematically collected or ineptly handled by hospital accountants.

6.22 The information on all five facilities is inadequate to draw strong conclusions, and those provided immediately above should be taken with caution. The quality and validity of the data have not been assessed and the strength of the findings need to be tempered accordingly. One strong conclusion, however, is the need to improve the quality of cost information and to standardize cost

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[7/] This relationship has been documented for a public hospital in the Dominican Republic where shortages of all inputs limited production and quality. Indirect costs over the course of a year showed similar extremes in production and expenditures (Lewis et. al., 1992a; 1992b). Evidence there and elsewhere in Latin America show seasonal fluctuations that are consistent across countries. Of particular note and also apparent in this sample of hospitals, is the decline in patient volume in December and other holiday months (e.g., Carnaval).

accounting in public hospitals to facilitate comparisons and to establish performance benchmarks. Although some tentative conclusions are possible, better standardized information would allow more realistic and meaningful interpretations of hospital production and cost and therefore more valuable policy information.

6.23 Some recent progress in hospital costing emerges from the Fortaleza General Hospital in the state of Ceará where diagnosis-specific direct resource costs are calculated for all patients. That approach represents the kind of effort needed in all public hospitals, and could serve as a model for other states and the federal government.

Private Hospital Costs in São Paulo

6.24 Data from nine private hospitals in São Paulo state -- a non-profit facility in the city of São Paulo (Umberto Primo Hospital) and the rest from the industrial satellite cities surrounding São Paulo -- provide a contrast to public hospitals and allow comparisons on a few topics. In general the data collected for eight of the hospitals is very basic, while those for Umberto Primo Hospital (UPH) are extensive. The hospitals all have a mix of privately insured, fee-for-service, and INAMPS-reimbursed patients. For example, 97% of Umberto Primo's beds are devoted to INAMPS patients.

6.25 Table 6-3 summarizes the available data for the nine hospitals. Data on hospital characteristics of bed size, specialty and other factors are not available. The total cost per patient day, the percent of personnel in total costs and occupancy rates are provided in the table, with comparative data for public hospitals and averages for São Paulo state where possible.

6.26 Hospital patient volume ranges from 1120 patients per year to 5284 indicating a wide variation in hospital capacity as well as service delivery across the sampled facilities. Umberto Primo Hospital has 412 beds. As would be expected a priori, the lowest cost hospitals (Hospitals G and D) have among the highest average occupancy rates (94 and 78, respectively) and lowest costs per patient day (US$37 and US$46, respectively), and the negative correlation is generally consistent across these hospitals. Personnel costs in the nine hospitals range broadly from 35 to 66%, but all are well below those of the three public hospitals: 69, 70 and 86%. A less pronounced positive association is suggested between personnel and total cost, with lower cost hospitals exhibiting lower relative expenditures on personnel.

6.27 Underlying these patterns, with strong effects on costs, are severity and type of diagnosis, quality of service and efficiency of production. No data exist on case mix or severity, and quality is unmeasured. The only measure of efficiency available is the occupancy rate, and the sampled hospitals are distributed evenly below and above the 64% average for public and private general hospitals in the State of São Paulo.

6.28 The cost structure of the private hospitals is somewhat different from that of the public hospitals. There appears to be less variability in the value of indirect costs among the sampled hospitals (with one notable exception for Hospital H) than observed for volume in public facilities. Comparisons of laundry expenditure trends and levels (the only indirect cost center comparable to those of the public hospitals discussed above) for the eight private hospitals show that on average the levels and oscillation in expenditure across time are very different from the more volatile public hospitals. These patterns may reflect the absence of erratic budget transfers at UPH that interrupt the

public hospital's resource flows. Like the public hospitals, however, indirect costs determine the variability in total monthly costs. For example, in UPH indirect unit costs are sensitive to volume, declining as volume increases for virtually all diagnoses treated by the hospital (see Figures A6-4 and A6-5 in Annex 6).

Table 6-3: **CHARACTERISTICS OF SAMPLE OF PRIVATE HOSPITAL AND SELECTED COMPARISONS WITH PUBLIC HOSPITALS IN SÃO PAULO STATE, 1991**

	Personnel as of % of Total Cost	Number of Patient Days/Year	Occupancy Rate	Total Cost per Patient/Day (Constant US$)
Private Hospitals and Umberto Primo				
Hospital A	57	2,800	60	55.35
Hospital B	44	5,284	52	55.18
Hospital C	45	3,892	84	41.04
Hospital D	53	1,680	78	45.83
Hospital E	44	4,200	53	67.62
Hospital F	66	4,340	73	50.43
Hospital G	61	1,120	94	36.65
Hospital H	35	3,060	60	51.07
Public Hospitals				
General Hospital 1	69	n/a	n/a	n/a
General Hospital 2	70	n/a	n/a	n/a
Pediatric Hospital	86	n/a	n/a	n/a
São Paulo State Hospital Averages:				
Specialized Public	n/a	n/a	75	n/a
General Public	n/a	n/a	64	n/a
Specialized Private	n/a	n/a	90	n/a
General Private	n/a	n/a	64	n/a

n/a indicates not available

Source: Cyrillo (1992) based on de Matos data.

6.29 Although the data are sparse, a few tentative conclusions can be drawn. The most illuminating analysis is the comparison of public and private hospitals, and the results indicate that

private hospitals: (i) spend a lower proportion of resources on personnel; (ii) have more certainty in finances as reflected by stability of expenditures; and (iii) experience occupancy rates that in the aggregate appear to be inversely correlated with unit costs. The greater consistency of expenditures has already been noted and is likely tied to private hospitals' greater control over (and the fungibility of) resources. Expenditures on personnel are more difficult to interpret. Relatively high public personnel costs can be due to overemployment or underperformance, or can reflect understaffing by private hospitals to keep costs down, which may also compromise quality. The occupancy-cost relationship reflects underutilization of fixed costs (e.g., equipment, personnel, etc.) when patient volume is low, and the patterns are as expected.

6.30 An element not considered or measured in public hospital costs, and therefore not factored into the comparisons, is the cost of bureaucratic oversight and planning provided by local, state and federal agencies. In a United States Veterans Administration (VA) study of relative costs in its own and a sample of private hospitals, higher administrative oversight costs in VA hospitals significantly raised the average cost of service delivery.[9/] This suggests that public services may be more costly. Costs will also rise where personnel do not put in the requisite hours for which they are paid, an allegedly common occurrence in public hospitals.

6.31 These characteristics can only provide a preliminary look at private hospitals, as data constraints prevent more in-depth examination. The issue discussed in the previous section regarding the difficulties of assessing hospital performance because of inadequate and inappropriate costing of services applies to the sample of private hospitals, with the notable exception of Umberto Primo Hospital. The available evidence on hospital performance seriously limits rational policies since the major findings have to do with budgetary shortfalls and uneven productivity. Why these hospitals face such difficulties and how to ameliorate the situation is not apparent from the available evidence. The need for better information to make decisions is abundantly clear. The following section is an extension of this analysis comparing INAMPS reimbursements with actual hospitals costs in UPH.

C. Comparison of Hospital Costs by Diagnosis

6.32 Diagnostic breakdowns within Brazilian facilities are only available under special circumstances. The cost accounting systems in most hospitals provide only aggregate data by cost center and do not permit diagnosis-specific measures. The data in this section are taken from Umberto Primo Hospital and are the result of special data collection efforts aimed at disaggregating diagnosis-specific costs.

Diagnosis-Specific Costs

6.33 Diagnosis-specific data allow evaluation of costs in a more meaningful manner. They also demonstrate the limitations of cost center data in guiding resource allocation and management decisions (see Annex for discussion of the costs of AIDS). Table 6-4 shows cost components for a

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[9/] Moreover, the VA covers costs of transportation to facilities because facilities are maintained despite shifts in population and demand.

Table 6-4: **DISTRIBUTION OF COSTS FOR SELECTED DIAGNOSES AT UMBERTO PRIMO HOSPITAL, 1991 a/ (CONSTANT US$)**

Cost Center Diagnoses	Diagnostic Exams	Room & Board	ICU	Operating Theater	Drugs	Materials	Average Costs
Adult Clinical-Surgical							
Bilateral Inguinal Hernia	0.23	39.91	-	50.12	1.62	8.12	431
Cholecystectomy	2.98	38.60	6.41	33.38	6.42	12.22	671
Appendectomy	3.21	40.60	-	37.61	6.84	11.75	468
Endoscopic Prostectomy	4.19	39.79	-	41.00	7.87	6.66	661
Acute Myocardial Infarction	5.87	8.52	80.84	-	2.49	0.77	3,252
Pediatric Clinical-Surgical							
Tonsillectomy	-	56.28	-	35.18	3.02	5.53	398
Acute Appendectomy	3.22	62.68	-	19.82	5.43	8.85	994
Gastro-enteric Infection (in first six months)	2.61	67.31	19.34	-	0.97	9.77	1,034
Acute Bronchitis	6.70	89.23	-	-	1.02	3.06	687
Circumcision	-	46.15	-	44.87	3.42	5.56	234
Bronco-pneumonia	4.79	54.73	29.98	-	6.45	4.08	1,628
Inguinal Hernia	-	46.15	-	43.08	2.69	8.08	260
Obstetrics/Gynecology							
Normal Birth	4.51	42.19	33.33	10.94	3.13	5.90	576
Cesarean Birth	3.37	43.52	32.77	8.81	3.76	7.77	772
Dilation & Curettage (post-abortion)	7.48	53.15	-	25.20	9.06	5.12	254
Complete Hysterectomy	5.92	43.70	-	29.58	5.53	15.27	524
Perineal Reconstruction	0.26	52.06	-	25.26	3.87	18.56	388
Oncology							
Radical Mastectomy	3.67	39.31	-	28.94			463

a/ Based on data collected January through March, 1991.

Source: Cyrillo (1992) based on Matos data.

sample of 18 diagnoses from Umberto Primo Hospital. Personnel are imbedded in each separate service, which makes the relative cost and personnel usage more apparent. The average cost by diagnosis ranges from US$254 for a post-abortion dilation and curettage (D&C) to US$3,252 for treatment of an acute myocardial infarction. Virtually all of the highest cost diagnoses entail some period in the ICU. Outside of these serious treatments, the bulk of costs are for room and board followed by operating theater use, both of which capture the cost of personnel. Diagnoses and drugs receive the smallest portion of average costs, although a few diagnoses (hysterectomy, perineal reconstruction and radical mastectomy) entail 15 to 20% of all costs. Outside of these exceptions, expenditures appeared low especially for surgery patients.

6.34 These figures indicate where hospital funds are being allocated and the resources needed to treat any particular diagnosis. They can also pinpoint potential quality issues. Decisions about what services to emphasize and where costs are too high can be discerned from these data. It therefore becomes possible to prune services or modify the system of treatment to affect costs by addressing irregularities suggested by the level of component costs. For example, the relative costs and benefits of inpatient versus outpatient treatment can be weighed and costs minimized. In contrast to the costs presented earlier, it is clear what resources are used to treat each individual diagnosis rather than merely categories of costs by hospital service. The issue of drugs is a case in point. A cost center may show low expenditures on diagnostic tests despite adequate use by diagnosis because of the distribution severity and drug-intensity of the diagnoses across the cost center at any given time. The diversity within cost centers is evident for three centers and the multiple diagnoses in each shown in Table 6-4. This is missed in common hospital accounting in Brazil.

6.35 How much each procedure costs hospitals is even more important for those dependent on SIH/SUS reimbursements. As discussed earlier, reimbursement levels under AIH have not been based on actual resource needs and have been subject to inadequate and tardy adjustments for inflation. Costs by procedures or diagnoses are not measured periodically to reflect changes in costs or mix of inputs. To meet costs, hospitals attempt to fit needed treatment into the permitted procedure codes, and bias patient loads toward well-paid procedures, as reputable private hospital managers attest (Cyrillo, 1992; Couttolenc, 1991; Soulsadias, 1991).

6.36 Comparison of AIH reimbursements and UPH costs can shed light on the ongoing argument of the adequacy of reimbursements. The figures in Table 6-5 show the total cost for each of the 18 diagnoses for UPH (January-March 1991) and AIH payment for those procedures (October 1991). Both represent aggregations across room and board, medical services, drugs and materials, and diagnostic tests. UPH costs are based on actual costs of providing care; AIH costs have already been described above.[9/] The study's diagnosis selection was clearly biased toward the most poorly reimbursed services.

[9/] The Associação dos Hospitais do Estado de São Paulo (AHESP, Hospital Association of the State of São Paulo; November 1991), has begun to measure costs, applying the price list of the Brazilian Medical Society (*Associação Médica Brasileira, ABM*) but without other details of measurement. The AHESP cost estimate falls between the two for every diagnosis except radical mastectomy, where it is slightly below the UPH cost.

Table 6-5: **COMPARISON OF COST PER DIAGNOSES/PROCEDURE: UMBERTO PRIMO & AIH REIMBURSEMENT LEVELS (CONSTANT US$)**

Cost Center Diagnosis	Umberto Primo Hospital	AIH	Difference	Percentage of Under/Over Payment
Adult Clinical-Surgical				
Bilateral Inguinal Hernia	$ 430. 7	$ 177	$ 254	41%
Cholecystectomy	671.3	414	258	62%
Appendectomy	467.6	229	239	49%
Endoscopic Prostectomy	660.5	333	328	50%
Acute Myocardial Infarction	3,251.70	236	3,016	7%
Pediatric Clinical-Surgical				
Tonsillectomy	398.3	83	315	21%
Acute Appendectomy	994.5	229	766	23%
Gastro-enteric Infection (in first six months)	1,034.20	138	896	13%
Acute Bronchitis	687	93	594	14%
Circumcision	234	79	155	34%
Bronco-pneumonia	1,628.30	179	1,449	11%
Inguinal Hernia	260.3	177	83	68%
Obstetrics/Gynecology				
Normal Birth	576.2	130	445	23%
Cesarean Birth	771.7	213	559	28%
Dilation & Curettage (post abortion)	253.7	86	168	34%
Complete Hysterectomy	524.3	328	196	63%
Perineal Reconstruction	387.6	221	167	57%
Oncology				
Radical Mastectomy	462.8	477	-14	103%

a/ Based on data collected January through March, 1991.

Source: Cyrillo (1992) based on de Matos data.

6.37 UPH costs exceed AIH payments for all diagnoses except radical mastectomy. The maximum proportion of costs covered by AIH otherwise is 68%, with an average of 39%. The cost differences are extreme in the cases of myocardial infarction and pediatric bronco-pneumonia (differences of US$3,016 and US$1,449, respectively). ICU costs are high for both but do not appear to be factored into the reimbursement payment as reimbursements cover 7 and 11% of costs, respectively. These comparisons are striking and suggest the need for serious reconsideration and careful measurement of costs to set fair AIH reimbursements. The cost differentials may reflect inefficiencies on the part of UPH, but the inconsistency is too great to be attributable solely to low hospital production.

6.38 As a management tool for the hospital, the comparison identifies where the greatest shortfalls in AIH reimbursement lie. A rational hospital response would be to minimize treatment for those diagnoses where the difference between costs and AIH payment is greatest. Private hospitals are accused of "patient dumping" to avoid admitting patients with illnesses that are inadequately reimbursed, as discussed in the last chapter. Under current circumstances it may be an appropriate strategy for survival. Alternatively, excessive payment levels can perpetuate inefficiency or dated methods of treatment. Both underpayment and overpayment may exist within SIH/SUS, since no systematic examination of resource costs has been undertaken recently nor are there accepted diagnostic and treatment norms that standardize procedures, and therefore set parameters for costs.

D. Cost Containment Experience in Brazil

6.39 Although AIH was designed partly to control costs, cost containment at the hospital level is a relatively new concept in Brazil. Recent cost increases and rising demand have combined to raise the issue within the government and among private payers and providers. Measurement of costs becomes crucial in efforts to contain costs, because it provides a basis for comparison and can help to identify inappropriate or excessive costs both over time and relative to accepted practices.[10/] How to effectively control health care costs, and hospital costs in particular, is a pressing issue in virtually every country.

6.40 SIH/SUS's track record on measuring and containing costs is mixed. Although its delays in reimbursement and postponed rate increases were highly successful strategies during periods of triple-digit monthly inflation, there have been compromises on quality (see Chapter 7) and resultant incentives for fraud on the part of suppliers. Moreover, there have been inadequate attempts to collaborate with and guide participating hospitals in improving efficiency. Market forces may be inadequate to the task without in-hospital management expertise.

6.41 Constructive INAMPS efforts over the last decade entailed establishment of controls in participating hospitals. For example, numbering and controlling the total number of AIH forms, and therefore admissions, reduced the number of patients by 20% between 1985-86 (Cordeiro, 1988). In an effort to control the use (and quality) of high-cost procedures such as cancer treatment, organ transplants and prosthetics the government in 1984 launched a program restricting where these procedures could be performed and standardizing procedures and materials (See Chapter 5). The

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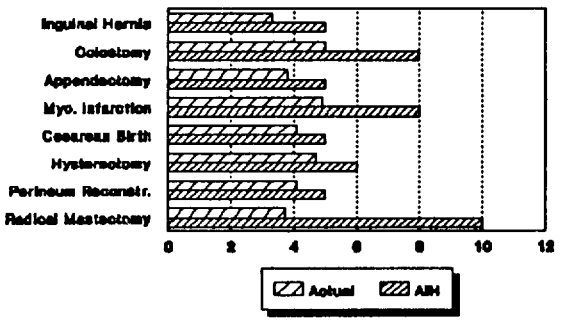
[10/] Examples of improper expenditure include overuse of drugs, hospitalizations during waits for operating theaters and long lengths of stay.

program also permitted increases in the payment (via IVDH) to tertiary care hospitals (Cordeiro, 1988). Together these reforms gave INAMPS more control over how much and what it was paying for. INAMPS also attempted to institute standardized cost accounting in public and private hospitals in 1987, but the initiative died with the change in administration. São Paulo state attempted the same policy a few years earlier, and that experiment met the same fate. More recently, INAMPS has restricted medical treatment overseas.

6.42 While reduced reimbursements force participating hospitals to modify their behavior, and may have resulted in improved efficiency and reduced costs, in some cases, the persistence of underpayment has seriously undermined quality. Figure 6-3 compares allowed lengths of stay under AIH and the actual average for Umberto Primo Hospital for seven diagnoses. For the majority of diagnoses, UPH patients remain well below the permitted stay; the most glaring difference is for radical mastectomy, for which patients stay for less than four days on average rather than the authorized ten. Medically, four days is grossly inadequate for such a procedure and indicates a serious quality problem. Only in pediatrics, not shown in Figure 6-3, do stays exceed the standard of AIH.[11/] This may help to explain how hospitals cope with the findings reported in Table 6-5 that among the 18 diagnoses no more than 34% of costs are covered and three of the five are reimbursed at less than 15% of costs. Generally, ALOS is reduced as are ICU days. This may allow hospitals to lower costs but with significant reduction in quality.

Figure 6-3
COMPARISONS OF AUTHORIZED & ACTUAL ALOS BY DIAGNOSIS AT UMBERTO PRIMO HOSPITAL



6.43 Cost containment in private hospitals was initially driven by the incentives under prospective payment and then by INAMPS's payment shortfalls. The forced response of the latter has included reducing staff's real wages, reducing investments and maintenance expenditures, increasing the number of beds per ward, reducing lengths of stay, decreasing amenities, and postponing fixed cost investments (Medici, 1991a).[12/] Together these initiatives have also served to reduce quality (see following chapter). Reductions in LOS and more careful expenditures can also have beneficial effects, however. Other strategies that have served to improve efficiency at the hospital level without affecting quality are computerization of accounts linked to manager accountability, standardization of materials (especially surgical supplies and drugs), and delivery of new surgical supplies by trading in old ones. These types of initiatives deserve encouragement.

[11/] This may be partly attributable to ongoing pediatric research (Couttolenc, 1992).

[12/] Cost considerations have also affected the health care industry more broadly. Mergers across providers and financiers, diversification of patients (across public, insurance, company care and pre-paid financing), and expanded options in the mix and types of services offered are on the increase in response to rising costs and a shrinking number of payers due to consolidation (Medici, 1991a).

6.44 Tracking private hospitals' response to SIH/SUS incentives is complicated by the lack of comparable and acceptable cost accounting systems, treatment protocols and utilization reviews. Without cost accounting or systematic data collection it is difficult to pinpoint how to effectively control costs, and leads to reliance on crude and not necessarily effective tools to reduce costs. Treatment protocols and utilization reviews are most commonly linked to quality, but they affect efficiency as well because they identify how well care is being managed and with what types of inputs.

6.45 The realities of the health care market will continue to force institutions toward more efficient operations to help control costs. Better guidance from the public sector, improved relations between the public payer and the public and private providers, and more realistic incentives on the part of INAMPS can help to direct the quest for greater efficiency. Fair reimbursements, focused incentives, clear standards of performance and costing, and consistent oversight and control are urgent reforms essential to promoting cost containment initiatives and complementing the institutional reforms already accomplished. Without these fundamental ingredients, improved efficiency (and quality) of care are unlikely.

E. Summary Assessment and Recommendations for Improving Cost Measurement and Controlling Costs

6.46 The evidence on hospital costs indicates overwhelmingly the limited information available and therefore the minimal consideration of costs both at the policy level and in most public and private hospitals. Comparability of costs is also difficult given different accounting and costing methods of each hospital, even within state public hospital networks. Analysis of diagnosis-based costs highlights the importance and value of such data for enhancing efficiency and assisting management.

6.47 The contrast between diagnosis-specific costs and INAMPS payments points up the considerable shortfall in reimbursements, documenting the complaints of hospitals that costs were not being covered under recent payment levels. Measuring diagnosis costs more precisely and frequently and adjusting reimbursements accordingly would avoid the underpayments that have led to the withdrawal of private participating hospitals in INAMPS, and to some of the quality problems that are discussed further in the next chapter.

6.48 Cost containment is a new priority in Brazil. The growing demand and rising technology costs already apparent in health will continue, as will increasing pressure on public finances. Without cost containment efforts in the private sector, Brazil is likely to find itself in the political quagmire facing United States legislators who are under pressure to relieve companies of their health insurance responsibilities but are loath to take on the financing responsibility. Inadequate attention to cost containment is largely to blame, and because the Brazilian government, like every other middle income and every industrial country, is the predominant payer of services, it bears a disproportionate share of the burden of rising costs. Moreover, without efforts to control costs in the private sector, the public sector will be forced to raise fees for providers participating in AIH and UCA, and for providers in the public system to effectively compete for medical staffs.

6.49 The following recommendations reflect the findings of this chapter as well as elements from earlier chapters that affect costs and cost containment.

- **Systematic collection and use of cost data through improved cost accounting and management information systems (MIS) in hospitals and outpatient facilities is a priority.**

6.50 Concerted attention to the issues of costs and cost containment lie at the heart of efforts to improve management of health care services. Costs provide the tools to raise efficiency and to effectively manage health facilities. As has been shown, they are the basis for designing and implementing cost containment initiatives.

6.51 A standardized costing methodology needs to be introduced into public facilities and the same or some variant in the private hospitals participating in SIH/SUS. Investments in complementary MIS in inpatient and outpatient services would provide a clear picture of performance and activity in any facility. The latter could be a prerequisite for participation in the prospective payment system and would need to be geared to helping managers track resources and productivity.

6.52 Public hospitals, technically also part of SIH/SUS, should have new accounting and MIS systems installed with access to requisite training for all relevant staff. Adopting the United States Veterans Administration public hospital' cost accounting system is an option that would strengthen the quality and scope of hospital costs, although this implies a long-term commitment to radical changes in hospital accounting systems. The advantages are that it has been tested, evaluated and used for both program and policy purposes and has proven a valuable source of data. In contrast few European systems have actual cost data due to the design of their public hospital accounting systems.

6.53 As a corollary, the role of hospital health administrator needs to be enhanced in both salary and authority to assist the director to collect, analyze and respond to the information generated, and to promote production efficiency within the hospital. Hospital directors rarely have the expertise, training or interest to adequately address non-clinical issues, although there are notable exceptions. Combined with management information system data, cost accounting information can inform managers of the operation of the hospital and guide improvements in quality and efficiency.

- **Diagnosis-specific costs need to be adequately and systematically measured to set fair reimbursement payments.**

6.54 Both indepth cost measures and norms are desperately needed to better manage the AIH system and to assist hospitals control costs. A resource cost exercise (see Box 6-1) could introduce both. The oft repeated shortfall in reimbursements is a serious flaw, undermining consumer confidence, hospital interest and INAMPS's reputation. A methodology built on the surveys used in OECD countries with regularly scheduled rounds of the survey would generate the needed information for both hospital and ambulatory care. Contracting with IPEA or IBGE to conduct the study with technical guidance from the MOH or State Secretariats of Health would provide a balance of expertise.

6.55 To keep reimbursement rates current, monthly inflation adjustments are essential. At the same time, medical costs do not necessarily follow the national consumer price index. Given the size of the medical care sector, a health price index has broad applicability and would allow fair and timely adjustments to INAMPS's hospital payments.

- **Available data need to be drawn upon and analyzed to guide policy and program initiatives to control costs.**

6.56 The MOH, state and health municipal authorities and councils, health providers and the public at large should have easy access to the data available in DATAPREV and DATASUS files. To adequately monitor health sector performance and individual hospitals where necessary, reliable data are essential. For example, DATASUS permits evaluation of topics such as mortality rates, sentinel events, lengths of stay and rates of use of certain procedures that have implications for both costs and quality of care.

6.57 Additionally, techniques such as population-based variation in the use of specific medical services (small-area analysis) could be undertaken to evaluate access of the population to specific services, and to analyze case-mix specific mortality rates. Computer programs which combine hospital discharge data and census data for these purposes exist in the United States and Europe, and would be feasible for use in Brazil. Currently DATASUS data are relied upon only for descriptive epidemiology and some financial purposes, but these data offer opportunities for more indepth analysis.

6.58 Existing information systems should be reviewed to identify indicators that can be culled from existing data as well as other variables that should be introduced to permit specific analyses. For example, the introduction of birthweight into the AIH would permit the monitoring of birthweight-specific mortality by hospital, a widely used quality of care indicator; similarly, improved cost accounting could demonstrate expenditures for drugs to determine if these are warranted. Productivity and quality of care indicators should be routinely furnished to health facilities and to local health authorities. This information combined with epidemiologic data should be used to determine where and in what services to invest.

- **SIH/SUS needs to develop incentives and norms that promote cost containment among public and participating private hospitals.**

6.59 Although prospective payment was adopted to help control costs, it is not clear whether this has been the result. There are two areas for action. First, the federal and state health authorities need to be better informed about what is happening in both public and private hospitals with regard to productivity and quality. On the basis of those data, the overuse of expensive or unnecessary therapies, or excessive lengths of stay, among other things, can be determined and addressed. Moreover, opportunities to introduce lower cost approaches can be more evident from examining trends and levels of specific services or clinical procedures.

6.60 Second, based on evaluation, incentives and norms need to be devised to encourage hospitals to behave more efficiently. Part of the incentive would be to train and assist hospital clinical and financial managers to modify medical and administrative procedures. Norms regarding outpatient versus inpatient treatment deserve particular attention. High rates of residency care, and continuing use of inpatient care for easily treated conditions (e.g., cataracts, mental illness, simple surgery) are examples of where revised norms could assist efforts to lower costs.

- **With unlimited access to health services and constrained budgets the government will need to control the volume of care.**

6.61 The equity gains from opening INAMPS services to all citizens are considerable. However, an open-ended system has been shown to lead to overconsumption (moral hazard). While providers have incentives to raise efficiency under prospective payment, they also have incentives to maximize volume.

6.62 The most effective cost controls of OECD countries have been global budgets (e.g., the current systems in Germany and France) where states, hospitals and other entities are expected to operate under specified budgets, forcing them to allocate resources in the most efficient manner possible because they are accountable for service provision.[13/] Countries like Great Britain and Canada rely on queues. Recent experiments at the state level in the United States include using PGP arrangements to cover Medicaid patients; establishing criteria restricting access of some patients to public financing of certain services. Brazil can benefit from these country experiences, adopting policies that fit current and future circumstances (see Chapter 8 for further discussion).

6.63 Co-payments offer another option for rationing care and discouraging unnecessary health services use. Patient contributions force patients to evaluate the need for care and help them make more judicious use of services. Experimentation with fees for different services (e.g., laboratory and X-ray, outpatient consultation, daily hospitalization, physician services) and studies of fee levels are needed to set appropriate and acceptable co-payments; however, even modest flat fees for access would represent progress and are easily implementable, although politically controversial. Co-payments are probably best determined at the state level in consultation with the federal government. Given a history of fees in public facilities and the common use of private providers, such a policy would not be a new concept for Brazilian patients.

6.64 Two issues related to co-payments are important to mention. First, the charging facility must retain all or most of the earned revenue, although restrictions on its expenditure can be imposed without distorting the incentives for charging. Second, screening to exempt those who cannot afford co-payments will ensure that all income groups have access to government-financed services. Evidence from elsewhere in Latin America (Lewis, 1993) suggests that fee exemptions can be accomplished through inexpensive means and feasible criteria. For example, district of residence, ownership of assets or type of employment can be used by social workers to determine eligibility for fee waivers. Other alternatives exist as well, and should be considered in tandem with debate on the feasibility of co-payments.

[13/] UCA functions under an arrangement somewhat akin to a global budget, but combines prospective payment and lack of accountability.

7. THE FORGOTTEN COMPONENT: QUALITY OF HEALTH CARE

7.1 Quality of health care is desirable but difficult to define and even harder to measure and ensure. Quality is a growing concern of consumers in Brazil, the press is replete with tales of death or disability due to substandard medical care, and malpractice suits are beginning to emerge. This chapter builds on the quality problems already raised, describing the quality issues in Brazil drawing on existing literature, government commissions and ongoing studies to illustrate the many facets of quality; summarizing promising initiatives and experiences; and laying out an extensive agenda of options.

A. Definition of Health Care Quality

7.2 The definition of quality of health care encompasses many desirable traits and there is intense disagreement over the relative merits of different paradigms. Moreover, quality has multiple dimensions (e.g., clinical, administrative, environmental and inter-personal) and providers and patient perceptions of the same service can be dramatically different. Perhaps the most useful definitions are those of Donabedian (1980), Lee and Jones (1933) and Berwick (1989).

7.3 Donabedian distinguishes three approaches to the assessment of quality of health services: structure, process and outcome. Structure consists of tools and resources of the physical and organizational settings. Process captures the medical and social norms of physician-patient relationship and encompasses qualifications and mix of (medical) staff and service delivery procedures. Outcomes are the changes in the patient's health status as measured by practitioner's diagnosis and treatment patterns. Lee and Jones explicitly raise the important issues of continuity of care, access and the need for integral care. A third approach from the school of "total quality management" comes a process distinction between quality assurance systems based on inspection and those grounded in continuous improvement of health services (Berwick, 1989). A summary of these definitions is contained in Table 7-1.

Table 7-1: COMPONENTS OF HEALTH QUALITY

Components of Quality	Definition
Donabedian (1980)	
Structure	physical & organizational setting
Process	medical & social context of health service delivery
Outcome	effect on patient of intervention
Lee and Jones (1933)	
Continuity of care	ensure access & integral care for patients
Berwick (1989)	
Total quality management	continual assessment of & adjustments to achieve quality improvements

7.4 Ensuring quality at the facility level is a particularly difficult practical issue since most of the important determinants of the quality of health care lie outside direct initiatives. The overall financing of health care, the distribution of health resources, health policy, management, and accountability are more important ingredients in the quality of care than any mechanisms explicitly directed towards evaluating or assuring quality, because these elements provide the underlying incentives that require the standards and compliance that constitute quality. In addition, quality is grounded to a considerable extent in perceptions, so that the physical environment and treatment by staff become far more apparent and important to patients than the clinical quality. And therefore there can be considerable divergence in what constitutes acceptable health care and what services require quality controls from a technical perspective.

7.5 As a result of the breadth of definition of quality, the initiatives and options described in this paper cover a broad range of experiences. To the extent possible, breakdowns into Donabedian's structure, process and outcome are maintained (see Table 7-1 for explanation of each) to provide continuity and to make clear the purpose and relationships among different experiments and approaches to assessing and ensuring quality.

B. Assessment of Health Care Quality in Brazil

7.6 While there is no lack of impressions, virtually no good representative studies exist on the overall quality of medical care in Brazil. The extent of poor quality care is unknown. Furthermore, there are no credible studies to refute or substantiate that any particular sector of care -- public, private-under-government-contract, private, for-profit or not-for-profit -- is overall any better or any worse than another. On superficial examination there appear to exist centers of excellence and examples of abysmal quality in both the public and private sectors. One thing is certain, however, quality varies widely. The health care system that superbly performs bone-marrow transplants or complex cardiac surgery, and includes the foremost rehabilitation hospital of Latin America, stands beside inadequate basic services for infants and mothers.

7.7 Most observers within the health field perceive that quality of care available to the bulk of the population as quite precarious, and that the poorest quality medicine is found in for-profit institutions under contract to INAMPS, while the best care is in a small number of public and private sector facilities. With limited comparable evidence this conclusion is difficult to substantiate or refute, however, the most flagrant abuses and inadequate conditions found in inspections are generally in contracted private sector facilities, which regardless of patient case-mix, tend to have little investment in adequate technology or manpower. Whether this is due to poor reimbursements from INAMPS that have squeezed hospitals throughout the 1980s or to greed is not at all clear. And since there are examples of high quality among for-profits, conclusions are difficult.

Structural Indicators

7.8 One of the primary structural indicators of quality of care is the availability of health manpower. Where these data are available, clear evidence of quality problems emerge. Although Brazil has a fairly large number of physicians when compared to most developing countries, the lack of trained nursing personnel is a serious problem, caused by low pay, poor working conditions and

high educational investments that do not differ greatly from those of a physician (4 versus 6 years of university training).

7.9 As Table 7-2 shows, the overall ratio of physicians to registered nurses employed in inpatient facilities is 5:1. The ratio of physicians to registered or trained auxiliary nurses is 1:1, and if relatively untrained orderlies are included, it is 1:2. The absolute number of nurses is grossly deficient in all sectors, but this deficiency is particularly severe in the private sector, where qualified nurses are virtually nonexistent -- roughly 2 R.N.s per 100 beds. Private inpatient facilities have fewer staff in all categories than public sector facilities, and, except for physicians, private for-profit facilities exhibit lower staff-bed ratios than not-for-profit facilities.

Table 7-2. **AVERAGE HEALTH MANPOWER LEVELS PER 100 BEDS IN INPATIENT FACILITIES BY LEGAL STATUS, 1987**

	Public			Private		
	Federal	State	Municip.	Non-profit	For Profit	Total
Physicians	64.0	35.3	53.8	17.2	17.0	23.5
Registered Nurses	19.5	8.8	8.5	2.7	1.6	4.2
Auxiliary Nurses	74.1	31.1	41.2	15.0	10.5	19.6
Orderlies a/	51.2	42.1	45.2	30.3	20.5	29.6
All Nurses & Orderlies	145	82	95	48	33	53
Number of Beds	30,074	67,230	18,663	194,787	209,334	520,088

a/ Orderlies = "Atendentes" and "Auxiliares de Outros Servicos Diversos."
Source: Nogueira (1991) based on IBGE: Inquerito de Assistência Médico-Sanitária, 1987.

7.10 The number of physicians in many inpatient facilities is not representative since these are generally half-time rather than full-time equivalents, with time fragmented across multiple sources of employment. An added complication is the common practice among publicly contracted physicians of not reporting for duty and effectively receiving remuneration without producing. Since public hiring, assignment and payment are administered centrally, facilities exert little control over medical staff, and as a result, public service positions remain largely unsupervised.[1/] The lack of incentives for production and the absence of penalties or accountability for unacceptable performance leave the system open to abuse. Only moral or professional commitment ensure that medical staff arrive and complete their assigned responsibilities.

[1/] See Ugalde (1984) and Lewis et al. (1992) for examination of this issue in public hospitals in the Dominican Republic. The patterns described there are very similar to those observed in Brazil.

7.11 While not fully representative, a recent set of interviews with hospital personnel in five hospitals in the metropolitan São Paulo area indicates that medical staffs are also dissatisfied with: the limited level of professional responsibilities and their lack of advancement potential within the hospital; hospital tolerance of poor staff performance; and low salaries, which lag behind the overall market by 40 to 52%, depending on the level of job sophistication. Relative to other segments of the São Paulo market, however, of these three, only the responsibility and long term career potential diverge sharply from the average across firms. The lag in hiring averages about 15 days, but for nurses and medical technicians, these are considerably longer resulting in chronic shortages (Hoyler, 1992). However, hiring difficulties have not resulted in higher salaries for these workers or to improved career paths, two areas that deserve attention if the restricted supply is to be relieved.

7.12 The educational level of non-professional health workers, which reflects the broader deficiencies in education in Brazil, is also an area of concern. In 1980, 50% of auxiliary nursing personnel had not completed elementary school, and only 18% had finished high school. Among laboratory assistants and pharmacy workers 26% and 56% respectively had not completed elementary school (Nogueira, 1986). This characteristic of the health workforce may represent a serious obstacle to quality assurance. Other characteristics of employment in health care, such as low pay and the simultaneous holding of several jobs by physicians are widely held to contribute to poor quality care and, as will be discussed, is a quality target in some hospitals.

7.13 Recent declines in the quality of medical education is another major contributor to quality problems in the health care system. This decay is attributable to the enormous expansion in the number of medical schools and the virtual absence of effective regulation. In 1960 there were 29 medical schools. In the brief span of 11 years between 1960 and 1971 this number increased by 44 to a total of 73 schools (*Comissão de Especialistas de Ensino Médico*, 1989). Today there are 80 schools.

7.14 Studies by the Commission on Medical Education of the Ministry of Education, have long raised concerns about the quality of these schools, many of which are private schools located in small cities, with large numbers of students, inadequate clinical facilities and weak faculty support. Attempts to close down some inadequate schools, such as those in Jundiai, São Paulo, the Medical Faculty of Petropolis, or the Souza-Marques School in Rio, have been unsuccessful due to political pressures (Adolpho da Silva, 1991). Many of the older, established medical schools, however, provide solid medical training.

7.15 Medical education in Brazil consists of a five-year theoretical course, beginning after secondary education, followed by a one year internship, sometimes in a university hospital, but often in non-teaching hospitals such as those of INAMPS. During the fourth and fifth year most students participate in rotations, often poorly supervised, in non-teaching hospitals. Less than half of medical graduates are able to complete residency training, due to the limited number of positions available (*Comissão Nacional de Residência Médica*, 1990). Furthermore, while the early residency programs developed in the country between 1945 and 1971 are considered high quality teaching programs, since 1972 a number of "pseudo-residency programs" began to coexist alongside the good training programs, characterized by disorganization, poor quality, and limited teaching. These efforts serve primarily to obtain low cost medical manpower (*Comissão de Especialistas de Ensino Médico*, 1989).

7.16 While the many forms of medical technology are increasingly available in Brazilian health services, there are also major problems in the quality, selection, distribution, maintenance and utilization of health care technologies such as diagnostic equipment. A study of 10 public municipal hospitals in São Paulo found that most medical machines -- mechanical ventilators, incubators, or hemodialysis equipment, for example, were acquired and put into use with little or no accompanying training of staff in proper utilization or maintenance. This has resulted in frequent breakdowns, and insufficient preventive maintenance (Novaes, 1990). Public sector facilities have fewer incentives to use and maintain equipment since returns are not tied to either and acquisition is often accomplished outside the facility. On the other hand, overuse (beyond what is clinically necessary) and rising costs may occur in the private sector where third party payers cover costs and owners must recover their investments in technology.

7.17 With the exception of radiology and radiotherapy equipment, which are monitored by the National Commission for Nuclear Energy, there are few norms for medical machines or devices (see Chapter 8). Equipment related accidents are a frequent source of iatrogenic death or disability in other countries, and this is undoubtedly occurring in Brazil as well. The use of certain technologies is grossly distorted, with frequent overuse by the wealthier segments of the population, and lack of access for the poor with valid medical indications for use -- obstetrical ultrasound is perhaps one of the most typical examples. Indeed, Novaes (1990) concluded that "ritualized consumption [of medical technology] appears to take precedence over the search for effectiveness."

Organization and Effectiveness of Health Service

7.18 An important structural measure of quality is the distribution and competence of service delivery units. Studies by Carvalho (1991) and Brandt and Araiz (1989) summarize some of the structural lapses that have undermined quality in Brazilian health care. Neither studys' findings were surprising. Carvalho's study of 9 ambulatory units in Rio de Janeiro documents problems stemming from the organization of public care and, in particular, fragmented services and indifference to basic quality and consumers (see Box 7-1 for details).

7.19 Brandt and Araiz apply a method known as "conditions of efficiency of maternal and child health facilities" in a non-random sample of public ambulatory and inpatient facilities in four states in 1986. The overall "grade" obtained was "fair." Programming and administration, and community participation were consistently the weakest areas in all services. Health education was also consistently deficient. In health posts and health centers, the buildings tended to be adequate whereas manpower and procedures were more deficient except in inpatient pediatric and obstetric facilities. Manpower was also particularly deficient in inpatient neonatology services. Overall health posts and centers and inpatient obstetric care received the lowest scores, ambulatory and inpatient pediatrics and neonatology the highest, however the differences were slight. The non-random nature of the sample and aspects of the methodology preclude broader inferences, and probably led to unrealistically favorable results.[2/]

[2/] In one state the criterion for selection was easy access, in another the best facilities were selected, in a third three districts were selected non-randomly, and in the fourth state the facilities with the most precarious conditions were selected.

Box 7-1. MEASURING QUALITY OF CARE IN AMBULATORY CARE: FALLING SHORT IN A RIO DE JANEIRO DISTRICT

Translating quality concepts into practical guides is not intuitively obvious. A recent study by Carvalho (1991) evaluated the structure of 9 ambulatory care facilities in one district of Rio de Janeiro (Planning Area 3.1) and documents the ways in which the organization of care continues to contradict the precept of offering integral care to the individual patient. Facilities were divided into those following a curative approach, represented principally by the services of the social security system, in particular the medical services posts (PAM); those following the preventive medicine approach, generally belonging to state and federal health authorities; and those which engage primarily in social work. It is next to impossible for an individual to visit a health facility and obtain both curative and preventive care. It is equally difficult in many facilities to obtain diagnostic radiology or lab tests to accompany a curative visit. However, AIS, SUDS and SUS were specifically designed to address these limitations.

Services were distributed in a grossly unequal fashion in relation to the population. Preventive activities were limited to vaccination and performance of Papanicolaou smears. The facilities, with one exception, were characterized by extremely low technological complexity for diagnosis and treatment. Several could not even perform (or even collect in some cases) basic laboratory exams such as urinalysis or blood counts, in spite of being responsible for activities such as prenatal care. Only 2 facilities had electrocardiograms, 4 had microscopes and obstetric Dopplers (for checking fetal heart beat). With the exception of a military post, and of cervical cancer referrals, formal referral and patient return records were virtually non-existent. Four facilities had no arrangements for transporting seriously ill patients. No facility reported being systematically supervised. Only 3 facilities had any continuing education, and only 1 facility had regular training. No community occupational health or environmental health activities were being carried out. There were no organized activities directed at school-aged children, adolescents, or the elderly. Most facilities had physicians specialized in basic areas, although often in insufficient numbers. Specialists in neurology, cardiology, ophthalmology, ENT, and allergy were particularly lacking.

Medical Records

7.20 The existence of good medical records is fundamental to quality assurance. In many private hospitals adequate records are not kept. Public sector hospitals tend to have greater standardization in medical records organization, though not necessarily in what is written, and chronic shortages of materials often create problems and inconsistency in recorded information. In one non-random survey of private hospitals in the State of São Paulo, serious problems in medical records were identified. As shown in Table 7-3, performance was poor among the participating hospitals except in the existence of medical record archives (83%). What is most disturbing are the lack of chart transfer as patients move through the facility and the limited use of the generated data for management and quality assurance.

7.21 In some large private Brazilian hospitals, each service is a separate "fiefdom" with its own medical records which do not necessarily follow a patient throughout their hospitalization, so that good but narrow records may be available for patients in some hospitals but they fall short of the desired integration of patient experience across diagnoses and procedures.

Coverage and Process Related Indicators

7.22 An ongoing study of Lázaro de Carvalho (1991) is evaluating quality of care preceding perinatal death in the metropolitan area of Rio de Janeiro. Preliminary results indicate a serious lack of minimal monitoring of fetal well-being during labor, iack of basic tests such as syphilis screening and Rh/blood type, inadequate handling of complications, particularly in low-birth weight babies, pilgrimages from one health facility to another, and so on. Most of these babies were born at private maternity hospitals under contract to INAMPS.

7.23 Cesarean section is used throughout Brazil, but particularly in the Southeast, at outrageous rates -- an average of 32% of all births in 1986 with frequency rising to 64% in high socio-economic groups in São Paulo (see World Bank 1989; 1991). Poor women, who have higher risks, have a Cesarean rate of 26%. Studies show, however, that large numbers of unnecessary Cesareans coexist alongside perinatal deaths due to failure to perform timely Cesareans in complicated cases (Silver, 1992).

Table 7-3: SUMMARY OF MEDICAL RECORDS REVIEW IN SAO PAULO PRIVATE HOSPITALS

Activity	Frequency
Patient registry	59%
Central archive	83%
Statistical area	61%
Data processing based on records	17%
Used microfilming	67%
Trained medical records directors	52%
Transferred charts from outpatient to inpatient use	24%
Regular diagnostic statistics	35%
Regular monthly statistics	32%
Medical Records Committee	14%

Sample size: 29 hospitals
Source: Mezzomo (1988)

Immunization and Epidemiological Surveillance

7.24 Sá Carvalho (1991) evaluated the epidemiologic surveillance and immunization activities in 1985, along with some structural indicators, of the public health system in a stratified sample of 793 services, including public outpatient facilities with at least one physician, and selected hospitals in 98 municipalities across the country. These areas encompass 48% of the Brazilian population.

7.25 The limitations within the sampled facilities are summarized in Table 7-4. Only 70% of the 793 facilities surveyed carried out any vaccination activities. Facilities were generally weak on epidemiological surveillance (only 24% had any surveillance capacity) and on following up cases of communicable diseases (9.8%), although these are most effectively and efficiently accomplished at the state (or even federal) level. State outpatient health facilities were more likely to vaccinate and to carry out epidemiologic surveillance than municipal or INAMPS facilities, or hospitals. In spite of the limitations encountered in this study, the Brazilian public health system has since achieved high rates of vaccination coverage and successfully eliminated polio.

Drugs

7.26 There are serious problems in the quality of pharmaceuticals in Brazil in general (see Silver, 1992). Drug prescribing and utilization patterns further compromise quality of care. One of the most serious issues is the tendency towards simultaneous prescription of multiple drugs. Another is over prescription of antibiotics. While there exist excellent representative data on physician prescribing nationally it is considered confidential by the pharmaceutical industry which sponsors its collection.

Table 7-4: **SUMMARY OF CHARACTERISTICS OF PUBLIC VACCINATION FACILITIES, 1985**

Characteristics	Frequency
Inadequate vaccine refrigeration	30%
Monitored vaccine coverage	31%
Tracked immunization follow-up for children	15%
Vaccine inventory control	60%
Used correct contraindications to preclude vaccination	15%
Vaccination norms	81%
Vaccination only in response to demand	64%

Sample: 793 service facilities
Source: Sa Carvalho (1991)

7.27 Data from the pharmaceutical industry studies of physician prescribing in Brazil in 1989 indicate that 62% of prescriptions were for multiple medications (IMS International, 1989). Carvalho and Shapovalou (1989) evaluated the care of hypertension in a public health center and found that roughly 30% of patients were not adequately controlled. Of the 377 patients studied, 289 were on more than anti-hypertensive drugs. Physician prescribing is felt to be prejudiced by the lack of adequate training in clinical pharmacology, by the poor quality of drug information available in the Brazilian "PDR" (*Diccionario de Especialidades Farmaceuticas*/Dictionary of Specialty Pharmaceuticals), biased information provided by drug companies, and distortions in the supply of pharmaceuticals.

7.28 Most private hospitals and facilities do not use essential or even standardized drug lists (nor do they have independent sources of information on drugs), which control the kinds and brands (and therefore quality) of drugs used as well as controlling costs by limiting drug procurement and allowing volume discounts (see Table 7-5 below for exceptions). The public sector has had a National List of Essential Drugs (RENAME) since 1974, however these important drugs are frequently out of stock in public health facilities due to inefficiencies in drug acquisition and distribution. The list is also not used in the publicly reimbursed hospitals, which provide most inpatient care, or in their outpatient facilities.

Appropriateness of Intervention

7.29 The Integrated Referral System for Rehabilitation, Trauma, and Orthopedics study by Campos da Paz et. al. (1989) assessed the care provided to patients in 1,231 contracted private and public beds. Their overall findings demonstrated "lack of standardization of medical procedures, poor fit between procedures used and the social reality [income] and epidemiologic conditions of the country,

and a critical absorption of technologies leading to a low social return on investments." Sixty-four percent of cases were related to motor vehicle accidents, and were therefore outside the purview of the MOH or SESs. Seven percent were occupational injuries. Unacceptably high levels of surgical intervention were identified, for example 50% of closed fractures in children under 10 were operated upon. Thirty-one percent of patients received implants. Twenty-seven percent of patients had complications. In a subsample of 411 closed fractures, it was found that 69% were operated upon, with an unacceptably high operative infection rate of 15.2%. There is some indication that the reimbursement payments of the social security system, which limited the number of hospital days for certain types of fractures, may provide perverse incentives to hospitals to use faster, invasive orthopedic procedures with high infection rates where conservative, non-invasive treatments would have been more advisable but are inadequately reimbursed.

Outcome Related Indicators of Quality

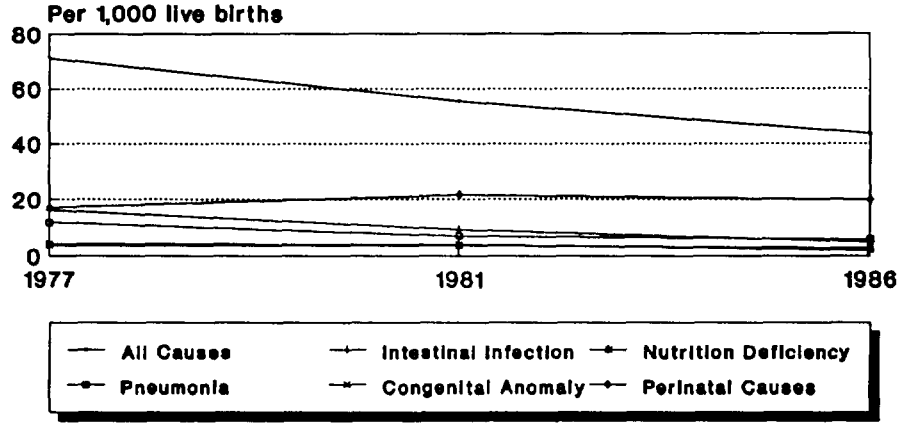
7.30 Nosocomial infection in hospitals is probably the most common measure of hospital quality. It is a concern that has received considerable attention in Brazil, particularly after the death in 1985 of President Tancredo Neves of post-operative complications. No good representative study of rates of nosocomial infections exists, but the general consensus of experts in this area is that the rates are well above those in developed countries -- roughly 5% versus estimates of 6.5%-15% for Brazil (Chor, Klein & Marzochi, 1990). Using an estimate of a 10% rate of infection and a 5% case fatality rate, the Ministry of Health estimated that there were over 1 million cases of nosocomial infection and over 53,000 deaths in 1990. These estimates are considered conservative, with others reaching twice these levels (MOH, 1990).

7.31 Most hospitals that have made efforts have been able to make serious improvements in infection control procedures and antibiotic usage. Infection rates monitored in the State of São Paulo across 32 hospitals with infection control committees are close to 5% (Fernandes, 1992). Of course rates tend to rise with more intensive detection efforts (Paulino, 1990). The cost of infection is in prolonged hospital stays, death, and disability.

7.32 Mortality data is another important outcome related indicator of quality of care, although it is also greatly influenced by other factors. Infant mortality has been steadily falling over the years. However, mortality from diseases that are considered sentinel conditions for poor quality care (Rutstein, 1976), such as diarrhea, pneumonia, and perinatal problems, continue to be major causes of infant death as indicated in Figure 7-1. Perinatal causes (just prior to and after birth), are quite high by international standards, and, in contrast to the other causes of infant mortality during the post-neonatal period (one month after birth), are not decreasing and may even be becoming more frequent.

7.33 An additional source of mortality data is IBGE's annual survey of hospitals. It is not clear how accurate the death rates reported in this survey are, although they appear consistent from year to year. Analysis of death rates shows wide fluctuations between states. Undoubtedly many of these differences are accounted for by differences in case-mix. In particular, it is generally held that public hospitals see far more gravely ill patients, which would account for higher mortality rates in public services. A final, sobering finding that appears to contradict this conclusion is that while the State of Rio as a whole had a medical service mortality rate of 6.7% in 1989, the private hospitals under contract to INAMPS in 1986 had a mortality rate on medical services of 13.9% (Martins et. al., 1991).

Figure 7-1
INFANT MORTALITY RATES BY MAJOR CAUSES, STATE OF RIO DE JANEIRO



Sources: Scwarcwald, CL, et al (1988) based on Ministry of Health Mortality Information System

C. Approaches and Experiences in Hospital Quality Assurance in Brazil

7.34 As is so common in Brazil, there is a wealth of experience and innovation in quality assurance but little of it has been evaluated and even less has persisted over time. Nonetheless, the promising efforts deserve attention to both demonstrate the potential and develop feasible parameters for broader efforts in quality assurance. This section summarizes the characteristics of some of the best facilities and experiments representing both public and private hospitals. The discussion is built around and draws on specific kinds of quality assurance activities outlined in Table 7-5.

Medical Audit

7.35 A common method of process evaluation, which has seen some use in Brazil, is medical audit. The term medical audit has been varyingly applied in Brazil to monitoring of administrative indicators, to medical chart review, to evaluating clinical performance, and to auditing to avoid fraud. The need for medical audit activities has been clearly demonstrated by studies of the frequency of adverse events and negligence in hospitals. In the United States, nearly 4% of hospital admissions result in adverse events and roughly 28% of them are due to negligent or substandard care (Brennan, 1991). It is likely that these problems are at least as common in Brazil.

Table 7-5: **SELECTED EXAMPLES OF HOSPITAL QUALITY ASSURANCE ACTIVITIES RELATED TO THE PROCESS OF MEDICAL CARE**

Quality Assurance Activity (Facility)	Method/Approach	Feedback	Norms	Unique Characteristics	Period of Operation	Reason for Abandonment
Medical Audits						
Hospital de Ipanema/ National Cancer Institute	Monitored occupancy rates, production, surgery utilization, diagnostic tests.	None formally.	Disease specific for LOS.	Reviewed charts of long LOS & deaths.	1970-early 1980s.	Change in hospital director.
Hospital Foundation of Brasilia (4 hospitals)	Discharge summary of diagnosis, LOS treatment, test, infection and payer.	To Chief of Services, hospital auditor, administration.	Developed for LOS.	Reviewed discharge charts. Unique patient registration number.	1973-75 1976-79	Change in Administration.
Galeao Air Force Hospital/Armed Forces Hospitals in Brasilia	Review of all discharged patient's charts for administrative purposes.	None	None	Registers all beneficiaries by number.	1989 to present (recently Brasilia).	Ongoing
Perinatal Commission of Rio de Janeiro (10 hospitals).	Collected & reviewed detailed perinatal histories (pre & post birth).	To hospital staff and discussed.	Designed standardized forms.	--	Mid 1980s.	Disintegrating due to lack of hardware and training.
Umberto Primo Hospital	Review all deaths, systematic review of charts	To hospital staff	None	--	Ongoing	Ongoing
Infection Control						
INCOR	Infection Control Commission.	Yes.	Set by Hospital Commission	Antibiotic prescriptions reviewed.	Ongoing	Ongoing
Military Hospitals	Infection Control Commission in every hospital.	Yes.	Set by Hospital Commission	--	Ongoing	Ongoing
SEPACO	Infection Control Commission.	Yes	Set by Hospital Commission	Antibiotic usage control; Commission meets daily.	Initiated 1978-Ongoing.	Ongoing

Table 7-5: **SELECTED EXAMPLES OF HOSPITAL QUALITY ASSURANCE ACTIVITIES RELATED TO THE PROCESS OF MEDICAL CARE**

Quality Assurance Activity (Facility)	Method/Approach	Feedback	Norms	Unique Characteristics	Period of Operation	Reason for Abandonment
Hospital de Ipanema	Monitors infection rates & antibiotic usage infection control.		Set by Hospital Commission	Monitors antiseptic cleaning.		Ongoing
Albert Einstein	Infection Control Program	MDs can receive personal infection rates with hospital wide comparisons.	Set by Hospital Commission	Separate laboratory quality control.	Initiated 1978-Ongoing	Ongoing
Quality Control of Medical Staff						
Sara Kubichek Hospital	Full time physicians, and staff, continuing education, nurse training. Promotion based on merit.	N/A	Subjective review of performance.	Part of overall quality assurance.	Ongoing	Ongoing
INCOR	70% of physicians full time; continuing education; nursing training; selection based on exam and promotion on performance.	N/A	Exam for nursing; Subjective review of performance.	Part of overall quality assurance.	Ongoing	Ongoing
SEPACO (Multiple Hospitals)	Physicians must have completed residency training; evaluation & review tied to performance; medical & interpersonal skills of MDs assessed; hospital commission oversees hiring & firing.	N/A	Developed for performance by Hospital Quality Commission	Part of overall quality assurance.	Ongoing	Ongoing

Table 7-5: SELECTED EXAMPLES OF HOSPITAL QUALITY ASSURANCE ACTIVITIES RELATED TO THE PROCESS OF MEDICAL CARE

Quality Assurance Activity (Facility)	Method/Approach	Feedback	Norms	Unique Characteristics	Period of Operation	Reason for Abandonment
Siri-Libanes Hospital	Nurse (re) training; grand rounds and continuing education for MDs.	Continual based on provider group reviews.	Developed by Hospital.		Ongoing	Ongoing
Utilization Review						
INAMPS	MD review & approval for hospital admittance and discharge.	None	MD nominally reviews and authorizes all hospitalizations.	Overtime for quality control has become fraud control with little true assessment.	Ongoing	Ongoing
Sentinel Event System						
Hospital Foundation of Brasilia (4 Hospitals)	Alarm set off by inconsistency among diagnoses, tests & therapy.	To Chief of Service and hospital auditor.	Developed for medical practice, LOS.	Simple to administrator.	1973-75 and 1976-79	Change in Administration
Pharmaceutical Control						
Military Hospitals	Hospital formulary of about 800 drugs; pharmacy monitors psychoactive drugs.		Set by Hospital Commission		Ongoing	Ongoing
INCOR	Hospital formulary of 400 drugs. Need justification for prescription outside formulary. Analyze sample of purchased & all problematic drugs. Screen & evaluate drug suppliers; analyze drug consumption patterns.	Yes; hospital-wide	Set by Hospital Commission	Extensive, integrated drug oversight. Analyzes drug consumption patterns and drug quality.	Ongoing	Ongoing

Table 7-5: **SELECTED EXAMPLES OF HOSPITAL QUALITY ASSURANCE ACTIVITIES RELATED TO THE PROCESS OF MEDICAL CARE**

Quality Assurance Activity (Facility)	Method/Approach	Feedback	Norms	Unique Characteristics	Period of Operation	Reason for Abandonment
SEPACO	Pharmacy Committee meets monthly; develops & updates hospital formulary. Non-formulary drug prescription must be formally requested.	Yes to management.	Set by Hospital Commission	Drug suppliers not allowed in hospital.	Ongoing	Ongoing
Albert Einstein	Hospital formulary of 2,200 drugs; oversight of non-formulary prescribing.		Set by Hospital Commission	Reducing size of formulary; computerized drug information database.	Ongoing	Ongoing
Sara Kubichek	Hospital formulary of 300 drugs with standardized drug therapies.					

Source: Silver (1992); Del Nero (1991).

7.36 Medical audit programs were established in Rio de Janeiro in The Hospital de Ipanema and in the National Cancer Institute from the early 1970's through the 1980's. These programs monitored administrative indicators, such as occupancy rates by service, length of stay, production of services,utilization of the surgical center, use of diagnostic tests, and clinical indicators such as infection and autopsy rates. Disease-specific norms for length of stay were developed and charts of patients with prolonged stays were reviewed. Chart review was also carried out in cases of death and for analysis of other aspects of care. In the Cancer Institute all charts of patients who died were analyzed weekly. However as the director of these hospitals changed the medical audit programs were discontinued.

7.37 The most extensive medical audit system is that of INAMPS, which has a large corps of auditors whose duty it is to verify hospitalizations and audit care in facilities under contract to INAMPS. While the proposals for medical auditors often contained objectives related to quality, particularly in the period of SAMHPS development the trend has been for auditors to engage more in verification that the patient exists and was hospitalized, and that the bill is not fraudulent, than to enter into the substance of quality of care. At one point the auditors were extensively trained in medical audit. Many of the functions of the auditor have become pro-forma and even the verification functions have eroded. The AIH forms to be signed by auditors are frequently filled out by hospital directors (Silver, 1992).

Hospital Infection Control

7.38 As mentioned earlier, nosocomial infection is a well recognized quality problem. Some hospitals in Brazil have had infection control commissions since the early 1970's. The Hospital de Ipanema, a surgical hospital which until recently belonged to INAMPS, was one of the first to regularly monitor infection rates, as well as review all antibiotic usage in the hospital (Aguiar, 1974). These activities have continued to the present.

7.39 In recent years increasing numbers of hospitals have created infection control commissions, most frequently evident in the best public and private institutions (see Table 7-5). These commissions generally engage in monitoring infection rates, either through passive or active case identification systems; identifying and controlling outbreaks; identifying infection sources in the hospital and addressing the problem; monitoring and controlling the use of antibiotics; and educating staff. In SEPACO, the hospital of the paper and cellulose industry workers in São Paulo, the infection control commission was formed in 1978, and over a two year period infection rates fell from 7-7.5% to 3.5%-4.0%. Studies of surgical patients in that hospital also found that one third of patients received antibiotics, and that for every cruzeiro spent on medically indicated antibiotic prescriptions, 2-3 cruzeiros were spent on questionably indicated drugs, particularly prophylactic antibiotics used for longer than 2 days.

7.40 While professionals in SEPACO initially objected to the Commission activities, particularly in controlling antibiotic usage, most have since been convinced and now regularly request advice from the infection control staff. It was also found in Ipanema, SEPACO, and other centers, that antiseptics were widely and unnecessarily used by cleaning teams. Development of proper cleaning routines and manuals addressed these problems. Institution of infection control procedures led to significant savings. Nationally there are about 50 hospitals which are considered training centers for hospital infection

control. These infection control commissions have in many cases been the seed for other hospital quality control activities (Silver, 1992).

7.41 In 1989, unfortunately, the Regional Council of Medicine of São Paulo ruled in favor of physicians who complained that approval of antibiotic use by infection control committees constituted improper interference in medical practice. This ruling may be reversed by the Federal Medical Council, but it is an unfortunate precedent that undermines quality control efforts and impedes efforts to spread infection control practices.

Quality Control of Medical Staffs

7.42 Quality of medical staff has been touched on earlier in the chapter and is discussed extensively in the next chapter on regulation. It represents one of the most serious problems in Brazilian medical care because of poor educational preparation and medical training among physicians, nurses and other medical staffs; the general lack of supervision and management of medical staffs; limited opportunities or incentives for continuing (or remedial) education; and the absence of penalties for dangerous or sloppy performance.

7.43 Nurses are in short supply nationally, particularly registered nurses, and in virtually every hospital doctors outnumber nurses. Nursing training is superficial. The constrained supply of nurses makes quality assurance in hospitals difficult since it is the nurses that operate the facility and oversee patient care and ultimately carry the responsibility for much of what is entailed in quality of care. Current patterns leads to an overemphasis on physician attention and a strong bias toward curative physician care. By international standards, Brazil has an acute undersupply of nurses.

7.44 Public hospitals face additional difficulties because hospital managers have little or no control over physicians assigned to their facility, and outside of personal contacts cannot affect the career, pay or assignment of these medical staff. In addition, allowing physicians to work only half time and endorsing multiple jobs even within the private sector ensures a less focused medical staff. Some of the best public facilities have insisted on full time physician staffs (Hospital Sara Kubichek in Brasilia, and INCOR in São Paulo) whose salaries are raised and whose presence and effort are expected and monitored. Without such management control, medical staffs are apt to abuse public service responsibilities. The best institutions can attract and retain the outstanding performers because of their infrastructure and leadership. This cannot be said of lesser facilities, the mass of secondary care providers. These are the targets for change.

7.45 There are a number of efforts, however, for improving control over staffs in both public and private hospitals to impose quality standards, Box 7-2 provides an example of an impressive effort in a specialized area and its difficulty in surviving. The public sector, the military, and some private groups and insurers obtain partial control over the quality of their personnel by hiring via examinations, which include curriculum review and written tests. In this sense, qualifying examinations already exist for a portion of the medical workforce despite the absence of a medical licensing exam (see examples in Table 7-5). Low salaries, especially of nurses, can be offset by alternative remuneration schemes and continuing education, which enhance marketability and earnings.

7.46 Some private hospitals in São Paulo are just starting to register physicians who admit patients to their hospital (e.g., Albert Einstein and Siro-Libanes Hospitals) and are beginning to establish a

coherent medical staff by identifying a core group of physicians. Private hospitals do not have closed clinical staffs, although some, such as SEPACO, function primarily with salaried physicians. These facilities are starting to upgrade skills and encourage continuing education for their medical staffs.

Box 7-2. SPECIAL QUALITY CONTROL INITIATIVES: THE EXPERIENCE OF SIRTO

The Integrated Referral System for Rehabilitation, Trauma and Orthopedics (SIRTO), coordinated by Dr. Aloysio Campos da Paz, Jr., was an active and integrated quality assurance program. Its original comprehensive objectives included i) establishing technical norms and procedures for the specialty, ii) establishing guidelines for the use of equipment, and materials, iii) establishing specific guidelines for the rational use of orthopedic and prosthetic devices and implants, iv) improving the training of medical and paramedical personnel in trauma and orthopedics and v) contributing to Brazil's capacity to produce technologies in this area. The system was to include the establishment of referral centers in orthopedics and rehabilitation, an intermediate referral level of trauma and orthopedic services in other hospitals, and accreditation of trauma and orthopedic services in general hospitals under contract to INAMPS, in accordance with technical criteria developed by the program. Modifications in the payment of procedures were proposed, as were the creation of incentives for full-time employment versus the more typical half-time contract. Orthopedic devices were to undergo quality testing in reference centers and the purchase of these devices was to be standardized for the public system and contracted private sector. Medical training in trauma and orthopedics was to take place in residency programs of a minimum three year duration, to be accredited by SIRTO. In 1987 SIRTO also organized a proposal for a national program for prevention of motor vehicle accidents and care of victims (Diario Oficial 1986).

Unfortunately, SIRTO, along with other quality oriented initiatives, gradually disappeared. Under the Collor administration, SIRTO, together with the other reference systems, was absorbed into the Integrated System of High Complexity Procedures (SIPAC). Most of the quality measures foreseen were never implemented. One of the few changes which continues in place is the direct payment of orthopedic devices to suppliers by INAMPS, which reduced fraud and variations in price although some fraud continues to be reported. Some of the recommendations related to accidents have been implemented in certain cities through the Fire Department's ambulance system, and recent proposed changes in motor vehicle regulation. A proposal to establish centers for rehabilitation medicine in several cities is also still alive.

Quality Assurance Systems

7.47 The components of quality assurance systems have already been touched on above and the recommendations in the last section below provide detailed proposals. Table 7-6 summarizes the effective quality assurance programs in four respected Brazilian hospitals. The fact that all are tertiary care facilities is noteworthy. It is easiest for these hospitals because they attract the best practitioners and work to enhance the professionalism of the working environment. However, the principles followed can be further improved, can and must be translated into viable packages for quality assurance in other tertiary as well as primary and secondary care facilities.

Table 7-6: **SUMMARY OF EXEMPLARY QUALITY ASSURANCE SYSTEMS IN BRAZILIAN HOSPITALS**

Where Applied	Method/Approach	Feedback
INCOR Hospitals	Quality of medical staff screened (by examination) and trained. Weekly unit meetings on activities and clinical (mortality and infection) results evaluate own and group performance. Pathology results reviewed monthly. Chart review committee. Regular clinical practice discussions. Standardization of drugs; pharmacy analyzes drug consumption; and hospital tests purchased drugs. Infection Control Commission. Engineering control of equipment acquisition and maintenance.	Continual throughout the hospital.
SEPACO Hospitals	Infection control. Commission for Quality Control and Medical Ethics reviews all deaths, x-ray use, lab quality, surgery, peri-natal care, pathology results, and hiring and firing of staff. Pharmacy Committee meets monthly to maintain drug formulary.	MDs receive individualized reports on their absolute relative infection rate and x-ray use.
Albert Einstein Hospital	Infection control. Lab quality control. Total quality management in nursing division. Quality Commission to register MDs and develop norms. Drug norms and formulary.	Voluntary individualized MD absolute and relative infection rates. Patient satisfaction review returned to relevant individuals and units.
Siro-Libanes Hospital	Human resource strategy: nurse (re)training, grand rounds and continuing education for MDs, including management training. MDs developed manuals of norms. Regular review of medical records.	Weekly committee meetings to discuss progress and process within hospital.

Source: Silver (1992); Del Nero (1991).

7.48 Even among the efforts of the august institutions discussed above the assessment of the content of medical care is avoided. The content of medical care is not generally the target of specific quality assurance measures, and neither managers and supervisors nor peer groups directly oversee most medical staff performance. Part of the difficulty is the erroneous perception of many medical and nursing professional, that to in any way interfere in, judge, or call attention to the medical practices of a colleague is "anti-ethical." The Code of Medical Ethics, in fact, prohibits physicians from covering-up errors or anti-ethical conduct of colleagues. Interference in treatment by another physician is permitted by the Code when clearly in the best interests of the patient, and if the treating physician is informed. But this does not translate into practice.

Conclusions

7.49 Despite these impressive efforts in a select group of hospitals in Brazil, few systematic means of measuring and ensuring quality in the process of health care have been undertaken. Outcome

measures are equally absent. Aside from monitoring of infant and maternal mortality on an ad hoc basis, little in the way of outcome measures exists. The challenge is to develop modern quality assurance methods appropriate for use in Brazil, and viable for the wide range of ambulatory and hospital facilities. Ongoing programs offer living laboratories of Brazilian quality assurance. But these successful initiatives need to be thoroughly evaluated, understood and adapted to the very different environment of less-than-premier facilities.

7.50 The treatment of Cesarean births offers an illustration of the lack of interference in poor medical practice despite the fact that the abuse is visible and recognized by the medical profession and the general population. Brazil has one of the highest rates in the world yet none of the hospitals discussed in this section have addressed this issue (some, however, do not have maternity services), with the exception of SEAPCO that has reduced its rate but not sufficiently to meet acceptable international standards. It is costly in both monetary and health terms but persists because physician practices are effectively outside the realm of hospital and medical association purview.

7.51 How then can the quality of health services be assured? Without peer review or other means to monitor performance and outcomes, quality assurance will fall short of its ultimate objective and only address the environment but not the source of service provision.

D. Extra-Hospital Efforts and Issues in Promoting Quality of Care

Malpractice and Consumer Groups

7.52 The use of the judicial system to redress injuries due to medical management is becoming increasingly frequent in Brazil. Physicians are beginning to consider taking out insurance. Groups of victims of medical mistakes have recently appeared in São Paulo, Rio de Janeiro, Juiz de Fora, Belem do Para, Macapa in the State of Amapa, and Pelotas, and are vocal in demanding improvements in the quality of care. Some of these groups, such as The Association of Victims of Medical Error (AVERMES) in Rio, established in 1991, also provide legal counseling to individuals who feel they have been wronged. There appears to be a large population feeling wronged by the health care system. Responses from physicians have at times been extreme. Organizers of these groups, such as Destri in Rio de Janeiro, have suffered death threats. In several cases the legal records of physical evidence of malpractice in the Medical-Legal Institute of Rio de Janeiro have mysteriously disappeared from the Institute (Silver, 1992).

7.53 Individuals who believe themselves to have been victims of malpractice have three legal options; one is to pursue criminal penalties against the responsible provider, the second is to seek civil damages. In these cases the plaintiff must establish that imprudence, incompetence or negligence led to the injury. The third option is to file a complaint with the Regional Council of Medicine. Civil cases take an average of three years to be concluded (Destri, 1991). The new federal Consumer Protection Code may considerably broaden the legal options of victims of medical malpractice, or even more clearly, of faulty products such as pharmaceuticals ("*Codigo de Defesa do Consumidor*" - Lei. No. 8.078 of 9/11/90). The first health service related legal cases based on the new code are beginning to appear. In contrast, Destri (1991) suggests that "There is no point in making new laws which won't be carried out -- we need to stand up and make sure that those that exist are complied with."

7.54 Overall, however, Brazil's judicial system is weak. One of the problems in these cases is who should be held liable for negligent injuries which occur as a result of inadequate hospital structure, a common cause of negligent injury in Brazil.[3/] Legal recourse is unlikely to constitute in the short term an accessible form of recuperating damages for the majority of the population. Groups such as Victims of Medical Error have been discouraged by the rulings of the Regional Medical Councils that issue mechanisms to effectively protect the public from incompetent providers since negligent providers have received insignificant penalties. Perhaps the most important contribution of these groups will be to maintain the problem of quality of health services in the public eye, and to force the development of more effective quality assurance. Other consumer groups in the area of health care tend to be linked to specific disease problems, for example, the House of the Hemophiliac, or the neonatal PKU and hypothyroidism screening program run by the Association of Parents and Friends of the Handicapped (APAE).

7.55 A serious obstacle to viable public participation in the monitoring, evaluation, and planning of health care is the relative scarcity of consumer organizations specifically concerned with health care issues, and the absence of technical capacity in health care issues in organizations with a strong interest, such as unions. The demands of community groups in relation to health care have traditionally (and appropriately) been focussed on obtaining greater access to services. The groups of victims of iatrogenesis represent the first examples of organizations whose primary concern is quality. Since large numbers of workers are covered by payroll- financed public or private plans, it would be important for both unions and industry to develop a capacity for dealing with issues of quality.

E. Implications of Results and Recommendations for Improving Quality

7.56 Quality is not a simple attribute. There is no magic bullet to increase quality. Real improvements in quality in other countries have depended on the conjunction of many factors which create incentives for high quality care. These include stable financing, adequate health infrastructure, good medical, nursing, and administrative training, and rational manpower policies. Specific quality assurance programs have also contributed. As the basic problems are resolved, the potential for achieving further improvement through quality assurance programs increases.

7.57 Improving the quality of all of the major inputs to adequate health care, as well as the organization and administration of the system, are the most important quality assurance mechanisms. Although instability certainly does not preclude the establishment of specific quality assurance mechanisms, they are far more likely to flourish in settings of relative administrative and financial stability. These conditions are not present today in the majority of Brazilian health facilities.

[3/] For example, if a hospital with 100 beds has 1 doctor on call, and four emergencies occur at the same time, leading to the death of a patient for lack of care, who is responsible? The doctor who failed to take care of four emergencies simultaneously and who agreed to work under inadequate conditions? The medical director who staffed the hospital improperly? The hospital owner who didn't want to pay for more staff? The State health authorities who allowed the hospital to operate with improper staffing? The Federal authorities who didn't reimburse the hospital for three months straight?

7.58 There are five major considerations upon which the recommendations are grounded:

(i) quality assurance mechanisms should seek to define and monitor access to care, continuity of care, integral nature of care and technical quality of care;

(ii) emphasis should be placed on internal quality assurance mechanisms in hospitals and ambulatory care facilities aimed at continuous improvement and constituting part of the activities of all health workers;

(iii) consumer participation in monitoring health care and accountability should be emphasized at all levels;

(iv) Internal inspection mechanisms should apply to public and private hospitals alike, seeking to protect the public by guaranteeing compliance with a basic level of quality;

(v) health care providers, both public and private, should reorganize services to provide continuity in the patient-provider relationship.

7.59 Research is needed, but is not a prerequisite to action. The existence of grave problems in quality of care is visible to the naked eye. The scientific and systematic documentation of the state of quality of care in Brazil will hopefully add weight and depth to the stories carried by newspapers, and assist in characterizing and prioritizing problems. Research in quality of care should be linked to interventions, and should be an instrument for involving clinical leadership in the efforts to improve quality. A few areas would appear to be high priority for research and the recommendations begin with a research focus to emphasize the importance of information gathering and evaluation of experimentation, elements that should persist over time.

- **Methodological studies to develop and test various approaches to quality assurance in Brazilian health services, and descriptive, representative, studies of the quality of clinical care in Brazil.**

7.60 These first set of studies should seek to respond to the question, what will work in Brazil? For example will total quality management methods used in other countries or industries be effective in the context of Brazilian health care institutions? Are inspection mechanisms or continuous improvement methods more effective here? What educational tools are effective for raising health professionals; consciousness on quality? What works in hospitals and outpatient units? How can TQM methods be adapted to settings staffed by personnel with low educational levels? Schools of administration such as the Fundação Getulio Vargas and its PROAHSA program, the São Camilo School of Hospital Administration, the National School of Public Health, and quality control programs in specific health services could be responsible for developing and testing methods.

7.61 Diagnostic studies of the tools of quality assurance are needed to provide a scientific basis for Brazilian initiatives. These should aim not to provide a "grade", but to identify and characterize the major distortions, problems, and errors being committed. For example, studies carried out by SIRTO contributed by identifying the overuse of invasive orthopedic procedures and the consequent high incidence of complications and infections, as major quality problems. Studies are needed of ambulatory care and inpatient care, preventive and curative, public and private services.

7.62 Perhaps the best approach to these basic studies would be to select a small number of tracer conditions and evaluate care from the community to the ICU. Particularly important diagnoses due to their high frequency as causes of ambulatory care, hospitalization and/or death would include pregnancy and delivery care, hypertension, congestive heart failure, stroke, pediatric pneumonia and diarrhea, perinatal care of infants, and trauma. Studies of the use of pacemakers and management of chronic renal patients are particularly important from a cost standpoint. But better quality in these areas also translate into lower costs.

7.63 Two alternative approaches could be used. One would be to provide incentives and financing for multiple smaller studies with involvement of clinical leadership in the different areas. The second would be to develop a large national representative study using a stratified national sample of public and private, inpatient and outpatient cares, using either explicit criteria or implicit judgement of reviewers. The elements of access, continuity, and equity should be evaluated as should clinical characteristics. This latter alternative would be fairly expensive.

- **The creation of a quality assurance culture among health professionals with intervention beginning in the training of health professionals.**

7.64 Because of the absence of a quality assurance tradition in health services, most Brazilian physicians are extremely threatened by the introduction of these activities, viewing them as questioning their professional competence and autonomy rather than as tools for providing progressively better care. Modifications in the training of professionals are needed to alter this situation. Instead of formal courses in quality assurance, hands on experiences in analyzing and improving medical care should be integrated into the clinical training curricula. Medical and nursing students should have experiences obliging them to see the patient's side of care, such as that carried out in the Pedro Ernesto Hospital study. A student on a radiology rotation could analyze the appropriateness of requests for x-rays, or, on an obstetrics rotation, access to and quality of pre-natal care could be reviewed, and so forth. Basic concepts in quality assurance can be introduced in a few lectures. These activities should also be part of accreditation requirements (see recommendations of Chapter 8).

7.65 A "blitz" type **effort to provide formal training in clinical quality assurance for professors in medical schools might influence these leaders in the profession.** Alternatively incentives for research activities in quality of care could help involve leading clinicians. Participation in a recent study of quality of care in cases of patient death in one pediatric hospital helped to transform the initial resistance of senior clinicians into interest in quality assurance.

- **All students of hospital administration should receive formal training in quality assurance methods.**

- **Tools for teaching quality assurance, particularly total quality management methods and standards of acceptable quality should be developed.**

7.66 These tools should teach general quality methods, review what constitutes quality in health care -- issues such as access, coverage, continuity, and integral care in addition to the evaluation of technical content of care received and administrative quality and efficiency, and establish Brazilian standards upon which to assess progress. The Ministry and State Secretariats of Health, in conjunction with

other training institutions and professional associations, should begin to develop norms and standards, and test such tools.

7.67 Quality assurance proposals can draw on private sector experience in total quality management (TQM) to design and teach training programs. In a recent test application of total quality management methods in 21 US health services, representatives from businesses, universities and other institutions who had developed TQM programs worked as quality advisers for each participating health program (Source, 1991), public health services in Mexico City have several experiences in the organization of quality circles, aimed at creating a "quality culture" among health workers, with positive results in both hospital based perinatal care and a health center based immunization program (Ruelas - Barajas et. al., 1990; Calderon and Oviedo, 1990), which may provide useful models for Brazil. United States-based University Research Corporation is managing a quality assurance in health care program which has developed training in TQM methods with the Ministry of Health of Chile and other Latin American countries, and may have useful materials.

- **Channels should be created for the population to participate actively in evaluating local health services, both public and private.**

7.68 Successful approaches have included the Popular Health Encounters, used in Paraná, (Cordovi et. al. 1990), and in some areas, the municipal health councils. Each state and local government should seek to develop methods of local participation. Effective social control over services is something that cannot be obtained simply by legislation -- though it is already in the Brazilian Constitution. It depends fundamentally on the relationship of forces within the society.

- **A major focus of quality assurance programs in hospitals and outpatient programs should be to systematically analyze the quality of care for the most common clinical and administrative problems, and the institution should be held accountable to INAMPS, hospital directors and patients.**

7.69 One method is to use selected conditions, called tracers, and to follow the course of samples of patients with specific condition through the medical care system. For example, hypertension can be evaluated in terms of the levels of detection in the community, the continuity of care for diagnosed patients, the agreement between diagnostic and therapeutic measures provided and standards of care, access to medications, access to secondary or tertiary care, or quality of hospital care in complicated cases. Manpower, pharmaceuticals and medical devices should also be high priority objects of internal quality assurance activities.

7.70 These measures are most successful in modifying practice if the teams actually involved in patient care and supporting areas participate in formulating the standards and evaluating the results. "Administration by Programs" at INCOR may represent one such participatory approach in use in Brazil. Early applications of TQM methods both in both the United States and Brazil have tended to emphasize administrative problems over clinical ones, though both areas are essential for good quality care. Total quality management methods such as the formation of temporary, participatory teams to address specific problems in clinical care and develop solutions, can be combined with various existing data analysis techniques of medical quality assessment and assurance. Such new methods for effectively combining the participative nature of TQM with existing techniques for assessing clinical care are needed. Brazilian quality assurance should seek to innovate and not necessarily to reproduce quality assurance from the United States or elsewhere, which are often bureaucratic and not closely tied to participative problem-solving.

8. REGULATION OF HEALTH CARE

8.1 The importance of a regulatory infrastructure and enforcement has been discussed throughout this report. This chapter brings together the salient -- and in some cases repeats -- issues and experiences in Brazil as a way of demonstrating the gaps and lapses in current regulations, and of suggesting priorities for regulatory reform. Considerable overlap exists between this chapter and the two previous ones on costs and cost containment, and quality of care, because regulations are needed to ensure quality and to control costs as well as to ensure that the market works fairly and efficiently.

A. Rationale for and Types of Health Regulation

8.2 Health regulations have four major purposes: (i) to ensure that minimum quality standards are met in the provision of health care; (ii) to prevent financial abuses; (iii) to facilitate acceptable access to and distribution of health services; and (iv) to contain costs. These regulatory objectives apply equally to public and private facilities. Government has principle responsibility for the former and can and should regulate, but not control, private health care delivery and finance. In most countries, private associations play a significant complementary role to government in regulating physicians and health facilities through accreditation; and, particularly in developed economies, consumer groups pressure both government and accreditation bodies to ensure that standards acceptable to them are maintained.

8.3 Quality, as has been discussed, encompasses a myriad of financial, medical and environmental factors, and regulations must address the spectrum of issues. Because physicians act as "principal agents" for patients (they rather than the patient decide the extent of illness and how to proceed with treatment), and because only another physician can technically assess the caliber of medical care quality, whatever body regulates the medical aspects of health care must have the capacity to identify and evaluate the elements needing assessment. Without performance monitoring, the system is open to abuse.

8.4 Financial accountability in public and private financing and delivery systems is important to: (i) ensure financial integrity of health services or health insurance; (ii) control corruption of public and publicly reimbursed providers; and (iii) promote efficiency and fairness of provider finances. Regulation of these elements reduces financial waste and builds consumer confidence in the integrity of health providers. Implementation of such regulations entails less of an emphasis on monitoring individual receipts and greater scrutiny of financial soundness of overall performance.

8.5 Health care is a luxury good and access and consumption are highly correlated with income. Without government intervention, the quality and quantity of health care becomes skewed toward the rich and the healthy. Government incentives to broaden population and geographic coverage can improve access to and distribution of services. Public insurance, private insurance, selective tax breaks for providers, and, other similar incentives, encourage expansion of services beyond the few and make service delivery accessible to more than the well-heeled. However, because health insurance is most lucrative among healthy enrollees, private companies engage in "cream skimming" whereby they select only those with the lowest probability of using health services and catastrophic services in particular. Those with chronic diseases, above a certain age or with a history of (a certain) illness are less likely to obtain coverage. Health insurance (see Chapter 4) require controls to guarantee access and minimize adverse selection (selection of only low risk individuals).

8.6 Easy access and high quality, so important to ensuring a fair and sound health care system, also serve to raise costs. As discussed in Chapter 1, extending insurance coverage is associated with rising costs, as are open ended, free public health care systems. Where the majority of the population relies on third party payers, as in Brazil, no incentives exist to control volume or costs of service among either providers or consumers. It falls then to government, and to some extent other insurers, to promote cost containment. Regulation, and cost and volume incentives, offer the least distortionary forms of intervention to achieve that objective.

8.7 A final comment is particularly relevant to Brazil. Price controls are the most common form of regulation in Brazil, and they are the least effective in achieving the objectives mentioned above. A binding price constraint eliminates the incentive and possibilities for maintaining or improving quality, reduces the supply of private health care services and financing, and implicitly creates incentives for fraud or other illegal activity, because such activities represent the only means for continued operation of financially strapped providers and insurers.

B. Regulations and Enforcement Related to the Structure of Medical Care

8.8 To ensure quality of service delivery and financial accountability, health regulations can most easily be accomplished using the following tools:

(i) "**accreditation**: the process by which an agency or organization evaluates and recognizes an institution or programme of study that meets certain predetermined standards;

(ii) **licensure**: the process by which a government agency grants permission to persons engaged in a given profession or occupation, or to institutions providing specified services, by certifying that those licensed have attained a predetermined degree of competence; and

(iii) **certification, classification and/or registration**: the process by which a non-governmental agency or association grants recognition to an individual who has met certain predetermined qualifications. Such qualification may include a) graduation from an accredited or approved programme; b) acceptable performance in a qualifying examination; c) completion of a given amount of work experience; and d) association membership." The goals of accreditation include 1) preventing public hazards, 2) guaranteeing minimal medical standards, and 3) increasing efficiency by stipulating the kind of activities that should and should not be carried out in various kinds of facilities (Vuori, 1982).

8.9 Regulations in Brazil have been in effect from the earliest days of the empire (See Box 8-1), and have persisted in some form until today. Many of the regulations introduced important quality control methods into Brazilian health services, such as the active search for cases of disease, data collection, analysis and feedback techniques, and monitoring and evaluation of program activities. While these programs were not defined as regulations per se many worked with rigid norms for certain services, active and respected supervision teams, and monitoring and evaluation, although this latter activity was generally directed more at quantitative production than service quality. Together these experiences demonstrate a strong historical basis for quality concerns and regulation, and provide a backdrop for the discussion of current regulations.

Box 8-1: HISTORY OF BRAZILIAN HEALTH REGULATIONS: THE PAST PREDICTS THE FUTURE

Health care regulations have existed in Brazil since the earliest days of the Empire. In 1631 the Office of Army Surgeon General (Cirurgião-Maior) was created, and these individuals were responsible for monitoring the teaching and practice of surgery, midwives, dentists, bonesetters, and military medicine. The office of the Physician General of the Kingdom began in 1521, and was likewise responsible for supervising the teaching and practice of medicine in Portugal and Brazil. These individuals or their local agents (generally one in each colonial province) were charged with examining and licensing all practitioners. When surgeons or other healers were practicing medicine in the interior, they were supposed to send a list of all the patients treated, medications used, and outcomes every six months to a judge, who would review the treatments and provide praise or criticism, suspending their licenses if they showed themselves to be a danger to the public.

There were a great many detailed regulations. Sanitary legislation was expanded and the first public health agencies were founded around 1808. In 1846 the Imperial Vaccine Institute was opened. Early public health activities included monitoring professional activities, particularly of pharmacies, as well as markets and sanitation, monitoring ports, and smallpox vaccination.

Commentary by Barbosa and de Rezende (1909) on the early legislation and regulations in public health proved to be prophetic for 20th Century Brazilian regulations, "As one can see, the laws and regulations could not have been more rigorous or protective of the public interest, for their day and age ... the authority of the surgeon and physician generals was subject only to that of the King ... such rigor, however, could not in practice be strictly and uniformly applied. There was wide margin for abuse and insufficiencies in the enforcement of health laws. Given the vast extension of the territory of Brazil, the limited and slow means of communication, and the backward and abandoned teaching of medicine in both Portugal and in Brazil, it becomes clear that the meticulousness of these laws and regulations aimed more to satisfy the progressive and generous spirit of the Regent Prince and the eminent and well-intentioned physicians who assisted him, than to provide truly effective results in practice." This early legislation provides the first examples of a tradition of divorce between progressive legislation in the area of health, and effective enforcement.

Hospital Accreditation

8.10 Brazil has no routine hospital accreditation program. Traditionally two mechanisms have existed for examining hospital structure. The first are laws and regulations passed by the federal government, with enforcement by municipal, state, and federal health surveillance divisions (*Vigilância Sanitária*); the second are requirements or criteria established by MOH/INAMPS in its capacity as a purchaser of services from the private sector.

8.11 Since 1975, new health facilities are required to comply with a series of guidelines. Any proposed construction must be approved by the local Department of Public Works and by the State Secretariat for Health. MOH/INAMPS may only contract private facilities constructed after 1975 if they have complied with these guidelines. These requirements are established by Law 6229 of 1975,

on the Organization of the National Health System (since superseded by the new Health Law), Regulation (*Portaria*) No. 282, of 1982, which defines terms, and most importantly, Regulation No. 400, of 1977, which details requirements for the construction of small and medium size hospitals. Regulation 400 is extremely detailed, however, it is entirely limited to architectural requirements, principally the number of square meters necessary for each area of the hospital. It contains no norms for manpower, technology, or procedures, nor does it establish any criteria related to need for construction of new facilities.

8.12 Resolution No. 3 of the Coordinators of the Interministerial Commission for Planning and Coordination (CIPLAN) of 1981 provides a more comprehensive approach to guiding the expansion of the health system. This Resolution provided a model for the different levels of complexity (health posts, two types of health centers, two types of ambulatory care centers, local hospitals and referral hospitals) and criteria for deciding where to expand. It contains norms for physical structure, manpower, and for relations between referral levels. While some of the criteria might be questioned, it represents a far more comprehensive approach than Regulation 400 for evaluating the creation of new health facilities. Its frame of reference appears to be the expansion of the public health system, however the Resolution states that it is directed at the "modification and expansion of the network of health facilities." This resolution, however, does not have force of law, and states that "these norm are an experimental proposal for orientation, to be implemented during a one-year period and subject to reexamination and improvement based on inputs and suggestions which arise when applied."[1/]

8.13 The Brazilian private sector, including the health field, are besieged with "nuisance" regulations that attempt to control, but not to regulate, in the sense of setting standards and only intervening when problems are imminent. The private sector has noted the absence of government regulation and is attempting to fill the void. The Brazilian Hospital Association (ABH - *Associação Brasileira de Hospitais*) and its state affiliates have begun to collect relevant information regarding hospital finances and performance (particularly in São Paulo), and in conjunction with the Pan American Health Organization (PAHO) to promote hospital quality through an accreditation system that would establish rigorous standards for hospital operation. Although in the initial stages, it represents a needed initiative to substitute for or complement the government's regulatory framework.

Accreditation under the Federal Hospital Reimbursement System

8.14 The public sector has exclusive and important regulatory responsibility for overseeing the quantity and quality of care provided by participating hospitals under SIH/SUS (see Chapter 5). These functions are distinct from hospital accreditation under the United States Medicare or Medicaid programs, the two systems most like SIH/SUS. Brazil emphasizes classification, generally from less complex to more complex to guide reimbursement levels, not statements about whether or not a given institution is fit to provide hospital services to the public. Because of this they are not effective regulatory instruments for protecting the public (see Box 8-2) [2/].

[1/] Law 6229, Regulation 282 and 400, and Resolution No. 3 of CIPLAN may all be found in the publication Normas e Padrões de Construções e Instalações de Serviços de Saúde. Series Normas e Manuais Técnicas, Ministerio de Saúde, Brasilia 1987.

[2/] An earlier system used by the former Pension Fund for Commerce Workers (IAPC) in 1961 apparently had a set of minimum criteria necessary for contracting a facility, but that no longer exists.

Box 8-2. RECLAR: INAMPS'S EFFORT AT HOSPITAL ACCREDITATION

The most widely used instrument for classification is the Hospital Classification Report (*Reclar - Relátorio de Classificação Hospitalar*), employed by INAMPS since 1974, which scores hospitals based on physical structure, equipment, installations and organization. The score classifies the hospital and has determined the value of an adjustment factor (IVDH) attached to reimbursement payments. RECLAR is considered to be an easily manipulated instrument, that overemphasize physical installations and fails to take into consideration any measure of hospital performance (Guimaraes, 1989). Since 1991 payments to private hospitals have been equalized -- a hospital caring for the same type of patient will receive the same amount for that patient, so it is no longer clear what the function of the RECLAR is. The original rules called for patients to be referred to hospital beds strictly following the order of classification, with lower scoring hospitals being used only when higher level facilities are not available, however this was apparently never implemented, and is certainly not the case today (INAMPS, 1974).

8.15 Hospital accreditation for contracts by MOH/INAMPS are generally divorced from the results of any inspections or audits by the state health surveillance divisions, so that hospitals may be found to have flagrant violations without being un-accredited. Losing MOH/INAMPS accreditation may or may not be followed by any investigation into whether a hospital should lose its operating license. With the decentralization of hospital contracting this situation may improve because local governments become more accountable.

Private Payer Accreditation

8.16 Even the private financial sector has avoided any effort to effectively screen or accredit hospitals. Private health plans and insurers vary in their selection of hospitals. Many medical groups have their own hospitals. Others, such as AMIL, are essentially private insurance companies which "accredit" hospitals and physicians. In the case of AMIL, hospitals seeking accreditation are visited by a commission of physicians who evaluate and decide on accreditation or not. This decision is based solely on the professional judgement of the members of the commissions without formal guidelines or criteria, reducing its value as a guide to regulators and consumers alike. Because private insurers often have special arrangements with specific hospitals based on reputation, and their surveys establish patient satisfaction without questioning the financial or medical adequacy of service provision, these too fall short of appropriate accreditation (Silver, 1992; Couttolenc, 1991).

Program for Monitoring and Evaluating the Quality of Hospital Care in the State of São Paulo

8.17 The Medical Association of São Paulo (APM) and the Regional Council of Medicine of São Paulo (CREMESP - *Couselho Regional de Medicina do Estudo de São Paulo*) has recently initiated the Program for Monitoring and Evaluating the Quality of Hospital Care in the State of São Paulo, inspired by hospital accreditation in other countries, but actually quite different in conception. The program does not lead to any statement about fitness to remain in operation, nor does it attempt to "classify" hospitals in the fashion of INAMPS. It prides itself on simplicity, decentralization, self-monitoring, and quality of care concerns. The program would certify hospitals based on biannual

evaluations of adherence to a set of norms, assessment of patient data, and patient satisfaction surveys (see Box 8-3).

Box 8-3: SÃO PAULO STATE'S EVOLVING HOSPITAL ACCREDITATION SYSTEM

The current proposal calls for a biannual visit by a central Commission which will verify conditions and decide whether or not to provide a "Seal of Conformity" (e.g., accreditation) with the norms of the program. It is not clear what these "norms" are. This part of the proposal is not yet functioning.

Program objectives are to i) register hospitals; ii) register and describe the clinical staff associated with each hospital; iii) obtain, validate and monitor monthly a defined set of indicators; iv) obtain, validate, and assess monthly patients evaluation data. Every trimester reports will be fed back to hospitals containing the distribution curves for the various indicators and the position of the hospital in relation to others.

All hospitals in the State of São Paulo were invited to participate. Of the thousands of hospitals in the state, only 132 agreed to participate and 80 were regularly providing information as of November 1991. Participating hospitals included 52 private institutions, 6 municipal, 5 state and 2 federal hospitals, and 11 psychiatric hospitals (for whom separate systems are being developed). The participating hospitals varied in size, with most between 50-500 beds.

Hospitals initially fill out a form describing in detail the structural characteristics of the hospital, including beds, staffing, diagnostic and therapeutic services available, existence and activity of infection control, medical ethics, and other commissions, as well as the identification of all physicians associated with the institution. Monthly, hospitals submit data on beds, admissions, mortality both under and over 48 hours, surgical mortality, occupancy rates, length of stay, infection rates, and general and RN staffing levels per bed. All in-hospital deaths are to be evaluated as to preventability, first by the hospital, using a standard form, and then by the program. All patients are to receive a standard survey requesting their grading of care, reception, nursing, physicians, food, cleanliness, and equipment, as well as asking if they would recommend the hospital to others or return to it. This latter form would be processed by the program and results fed back to the hospitals.

8.18 Although the São Paulo program represents one of the most extensive and comprehensive regulatory initiatives in the country, it has a number of weaknesses which should be pointed out. The first is the fact that participation is voluntary and second that only 132 hospitals are participating. The requirement to forward data on in-hospital deaths was apparently one of the major reasons for the low participation rate. Information is entirely self-reported, which of course means that it may or may not be accurate. Technically, there are also serious problems in interpreting the indicators used due to the large variation in the case-mix of participating hospitals. Without correcting for case-mix, which would require using existing data bases on patient discharges by hospital (such as accessible data from AIH or CAH-106 in São Paulo), it is difficult to interpret differences in mortality, length of stay, or infection rates. It also does not really address any aspects of the process of care. A patient survey may provide important information if there is follow-up, however.

8.19 For participating hospitals with objectives to improve quality of care, the infection control and mortality review activities, and the data feedback on the hospital's relative status will undoubtedly provide a useful tool for self-improvement. The program provides an important structure to establish baseline standards and begin the process of hospital monitoring and exchange, but as currently conceived performs no real regulatory function over or patient protection from grossly inadequate or dangerous hospitals -- most of whom, undoubtedly, are not participating. The information on each hospital is also considered confidential, which limits its usefulness for consumer protection. Nonetheless, the initiative represents an effort to raise awareness of quality and is complementary to developing regulations and highlight should be monitored and overseen. Its implementation would be an important step toward effective regulation.

Hospital Licensing

8.20 In most states the health surveillance divisions of the Secretariats for Health are responsible for issuing and renewing annual operating licenses for health facilities, pharmaceutical laboratories and clinical laboratories, among other activities. The legal bases for the activity are the laws and resolutions mentioned above, along with the provisions of state and federal health laws. In general there are little or no specific criteria or guidelines upon which licenses are renewed. Some state laws have catchall phrases, such as article 12 of the State Sanitary Code of Rio de Janeiro, which loosely empowers the State Secretariat for Health to take action regarding anything which can compromise health.[3/] In the absence of specific criteria such clauses are widely used to act on detected problems ranging, for example, from pharmacies stocked with expired medicines to the stillborn abandoned in an old cardboard box in a Rio maternity hospital.

8.21 Vianna (1988) describes health surveillance prior to 1985 as "cartorial" which can be roughly translated as a "rubber-stamp" operation, in particular regarding its functions for monitoring health care facilities. With the advent of AIDS and growing concerns about the quality of the blood supply, the health surveillance units are slowly reactivating themselves as guarantors of quality, particularly of blood banks in Rio de Janeiro and São Paulo. Health services themselves receive less attention. The files on most facilities lack technical information, consisting merely of the identification of the individual responsible for the operation of the facility and a list of personnel. The State of Rio de Janeiro alone has roughly 2000 inpatient facilities, with 30-40 inspectors available for health facilities. However, many of these inspectors are non-functional. Indeed, Vianna describes inspectors with 15 years of employment who have never carried out an on-site inspection. Physician inspectors in Rio are earning a mere US $150 a month for the job, and are being asked to carry out 2 inspections per week. There is no systematic routine inspection. In the past, few facilities have been closed. In 1991 a blitz was carried out in private government-contracted maternity hospitals in the Baixada Fluminense (part of Rio's "misery belt") which temporarily closed 10 facilities. All 10 subsequently reopened, after having corrected the identified deficiencies (Vianna, 1988).

8.22 This blitz was part of a novel approach to inspection initiated by the Council of Medicine of Rio de Janeiro -- (CREMERJ - *Conselho Regional de Medicina de Rio de Janeiro*), known as the

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[3/] Article 12 of Decree-Law No. 214 of 1975 Approving the Health Code of the State of Rio de Janeiro, in Normas Tecnicas para a Fiscalizacão do Exercicio Profissional dos Estabelecimentos de Saúde, Secretaria de Estado de Saúde do Rio de Janeiro, 1978.

Campaign in Defense of Health. The councils' traditional responsibilities are similar to those of the Boards of Medicine in the United States, registering physicians and monitoring their practice. Because of concern that many physicians are functioning in settings in which it is impossible to provide good quality care (i.e., under conditions of poor structural quality, see Table 7-1), CREMERJ extended its activities to include prohibiting physicians from exercising professional activity in facilities which do not offer minimally appropriate conditions. CREMERJ initiated joint inspections of hospitals believed to be operating precariously, together with the state's Division of Health Surveillance. In January of 1992, CREMERJ condemned 5 hospitals belonging to the State Secretariat of Health, and the Council may go on to prohibit physicians from practicing in these facilities until certain structural problems are remedied (Silver, 1992).

8.23 The lack of norms and criteria is a serious problem, because they are a prerequisite to and define adequate quality and the standard by which regulations are enforced. The Division of Health Surveillance in Rio is currently trying to develop norms for health services, which can then be applied by their inspectors. Norms for radioactive substances already are in force. Norms for clinical laboratories were prepared by a working group with representation from the Brazilian Society for Clinical Pathology and are awaiting the Secretary of Health's signature to be enforceable. There are plans to develop similar norms for surgical, obstetrical and intensive care units (adult, pediatric and neonatal) and for nursing homes.

8.24 The State of Paraná has one of the more extensive hospital inspection systems in its Health Service Audit Group. The laws of Paraná, as in most other states, permit the State to warn, fine, or close down health facilities, when in violation of the law. Hospitals are required to renew their licenses annually, "low-risk" establishments need only be licensed once. Unlike many states, physicians and nurse auditors regularly visit all hospitals in the state, public or private, as well as some outpatient facilities, and carry out a combination of structural and process review. Blood banks are inspected monthly. The uniqueness, strengths and problems of the Parana case are described in Box 8-4.

8.25 Despite being one of the states with the tightest hospital regulations, the efficacy of these activities have never been adequately evaluated, but their ineffectiveness is apparent. Lack of feedback and commitment at the implementation level may explain part of the enforcement lapses in states like Paraná, but the problems are more fundamental. In general, it would seem that the State Secretariates of Health, and in particular divisions of health surveillance have rarely been able to function as true regulators of quality, in spite of housing large numbers of inspectors. The lack of clearcut criteria, training, and administration probably contribute to this situation, but more importantly the existence of strong political pressures, virtually no accountability to anyone and the lack of political will to guarantee adequate conditions in health facilities have taken the backbone out of enforcement.

8.26 The states have generally failed to enforce compliance with existing legislation or to identify, close or improve the most unacceptable facilities. Various ex-authorities recall having attempted to close dangerous facilities, only to have immediately received phone-calls from higher-ups to back off. These experiences raise the questions of who can effectively protect the public from grossly inadequate services and can the government extricate itself from the politicization of regulation enforcement.

Box 8-4. HOSPITAL LICENSING IN PARANA: PROFILE OF A CONCERNED AND ACTIVE STATE

Amidst the dispersed and erratic initiatives aimed at improving health care quality in Brazil, the state of Parana has shown relatively consistent efforts and has undertaken some of the most responsible initiatives. Although a larger number of initiatives have been produced in São Paulo, they most often emanate from the private sector and professional associations. As in other states, the Parana State Secretariat of Health has the legal responsibility to oversee all health facilities and ensure that they follow the minimum physical and staffing requirements of the federal government through annual licensing of health facilities. The State has the power to warn, fine and close down facilities, either temporarily or permanently.

Problems relating to hospital structure are referred and may require action based on the licensing function of the State, whereas problems relating to professional performance are referred to the Ethics Councils for either Nursing or Medicine. Hospitals are initially advised of infractions requiring correction. If they do not take action and there is "imminent risk of harm," they may be closed, if not, they are fined. If infractions are repeated, the hospital is theoretically closed, a rare occurrence even in Parana.

The role of INAMPS as a contractor of private health services enables it to exert direct control over the quality of the services it buys. But, INAMPS has traditionally restricted itself to classifying hospitals according to their level of complexity and availability of specific services. In Parana, however, INAMPS' auditors have gone so far as to withdraw hospital accreditation on working conditions, but this has only occurred on a limited scale.

Unlike most states, Parana has established a Health Audit Group of 80 physician and 22 nurse auditors who visit and supervise hospitals, blood banks and some outpatient facilities on a regular basis. While the manual for nurse auditors states that the objective of the audits is the retrospective analysis of nursing care through medical chart review, the forms and practice of the auditors include the analysis of a large number of structural characteristics. Detailed forms exist for auditors to review the physical structure, staffing characteristics, and procedures (Fundação Caetano Munhoz da Rocha, 1989). There are a fixed set of criteria for what is or is not acceptable. Auditors are called upon to use their professional judgement, although specific norms exist for radiology (federal and state), blood banks (state), dentistry (federal and state) and old age homes (federal and state). The auditors generally view the work as one of working with the hospitals to improve quality rather than as an oversight function, although facilities are occasionally shut down.

In addition to verifying compliance with federal guidelines, the Health Audit Group regularly audits a sample of hospital charts to identify and punish abuses and flagrant low quality care. But as in other states, actual disciplinary measures are the exception, and more comprehensive measures intended to raise standards for health care has met with strong resistance and have usually been abandoned.

Despite the necessary surveillance infrastructure and concerns with quality, most hospitals do not appear to comply with basic guidelines. For example, in January of 1991 only 113 of 553 hospitals were able to provide the name of a single registered nurse as charge nurse (*responsável técnico*), although the administration and supervision of nursing services, as well as nursing care of any gravely ill patients is by law the exclusive responsibility of registered nurses. Only 93 of the hospitals had a Commission for Nosocomial Infection Control, and only 38 of these Commissions could show any data from their work (Vidigal, 1991).

Much of the technical and regulatory infrastructure for controlling and improving health care quality exist in Parana. However, and in spite of a clear and sustained political commitment of the state government, state health authorities have so far failed to establish a sustainable and comprehensive enforcement effort to ensure health care quality. Favorable conditions such as those encountered in Parana are not likely to be found in most states, and this does not presage well for improving quality through improved regulation and surveillance. It does provide fertile ground for initiatives to develop and test effective regulations and enforcement options.

The Brazilian College of Surgeons

8.27 In 1951 the Brazilian Chapter of the International College of Surgeons developed minimal criteria for surgical centers (Aguiar, 1991), but these apparently were never enforced. In 1988 the College again created a Commission for Evaluation and Qualification of Hospitals with Surgical Services, with the objective of developing and applying quality criteria. The project never reached the stage of application in health services due to lack of financing.

Infection Control

8.28 Ministry of Health Regulation No. 196 of 1983 recommends the creation of Infection Control Commissions in all hospitals, but it is not obligatory. The State of Bahia, and possibly others, have passed separate regulations rendering obligatory the existence of these commissions. Some regions of São Paulo are also requiring the existence of Commissions. The proposed Infection Control Program of the State of Paraná called for making hospital operating licenses dependent on compliance in the creation of functional commissions, however; while the state's plaque program: "This Hospital has an Infection Control Committee" has gone ahead, hospitals apparently continue to be licensed with or without infection control.

8.29 A draft law developed by the São Paulo Association for Studies of Nosocomial Infection Control is under discussion. It would render obligatory the existence of a Commission in all hospitals, with at least one nurse per 200 beds, and defines the tasks of these commissions. However even the authors of the proposal are concerned that this will constitute one more regulation without enforcement. There are no good studies establishing the prevalence of infection control commissions in hospitals nationally to serve as a standard for comparison. Infection control is not systematically taught in either nursing or medical schools, though some professors have included it in their courses (Fernandes, 1992).

Education and Licensing of Physicians

8.30 Physician competence is the backbone of the health care system and is a key component of quality care. Currently any student graduating from a medical school licensed by the Brazilian Ministry of Education is automatically licensed for the practice of medicine for life. There exist relatively few legal requirements for a medical school curriculum, the most important are laid out in Resolution No.8 of 1969 of the Federal Education Council. Prior to this resolution even the one year internship did not exist in many schools. Many students linked themselves to services in which they were interested, which, with luck, might engage in systematic teaching or supervision. Subsequent resolutions of the Council and of the Brazilian Association for Medical Education (*ABEM - Associação Brasileira de Educação Médica*) recommended a rotating internship of one to two years in length. By way of comparison, a physician in most states in the US generally has 5 years of highly supervised clinical experience prior to licensure -- the last two years of medical school and three years of residency.

8.31 The Federal Council of Medicine, in conjunction with a number of private professional organizations, including the Brazilian Association for Medical Education, The National Teachers Association, The Brazilian Medical Association, The National Federation of Physicians, and the Association of [Medical] Residents, recently formed the Interinstitutional Commission for the

Evaluation of Medical Teaching. The Commission devised a series of criteria and has a two stage plan for evaluating medical schools, consisting of an initial voluntary survey followed by field visits. Seventy four of the eighty schools contacted responded to a 1991 survey, but their findings are not yet available. Some schools objected to the survey on principle, claiming that because the law guarantees autonomy to universities, no outside intervention in curriculum should be permitted. This survey, however, is not as yet linked to any concrete plan of action, nor does it carry any legal authority.

8.32 A further initiative is to circumvent medical school closings with the adoption of a licensing examination for physicians to a minimal level of knowledge. This proposal has its main support in the Regional Council of Medicine, and Medical Association of São Paulo (CREMESP and APM - *Associação Paulista de Medicina*), and in the Medical Association of Rio Grande do Sul, which has for many years administered a voluntary qualifying examination. In November of 1990 APM and CREMESP offered the examination as a voluntary experiment for the first time. Of the 1,087 candidates who took the exam, 60% failed the examination, in which a minimum of 50% correct answers to 200 multiple choice questions was needed for a passing grade. Four hundred and eighty exam takers were from outside the state (Jornal do Brasil, 1991).

8.33 The administration of the examination generated a great deal of discussion and opposition, among others, from the Federal Council of Medicine and the Brazilian Association for Medical Education. The reasons for opposition include: i) the firmly held belief that the problem lies in the quality of medical education, which must be improved by other means and that the exam punishes the student for weaknesses of the schools and the medical care system; ii) that the examination would favor students from schools with less hands-on training, who would have more time for book learning; iii) that it would simply provide an opportunity for more for-profit preparatory courses; iv) that it would emphasize certain types of technical medical knowledge, measurable in multiple choice questions, over others, such as the ethical and humanitarian training of the physician; and v) that qualifying examinations have never been important contributors to quality of care where they exist. The exam has raised controversy over medical education and certification but no clear direction for change has emerged.

8.34 Qualifying exams and the needed actions in medical education are not mutually exclusive. Such an exam might also be an effective form of pressure on schools to improve their teaching or close their doors. This would only be the case, however, if the exam was obligatory and linked to physician licensing. New legislation would be necessary for this to occur. Any such exam should also be designed to reflect knowledge in basic sciences, clinical practice, medical ethics, and public health. But as a tool to help regulate medical staffs it is a step in the right direction.

C. Regulations Related to the Process of Medical Care

Medical Ethics and Council of Medicines

8.35 The most extensive regulatory system for quality assurance in health care in Brazil are of the Federal and Regional Council of Medicines, and the Ethics Committees in health facilities. These councils were created by legislation in 1945, subsequently modified by Law No. 3628 in 1957. They are public institutions, called "autarchies," with administrative and financial autonomy. The Regional

Councils, which exist in each state, are subject to the Federal Council. These councils are charged with registering physicians, supervising medical ethics, judging and disciplining physicians, working towards perfecting the practice of medicine and maintaining the prestige and good standing of the profession.

8.36 The Councils are elected by vote of registered physicians. They are also responsible for drafting the Code of Medical Ethics which has the force of law. The only punishments foreseen in the code, however, are private or public warnings, suspension of license for up to 30 days, or revocation of the right to practice medicine, subject to approval by the Federal Council of Medicine. The Councils encourage hospitals to organize Ethics Commissions, which legally are, arms of the Regional Council.

8.37 The Code of Medical Ethics was last rewritten in 1988 after extensive consultation with the medical community. It clearly outlines the responsibilities of the physician to patients, for example, prohibiting physicians not showing up when on call or abandoning their posts without substitution, refusing to care for urgent cases, or carrying out unnecessary medical procedures, and provides a reasonable basis for regulating abuse. It determines the responsibility of physicians in administrative positions to guarantee minimum conditions for appropriate care. Whether or not the Code provides a basis for taking action against health facilities, as opposed to individual physicians, has been debated.

8.38 Violations of medical ethics are generally identified on the basis of complaints to the Regional Councils. Historically the Councils have processed extraordinarily few cases and tended to be extremely lenient with physicians. There are no representatives of the public on the Council, which judges ethics violations. Although the number of cases has increased slightly in the past few years, the number of licenses revoked, the only effective penalty available to the Council, has fallen. Consumer groups complain bitterly that the Councils are slow and biased towards physicians (Destri, 1991). [4/] Judging from the data presented in Table 8-1, it cannot be said that the Councils are acting in any effective way to protect the public from even the most extreme cases of physician incompetence or impairment since the levels of disciplinary action are low, and changes over time in confidential or public censure, suspension or license revocation have not been very great in absolute terms. Certainly, almost none of the excellent provisions foreseen in the code of ethics are enforced.

8.39 In contrast, the number of serious disciplinary actions -- revocation of license, suspensions, or probation, taken against United States physicians by State Medical Boards is infinitely higher, 1,495 in 1987 versus 6 in the same year in Brazil. The United States had 538,008 non-Federal M.D.'s in 1986, versus Brazil's 176,000. Rates of serious actions per 1,000 MD's was 2.78 in the United States in 1986, but a mere 0.04 in Brazil -- that means United States physicians are seriously disciplined 70 times more frequently than their Brazilian colleagues. Even so, State Boards of Medicine in the United States have come under fire for excessive leniency and failure to identify incompetent physicians. Various studies indicate that the percentage of incompetent physicians is far higher than the share which come to the attention of State Boards. Most disciplinary actions are for drug and alcohol abuse in the United States, with Boards being more reluctant to act on performance

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[4/] In one highly publicized case the license of a physician who had raped a patient in his office was revoked by the Rio de Janeiro Council, only to be restored on appeal by the Federal Council.

Table 8-1: **Disciplinary Actions Against Brazilian Physicians by Federal Council of Medicine, 1985-1991**

Penalty	1985	1986	1987	1988	1989	1990	1991
Cases	17	46	22	36	56	63	64
Confidential Warning	9	9	1	12	14	5	22
Confidential Censure	2	17	2	4	13	13	4
Public Censure	4	14	6	17	13	25	24
Suspension <30d	4	2	5	4	9	5	6
Revocation of License (%)	4 (17%)	3 (8%)	1 (7%)	4 (10%)	2 (4%)	1 (2%)	2 (4%)

Note: 1991 values are January - July multiplied by 2.
Source: Ibiapina, Federal Council of Medicine.

more generally. Rates vary widely from state to state, with some states such as West Virginia acting with 4 times the national frequency (Federation of State Medical Boards, 1987).

8.40 A 1985 resolution by the Federal Council of Medicine (No. 1215-85) called for the formation of Medical Ethics Commissions in all health facilities. The purpose of these commissions would include monitoring the ethics of medical practice and quality of care in these facilities, maintaining a register of physicians, collaborating with the Regional Councils in investigating ethical violations, and monitoring the adequacy of conditions existing in the institution for proper medical practice. Like the State and Federal Councils, Hospital Commissions are elected by physicians, and have no other participation. In the State of São Paulo close to 600 have been formed, although how many are active is not clear (Teixeira, 1989).

8.41 After extensive consultations with professional groups across the country, the Federal Council is proposing a new law governing its activities. The new law would expand the authority of the council to monitor and discipline medical care as provided both by individuals and by public or private health care organizations. Health care institutions would be required to register with the Regional Councils, and registration would be contingent on compliance with the Code of Medical Ethics and other norms promulgated by the Councils. It authorizes the Council to promulgate norms. The draft law also expands the penalties for individual physicians to include suspension for up to 5 years. Penalties for organizations are created which range from warnings to temporary closures, to revocation of registration (CFM - *Conselho Federal de Medicina*, 1991).

8.42 The law as currently proposed would create overlapping responsibilities between the Councils and the State Secretariats for Health. Neither of these organizations has, to date, adequately exercised its existing authority to protect the public from inadequate care. The first is prisoner to the interests and self-protectiveness of the medical profession, and the latter to political pressures. It would appear

that either new and different approaches are needed, or radical modifications of the present structures which might render them effective. One important proposal is to significantly modify the structure of the councils to include greater representation of consumers and other organizations. Collaboration among the states, the Councils and consumer groups might be the strongest structure.

D. Regulating the Financing of Health Care

8.43 The public sector finances only a small part of health care directly through its own facilities. The public reimbursement system and private financing through out-of-pocket and third party coverage dominate as payers. Private payers, including HMOs, physician cooperatives, company health plans and insurance (see Chapter 4 for discussion of these) operate freely with virtually no effective restrictions or oversight from any public or private regulatory body. The public reimbursement system imposes few regulations and those on the books are poorly enforced, and have effectively lost their purpose.

The Public Reimbursement System

8.44 MOH/INAMPS's oversight of its reimbursed hospitals is abysmal. The abuses documented in Chapters 5 and 7 and those discussed earlier in this chapter suggest serious lapses and continued participation of hospitals that are unfit to operate.

8.45 In 1986, INAMPS created the Integrated Referral Systems for Cancer, Cardiovascular Care, Rehabilitation, Trauma and Orthopedics, and Chronic Renal and Renal Transplant Care. These systems, which addressed areas of high technical complexity, sought to classify hospitals and identify those with proper conditions for serving as referral centers. Hospitals required special accreditation to perform certain procedures in areas such as hemodialysis or renal transplant. This regulation ensured that hospitals without the necessary infrastructure and human resources could not perform specialized procedures, a practice that was not uncommon prior to 1986.

8.46 The SIRTO Program in orthopedics discussed in the previous chapter was a regulatory system geared to assisting providers meet specific standards (see Box 7-2). Focusing on norms and procedures, guidelines for equipment, materials and prosthetic device use, and training, the program lacked a monitoring system and sanctions for noncompliance. Otherwise it offered an ideal structure for building a regulatory structure to ensure quality of care.

8.47 On the other hand, SIH/SUS's system's efforts to regulate hospitalizations through physician audits that functions as a second opinion has evolved into a rubber stamp. The lack of a strong regulatory structure; insufficient use of existing information to oversee the system and hospital practices and performance in particular; an ad hoc approach to oversight; and virtually no penalties for (repeated) violations has left MOH/INAMPS helpless in the face of abuse.

8.48 Under contract to the public sector abuses by private delivery agents are likely unless there is adequate oversight by the insurer. Public reimbursement implies contracting for services, not abrogating responsibilities and expecting private entrepreneurs to automatically and consistently behave in the social interest. This in effect is what has occurred. INAMPS needs to establish a system that provides clearly defined norms and ensures the provision of a basic standard of service.

The pattern described above of untrained but well meaning inspectors reviewing hospital performance without any basis for assessment or for determining compliance suggests process without any ultimate purpose. SIH/SUS lacks teeth for determining what the government wants and how it will get its desired results.

8.49 Specified norms for both medical and financial performance in reimbursed hospitals, clear information requirements from those hospitals, and consistent monitoring and follow up by regulators are essential ingredients in ensuring compliance, and represent the core elements of reform needed to regain control over public expenditures in the delivery of health care.

Privately Financed Health Care

8.50 As discussed in Chapter 4, the number of private financiers of health care has burgeoned in the last decade and the variety of financing mechanisms has growth commensurately. The purview of SUSEP, the federal insurance regulatory body, is solely indemnity insurance representing only about 4% of all private financing. Virtually no control or oversight is provided in the establishment, operation and medical performance of pre-paid group practice, medical cooperatives or company health plans that together with insurance finance, and in many cases provide, health services.

8.51 Financial integrity and fairness in access are neither monitored nor required under any specific legislation or legal decree. The newly active National Council for Self Regulation of Company Based Prepaid Group Practice (CONAMGE, *Conselho Nacional de Auto-Regulamentação das Empresas de Medicina de Grupo*) representing about 90% of all enrollees in such plans, is attempting to provide guidelines that reduce fiscal irregularities and false advertising. A spin-off association, the National Council for Self Regulation of Advertising (*Conselho Nacional de Auto-Regulamentação Publicitaria*) is considering setting up a regulatory arrangement for advertising among its members. However, both are voluntary programs and punitive actions against transgressors has not yet been spelled out, limiting the clout of such efforts.

8.52 Ideally, accreditation and trade associations will take the lead to protect consumers and police their members. Without effective private initiative, however, government must step in to ensure that private financing and financing/delivery options meet basic objectives and standards. This can be accomplished through: (i) licensing of insurers with monitoring of their financial performance; (ii) including these companies under truth in advertising laws (*Proteção au Consumidor*) and enforcing those laws; (iii) establishing health insurance laws that cover all forms of health care financing (outside of out-of-pocket expenditures); and (iv) protecting high risk individuals' access to health insurance. The latter is particularly relevant where individuals are singled out and refused coverage.

8.53 A final concern is the lack of cost controls in private financial plans. As already discussed in Chapter 6, third party payers who effectively pass on costs to enrollees or their sponsors have no incentive to contain volume or costs, pushing up the price of service, as well as implicitly the basic medical norms for diagnostic tests and treatment protocols, because only the benefits are considered. In effect the costs do not really matter. As already discussed, government, preferably in partnership with private groups, must also intervene to mitigate the "moral hazard" of insurance to contain costs. This is most efficiently accomplished through regulations, for example through requiring co-payments or designating a basic benefit package with options for additional coverage.

E. Recommendations for Strengthening Health Regulations in Brazil

8.54 With a regulatory structure that includes norms, standards and effective enforcement, providers can be held accountable for the quality of service provision and the adequacy of financial management. Additionally, facility managers will be in a position to effectively respond to incentives. Indeed the Brazilian experience with hospital quality assurance in the absence of effective regulation illustrates the difficulty of designing, implementing and sustaining effective quality control at any level. The same holds true for efficiency initiatives. Standards and enforcement are the teeth of effective clinical, financial, and administrative services oversight in health care.

8.55 Brazil has a complex and somewhat overlapping system of regulations in the health sector that are meant to oversee some aspects of public and private provision and financing of services. The lack of evaluation of the validity and effectiveness of those regulations and of their enforcement has undermined the usefulness of those regulations as a means of overseeing the health care system.

8.56 Despite the existing regulatory structure, there are too many health care institutions which constitute gross dangers to the public, fraudulent activities and financial abuses. Current oversight by government agencies or private institutions have been largely ineffective, due to self-protectiveness of the medical profession, political pressures on regulatory agencies and, in the case of finance, the absence of regulation. Since the government will clearly by law maintain ultimate responsibility for licensing facilities and guaranteeing the public safety, it appears that the best solution may lie in cooperative arrangements which link the government's regulatory authority to evaluations by professional organizations with technical qualifications that are less subject to political pressure and changes in administration. It is an alternative worth considering given the apparent failure of public regulatory management to date.

8.57 This final section extends these basic ideas to specific recommendations regarding the: (i) regulatory structure; that is, licensing of facilities, licensing of physicians, accreditation of facilities and oversight of insurers; and (ii) enforcement; that is, organizational and legal oversight functions, evaluation and information and training.

- **Licensing of health care facilities by states and making hospital accreditation by an independent body a requirement for MOH/INAMPS contracts/*convênios*.**

8.58 Licensing should become an administrative task of government with the power to permit and penalize facilities based on regular evaluations and (re)accreditation by an independent body made up of government regulators, providers and consumers. Accreditation standards need to be developed covering physical infrastructure, organizational methods, supplies, minimal staffing requirements (based on real presence, not on the ability to give names of pharmacists or nurses -- a common form of fraud), diagnostic and therapeutic support services, existence of functioning quality control mechanisms, and some outcome related variables such as birthweight-specific neonatal mortality, maternal mortality, infection rates for clean and contaminated surgery, and so forth. Accreditation criteria must be clear, publicly available and regularly updated. "Nuisance regulations" with no useful impact should be abolished.

8.59 Given the wide range in complexity of inpatient facilities across Brazil -- from the Amazon to São Paulo, standard accreditation modules should be developed for basic services with additional modules for specialized functions. For example, if an ICU exists, then the prerequisites for ICU's must be met, if surgery is performed, then the requirements for surgical centers must be met, if round-the-clock emergency care is offered, then there must be round-the-clock diagnostic support, and so forth. The advantage of criteria in an accreditation program and not in law is that there is greater flexibility for modifying, updating and/or correcting standards.

8.60 Hospitals should be the first priority for accreditation, but eventually outpatient services, diagnostic centers or laboratories might be covered. Accreditation must be based on periodic, **unannounced**, inspection visits that adhere to assessing the items specified in the accreditation modules. Accreditation and licensing should be renewable every 2 to 3 years. Licensing fees that cover costs would make the program self-supporting. The system would apply equally to all facilities, public and private.

8.61 The goal of licensing and accreditation should be protection of the public from inadequate facilities and as part of consumer information licensed hospitals should display a "certificate of accreditation," and problem facilities publicized as lacking such certification. Facilities found lacking, depending on the problem, should have a brief period of time to rectify the problem, prior to revocation of licensure -- for example 4 months. Problems which represent imminent hazards to health should lead to immediate suspension of functioning, or at least of new admissions in affected areas. Use of contracted accreditation field teams rather than full-time inspectors from the public sector would avoid the risks of corruption, perhaps of political influence and of periodic budgetary squeezes. Conceivably, State Councils could train members of Ethics Commissions in the selected accreditation methodology and use these professionals for periodic field inspections, preferably in institutions outside their home town.

8.62 The development and administration of the program is most effectively managed by a respected and independent body with representation from technical associations (Federal and Regional Medical Councils, Brazilian Hospital Association, State and Federal Medical Associations), consumers, and government (state and federal health care regulatory agencies). A significant problem is the scarcity of consumer groups with the level of technical sophistication desirable. Consumer Advocacy groups such as those for chronic renal patients, hemophiliacs, or SOS Medical Mistakes, IDEC, and the state and federal associations of neighborhood groups ("*associações de moradores*") could represent consumers. Representation of unions and industry and of the Ministry of Health, in their roles as major purchasers of care, would also be appropriate.

8.63 State regulatory bodies need to maintain their legal responsibility for licensing, and would also need to carry out periodic reviews to validate the findings of the independent body, ensure proper operation of the enforcement oversight, and administer imposition of penalties, respond to new problems and needs, and continue to evaluate requests for licenses for construction of new facilities.

- **Licensure of physicians should be dependent upon graduation from a medical school accredited by an independent body.**

8.64 While the provisions of university autonomy preclude obliging an academic institution to comply with any specific curriculum, it should be feasible for the government to restrict medical

licenses to graduates of accredited medical programs. Under such a system, demand for medical training from unaccredited schools would decline and the average quality of medical education rise because inadequately trained physicians would be refused licenses to practice.

8.65 The existing Inter-institutional Commission for the Evaluation of Medical Education, which includes the Brazilian Association for Medical Education, the Councils of Medicine, and other organizations may constitute a good foundation for creating a nonpartisan accrediting body. Medical students should also be represented. ABEM has already worked on developing criteria for medical education, but they have had no power to make the recommendations stick. Accreditation should be renewed regularly, and compliance determined by periodic, unannounced site visits using a stable methodology. Criteria should be flexible, and updated as medical education changes. Such a program could be financed by licensing fees paid to the Ministry of Education by medical schools.

- **A mandatory national licensing examination for physicians at initial licensing is key to ensuring basic medical competence.**

8.66 The current situation, where there exists neither an examination, nor enforcement of standards for medical education, is unacceptable. Clearly, the quality of medical education is a far more important determinant of a physician's abilities than a licensing examination, however the introduction of an examination may be a useful form of pressure for improving the quality of medical education, and may provide a minimum of consumer protection until such time as the quality of medical education is adequate across all schools. Experiences in other countries should be evaluated for their applicability to Brazil.

8.67 All exams, whatever the timing, should capture in their design the different types of knowledge needed for good medical care, ranging from the basic sciences, to clinical practice, to ethics and public health. Such an exam, clearly, is somewhat more time-consuming and expensive to administer. Pass rates by school could be analyzed and made publicly available to help guide students seeking admission.

- **An extensive system of continuing education for physicians, nursing personnel, and technicians linked to periodic mandatory relicensing examinations promote quality medical services.**

8.68 The first examination for physicians could be 3 years after graduation, with re-examinations every 5-7 years thereafter, coordinated with the continuing education program. Such exams could be specialty specific for specialists. Continuing education programs for nurses and technicians should focus on formally upgrading less qualified personnel such as untrained nurses, laboratory and dental assistants, through a combination of course-work and in-service training. Education programs would benefit from drawing on the expertise and guidance of the Federal Council of Medicine, the Brazilian Medical Association, specialty societies, and training experts. The Brazilian College of Neurosurgeons already has similar requirements and that could provide a working model. Research and quality control programs which identify specific clinical problems could complement the training and provide feedback on priority topics for continuing education.

- **Private insurance companies and the alternative financiers of health care need to be regulated to protect the public, guarantee market fairness and ensure citizen access.**

8.69 Current regulation of private health insurance is completely inadequate. Because nonindemnity insurance is not classified as insurance it exists outside state insurance regulation. Hence most health insurers operate free of an licensing requirement or regulatory oversight, and are free to function as they please. The laissez faire approach has serious implications for citizen access to health insurance (particularly for those with chronic or a history of illness), for competition among providers and for controlling risk. Companies without any legal or regulatory structure to define the limits of practice are open to abuse. A serious concern is massive financial failure in the health insurance market due to excessive risks, because in such an event government will be responsible for the financial repercussions.

8.70 The degree to which private insurance (used here to include HMOs, medical cooperatives and company health plans as well as indemnity coverage) is regulated varies widely by country. In the United States insurers must abide by state insurance regulations that prevent financial abuses, ensure that insurance coverage complies with the letter of insurance agreements and generally oversees the insurance market to ensure competition and prevent price collusion. Federal oversight of private health insurance effectively does not exist, and although it is likely to change soon, insurers are not required to include all employees in a group plan and may discriminate at will. Some states, for example, are beginning to regulate insurance and expanding risk pools to ensure broader access to insurance.

8.71 In Germany, on the other hand, health insurers are so thoroughly regulated that they have evolved into virtual parastatals taking guidance from government on fees, restricted from adverse selection practices and prevented from imposing rates deemed to be significantly above costs. These policies effectively control private health insurance prices and entail a heavy government role.

8.72 Neither of these positions need to be adopted in Brazil, but they provide a sense of the spectrum of intervention. The first assumes that health insurance is equivalent to any other form of insurance. Germany has built its health care system and finance around private sickness funds (e.g., group insurance) and consumer access to insurance is therefore essential. To guarantee access and avoid excluding individuals from coverage the government has tightly regulated fees and forced companies to accept high risk individuals who are part of the group seeking insurance. The regulatory apparatus in both countries reflects government health financing objectives. Either pattern would be equally appropriate for Brazil in bringing order to the health insurance industry, and should guide policy decisions. The laissez faire United States system is ineffective in ensuring coverage and access and does not offer a useful model for reaching these objectives.

8.73 Of highest priority is to broaden the definition of insurance to include non-indemnity plans and make them accountable to state regulatory agencies. Secondly, regulations may need to be adapted or expanded to adequately capture the oversight requirements for these companies. Finally, government must decide to what extent it will oversee health insurance practices and adapt regulations and enforcement practices that permit meeting regulatory objectives.

- **Non-physician representation in enforcement activities of the Federal and Regional Councils of Medicine would strengthen these efforts.**

8.74 While technical knowledge is clearly needed to monitor the profession, there is no reason why it should be exclusively in the hands of physicians. The full participation (with vote) of consumer

groups, of ethicists, and of the consumer protection agencies should be considered along with participation of representatives of the legal, nursing, and pharmacy professions as these groups reach patients and operate the health care system. Broader consumer participation is seen as a mechanism which would provide greater objectivity and credibility. These changes would require modification of the existing legislation creating the Councils. By way of comparison, State Medical Boards in the United States often have non-physician participation, and this has greatly contributed to their recent increases in activity. Physician licensing fees have also been raised to cover the costs of monitoring the profession, a practice Brazil could easily adopt.

- **SIH/SUS requires regulatory powers to oversee and regulate participating private and public providers.**

8.75 The abuses and problems facing SIH/SUS have been documented throughout this report. Part of the problem is the effectively random nature of hospital participation and the complete lack of MOH/INAMPS oversight. The most important step is ensuring that the hospitals in the network meet basic clinical and financial management standards through a national accreditation system where only accredited hospitals can participate (See first recommendation). The United States, for example, uses a system whereby accreditation is voluntary but access to Medicare and Medicaid payments are linked to accreditation (Rutstein, 1976). A similar approach would meet Brazilian circumstances as well, but other options are possible too, such as those outlined in the first recommendation.

8.76 MOH/INAMPS must regain and retain credibility in the basic quality and operation of its public and private network of hospitals and outpatient clinics. A high priority should be placed on using the current weak and inappropriate hospital "accreditation" arrangements under SIH/SUS. Joining national movements toward accreditation, piggybacking private initiatives or expanding programs described earlier in the report all offer options for establishing viable accreditation.

8.77 Enforcement of standards can be partly addressed through accreditation, but follow up and monitoring also deserve attention. Drawing on DATASUS and complementary surveys to determine hospital and patient behavior can help signal to policymakers changes in behavior and the need for intervention to ensure proper functioning of the network. As noted throughout the report, state and federal officials have had insufficient access to and therefore have made insufficient use of available data to oversee hospital performance and the process of health care provision. This can change through better use of existing data and through requirements at the federal and state levels that hospitals and outpatient clinics use facility data for management purposes. These analyses should be part and parcel of the accreditation process.

- **Effective enforcement requires strengthening and depoliticizing regulatory functions.**

8.78 To effectively protect consumers, accreditation procedures and regulatory requirements must first have serious consequences for the hospital, otherwise these measures will continue to be unenforceable. Second, enforcement agencies must be insulated from political pressures to effectively operate, and partnerships between professional associations (AMB; ABH) and state/municipal regulatory bodies are essential. Third, the capacity of enforcement agencies must be enhanced to raise the capabilities of staff, provide them with the tools (e.g., manuals, criteria, standards) to effectively evaluate the object of regulation (e.g., insurer, hospital clinical practice, management or

financial functions), and provide them with the authority to penalize transgressors. Without these elements, enforcement is perfunctory and useless, and without effective enforcement regulations are equally hollow. A major initiative by the federal (and state) government to assist states upgrading enforcement capacity is needed. Developing training materials, courses and manuals and a set of standard guidelines that set out acceptable and unacceptable facility performance and environmental norms (e.g., number of deaths, handling of hospital waste, operation of septic system) are of highest priority. Linkages with federal regulators and independent technical bodies (e.g., Federal Medical Council) could enhance this process. Transparent guidelines are urgently needed to guide actions for penalties to avoid politicizing decisions.

PART IV: SUMMARY AND CONCLUSIONS

9.1 This report has assessed the structure, delivery and financing of health care in Brazil, and identified the key emerging issues of institutional consolidation, policy formulation, costs and cost containment, quality of care, and regulation of public and private delivery and private finance. This final section summarizes the Brazilian health care system, its problems and strengths; compares Brazil with selected developed country health care systems to clarify areas for attention, and demonstrate how other countries have addressed some key issues; and discusses the implications and strategic actions for the short to medium term.

9. SUMMARY OF FINDINGS AND RECOMMENDATIONS

9.2 The Brazilian health care system is an amalgamation of different financing and delivery mechanisms. The range of experimentation and activity is impressive, and the innovation across these many initiatives reflects the creativity of both the Brazilian medical establishment and the business community. The government has been at the forefront in attempting reforms as well. As a result, Brazil has a unique health care system with one foot in the developed countries and the other in the developing world. And it faces problems similar to both sets of countries.

A. Summary of Brazilian Health Care System: Problems and Strengths

9.3 The Brazilian health system will serve as an example to other developing countries many of whom are looking to a greater private sector role and to public insurance as a possible alternative to all publicly financed and delivered systems. Achievements in Brazil include significant steps toward decentralization, an important element in a federal country, especially one the size of Brazil; promotion of private sector alternatives to deliver and finance health care; development of a nationwide public insurance system based on prospective payment (fixed payment per diagnosis) for outpatient and inpatient services; existence of a full range of services from the most basic to tertiary care; and an effort to address legislated equity through universal access to publicly financed services paid for through progressive payroll taxes. Many of these engender costs and difficulties, but still represent significant achievements.

9.4 **Institutional Reform.** Although Brazil's decentralization of its publicly provided health care system, the *Reforma Sanitária*, remains underway, significant steps toward stronger state and municipal roles are in place. Public facilities are now predominantly state and local responsibilities, although teaching hospitals and a few high technology facilities (e.g., *Pioneiras Sociais*) remain under federal control. The transfer of resources along with local revenues is allowing municipalities in particular to begin operating and controlling their respective health care networks.

9.5 Problems remain, however, as to responsibilities across government levels, the nature of the interaction among them, and the capacity of some states, and most municipalities, to handle the expanded obligations. The role of states in particular is unclear with implicit accountability for health care but no leverage over municipalities that deal directly with and receive transfers from the federal government. Furthermore meeting the costs of the highly equitable system promised in the 1988 Constitution is a concern, given macroeconomic constraints and the decline in revenues at the federal

level reflecting high rates of tax evasion (World Bank, 1993b) as well as a prolonged recession that has raised unemployment and reduced output and therefore (taxed) profits.

9.6 **Private Health Sector.** The private sector has been allowed to flourish in both the delivery and financing of services, which: (i) offers government both an overflow valve for service provision (because private alternatives are available and can be used on an as-needed basis in various locations without building additional, permanent public infrastructure) and a possibly lower-cost option for service delivery; (ii) provides a competitive environment for health care that permits multiple service options and can promote efficiency; and (iii) has served to siphon off middle and upper income households into private insurance and private medical care, relieving government of some health care costs.

9.7 Unfettered competition and inadequate (self) regulation, however, have led to some serious problems in the quality and fairness of private service delivery and finance. Patient "dumping" (sending to public hospitals patients who promise to be costly) and exclusion of common conditions under private insurance plans (such as all infectious diseases, including meningitis and pneumonia) characterize private financing and delivery. A stronger and more focussed regulatory role for government or medical associations is required to ensure safety of products and services, fairness in access, cost containment, financial accountability and basic quality in the delivery of care. Government has a role in regulating the sector and in establishing incentives to achieve desirable standards, but has not yet taken on these responsibilities, preferring to concentrate on less relevant aspects (e.g., dimensions of the hospitals' physical plants). These issues are discussed further in the next section.

9.8 **Public Insurance.** The public insurance system's prospective payment system (SIA/SUS and SIA/SUS) was designed to address some of the most egregious problems of the previous payment system (e.g., cost reimbursement under GIH), such as paperwork mismanagement, uncontrolled expenditures and inability to project expenditures. But poor monitoring of prospective payment has prevented realization of the full benefits and allowed old problems to reemerged, notably fraudulent billings and deteriorating quality. The fixed costs per diagnosis controlled costs, but at a high price in terms of quality. In short, the prospective payment system has not lived up to expectations, not operated as anticipated and fallen short of its potential. For example, it has failed to ensure quality through competition, and the results have eroded consumer confidence. Minimal monitoring is partly to blame, but: (i) failure to measure changes in the costs of each diagnosis and to adjust reimbursement payments accordingly; (ii) inadequate assistance for helping hospitals achieve greater efficiency; and (iii) a lack of quality standards (for medical personnel and hospitals) have also contributed.

9.9 The financing of the system is particularly remarkable. In theory, middle and upper income earners now largely subsidize lower income households' consumption of publicly reimbursed care through payroll taxes and general revenue transfers. Actual taxpayers receive few benefits from the public insurance system since the almost 25% of the population covered by insurance are predominantly middle and upper income households who rely on private providers. They do, however, depend on public tertiary care, particularly for catastrophic care, because most private insurance policies exclude these, and few private providers can offer the costly and sophisticated

technology and drugs required by some illnesses (e.g., cancer, kidney failure).[1] Given the tax burden, publicly financed care is financed progressively, health care costs are shared with private insurers, and taxpayers receive some selected (if costly) benefits from the system. Nonetheless, the equity effects of the *Reforma Sanitária* have not been measured due to the lack of appropriate data. The most recent household expenditure and utilization survey for medical care was conducted in 1981. Without such information, the distribution of the volume or cost of health care cannot be gauged.

9.10 Two issues are worth mentioning that require consideration as they are outside the public insurance system but affect it directly. First, SIH/SUS costs are closely tied to price rises in the private sector. This limits its ability to contain costs without losing its participating hospitals and physicians, because reimbursing below market levels leads to fewer providers willing to take publicly insured patients. This has occurred in the United States Medicaid program for the poor who face a limited supply of providers. Second, if taxpayers do not receive sufficient benefit from the system, consumer pressure will be diluted and can lead to a deterioration of quality and access. Hence higher income earners cannot be excluded without jeopardizing popular support for public insurance.

Priority Areas for Reform

9.11 The problems facing the health care system and the directions for reform can be collapsed into five major topics: institutional consolidation; policy formulation capacity; cost and volume containment; quality assurance; and regulations and enforcement. These issues evolved from the topics just reviewed and in turn have a direct bearing on them.

9.12 **Consolidating Institutional Reforms.** Decentralization and the merging of social security and MOH services changed the nature and focus of publicly financed health care. However, this process requires refining, to determine the relative effectiveness of current arrangements, in particular, the role of the federal government vis-a-vis the states and municipalities, and the specific functions of the states. Uniform federal rules do not provide sufficient flexibility to states to meet health needs, and municipalities are too heterogeneous, and many of them too small, to effectively plan and manage their own health care systems. States require a pivotal position to ensure that their populations' needs are defined and met, and that there is a coherence to state health care delivery. Reconsideration and refining of the respective functions of each level of government, and addressing diverse priorities across regions should be made a priority.

9.13 **Policy Formulation Capacity.** Much of the recent policy reform stems from serious concerns regarding the performance and impact of medical investments. Lacking from the process, however, is hard evidence on the underlying causes of unacceptable outcomes, evaluations of existing experiences, and plans for assessing the effectiveness of new policies and programs. Indeed, problem identification relies heavily on personal experiences and perceptions, without benefit of supporting data and evidence, which may compromise the meeting of stated goals.

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[1] For example, teaching hospitals that tend to have state of the art technology are exclusively public facilities in Brazil, ensuring that some conditions can only be treated in the public sector.

9.14 Of paramount importance is policy research to guide budget allocation, investments and program decisions, to ensure that current initiatives are monitored and evaluated, and proposals for change are assessed before adoption nationally. This requires identifying key policy issues; ensuring that appropriate data are regularly collected, analyzed and made available to public entities and the citizenry; developing the capacity to define goals and policy needs at various level of government, but especially the federal government; and contracting out policy research to parastatal and private institutions that can inform policy decisions on the institutional, financial, social, and economic issues in health care.

9.15 **Cost Containment and Volume Control.** In the early 1980s, the Brazilian government collected estimates of hospital and physician costs. No subsequent efforts have updated those measures, despite the fact that the prospective payment system bases its reimbursement payments on the estimated cost of treating the average patient with a given diagnosis (e.g., appendectomy, normal birth). In addition, hospital cost information is extremely limited and has had little influence on decisions at either the policy or hospital level, either public or private. Although PPS was in principle meant to control costs, cost containment more generally has not emerged as a priority or focus of government policy. Faltering budgets, a broader target population, rising expectations and the growing cost of medical technology have become central concerns and are likely to persist. The implications point to the need to function within budget constraints, which implies raising efficiency, rationing care, and controlling the volume of care, all subjective, politically difficult steps. But without an effective cost containment policy, Brazil will not be able to extend health care services to the entire population at an acceptable level of quality. This is discussed in a comparative context in the following section.

9.16 **Quality of Care.** Measures of quality are few in Brazil, although there is a growing consensus among providers and consumers alike that medical care quality is deteriorating.[2] A number of culprits can be identified: poor training of medical personnel and an overemphasis on physicians; a limited and ineffective accreditation system for medical schools; lack of licensing and relicensing of medical or nursing graduates; poor internal hospital administration and limited training in (hospital) management; absence of hospital quality assurance systems; and, most importantly, no accountability for poor quality. Adjudication for substandard performance is in its infancy, penalties for poor physician or hospital performance are minimal and few positive incentives exist to encourage quality, an area particularly importantance where wages are low. Consumers have also lacked a voice, allowing abuses to be ignored.

9.17 Part of the quality problem can be traced to an absence of oversight in the public reimbursement system that finances over 70% of all health care. Public system quality remains virtually unregulated and the private sector is treated similarly. Basic review of practices and performance by peers, continuing education, and basic accountability for medical service provision represent a package of activities needed merely to monitor quality, the first and most important step in quality assurance. However, to effectively protect consumers, accreditation procedures and regulatory requirements must have serious consequences for the hospital, school and other entity, otherwise these measures will continue to be unenforceable.

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[2] An alternative explanation is that expectations are growing, altering what patients and consumers consider acceptable.

9.18 **Regulation.** Regulation is key to making Brazil's system operate more effectively, and can help to address some of the forgotten components -- notably quality and costs. Constructive regulations are few (although there are numerous "nuisance" requirements) and enforcement has become so highly politicized and so poorly financed and supervised that it has been rendered ineffective. Some areas, like health insurance, are left virtually unregulated (with the exception of indemnity insurance). Basic initiatives mentioned above regarding accreditation of medical schools and their graduates, licensing of facilities and providers, required continuing education of medical personnel, and regulation of private insurance and the public insurance system, represent priority areas for attention. Government and professional societies should be jointly responsible for protecting consumers, establishing performance standards and setting operating parameters. And these apply to public as well as private providers and payers. Enforcement is of equal importance. Establishment of standards and regulations to achieve specific objectives are needed to avoid and rectify random efforts to "control" providers through poorly considered and unconstructive requirements. Both regulations and their enforcement should be undertaken in conjunction with state, local and private professional and consumer groups to address a broad set of current abuses and to set an agenda that simultaneously meets multiple needs.

9.19 The importance of policy formulation and research, costs and cost containment, quality and regulation cannot be overemphasized. Each entails a key role for government because of market failure. Quality, cost containment and regulatory options are discussed further in the following section that compares and draws on experiences outside Brazil.

B. Developed Country Health Care Solutions: Guides for Brazil

9.20 The three problems identified in Brazil: costs containment, quality and regulation, are comparable to those facing many countries. What all systems strive toward is some combination of the following: broading access to health services; regulating public and private delivery and insurance; ensuring quality; promoting efficiency; controlling costs; and fairly rationing care. Each component requires difficult decisions and a vision of how the health care system should be structure and overseen, and, unfortunately, most are contradictory rather than complementary.[3] Indeed, experience in OECD countries reflects the trade offs that need to be made in organizing, delivering and paying for health care.

9.21 This section discusses the key issues facing Brazil within the context of experiences in OECD countries. Although brief, it provides a flavor of options for Brazil to consider in attempting to consolidate reforms and address the issues raised in this report. Table 9-1 compares the key features of the health care systems of five OECD countries and Brazil, providing background to the discussion.

9.22 Europe and Japan emphasize general access and public financing. The vast majority rely on public insurance, with a mixture of public or private delivery of care. Historically, efficiency has received little attention. Competition among private providers, consumer choice and greater

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[3] For example broad access to quality services will raise costs and has no effect on efficiency; insurance frees governments from financing some services but is associated with overconsumption and rapidly rising costs; efficiency incentives, such as those under PPS, can lead to reduced quality; public services are equitable but are associated with low productivity, inefficiency and long waiting periods.

Table 9-1: Selected Characteristics of Some National Health Care Systems

	Canada	Germany	France	Sweden
Main Source and System of Financing	Federal govt. covers 40% of costs and provincial government the rest. Federal & provincial taxes earmarked, plus general revenue. No private financing.	92% of population obtains health services through 1128 sickness funds. Payroll taxes (12%) allocated to the fund or government insurance. Lump sum grants or funding upon specific application available.	Central and local government revenues. Public insurance system enrolls 76% of population.	Local community councils provide annual budgets. Social insurance financed by county income taxes and payroll taxes (75% from employers and 25% from government), 9% from private sources.
Main Provider %	Private and contracted hospitals provide most care.	Sickness funds contract with hospitals and doctors. Hospitals owned by local communities, religious foundations or by private individuals (usually physicians).	70% of beds are publicly owned. >60% of physicians are fully or partially in private practice. Private physicians offer most ambulatory care.	Locally owned and operated community hospitals, 90% of community budget is earmarked for hospitals.
Rationing of Care	Global prospective controls on spending, tight controls on capital spending, control on equipment acquisition and waiting lists	Global budgets for hospitals, clinics, MD offices	Recent withdrawal of fee for service and global budget system installed.	Global community budget. Waiting lists. Exclude selected costly therapies.
Cost/Volume Control	Annual negotiations for physician fees. Deductibles & co-payments banned.	Private is less controlled. Hospital rates subject to approval & controlled by state governments.	Global budgetary methods. Constraints on new hospital construction and training of physicians. 20%-30% co-payments required. Co-payment expenses met through commercial insurance or mutual aid societies.	Co-payments of 20-30%.
Physician /Hospital Payment	Fixed negotiated fees for ambulatory care and hospitalization.	Fee for service for private physicians in the ambulatory sector. Salaried doctors in hospitals.	Ambulatory care - fee for service. Hospital care - salaried govt. staff, fee for service for private doctors. 75% of fee is reimbursed by the local branch of the sickness fund.	Providers are salaried government employees. Fee for service for 20% of MD's and 50% of dentists.
Govt. Regulation of private market	Drug prices controlled. Private provision prohibited.	Once patients buy into private medical insurance, cannot return to the state insurance system. Tightly regulated insurance fees and drugs.	Several measures adopted.	Publicly employed physicians practice privately in off duty hours, but marginal income tax rate high.
Consumer Choice	Open.	Choice of funds exists.	Broad Choice.	Consumer choice restricted to local services. Able to use the services of district physician or hospital specialist.
Price Setting	Physician & hospital fees negotiated annually.	Fees & caps for private physicians.		Government sets prices.
Drawback	Cost spiral.	Possible duplication of resources.		Low productivity of medical staff.
Comment	US is overflow valve.			Moving toward productivity incentives.

	Brazil	US Medicare/Medicaid	US General
Main Source and System of Funding	83-90% of population covered by social insurance. Public care and social insurance funded by payroll taxes and general revenues. 25% of population covered by private insurance, capitation systems, company health plans.	Payroll tax/general federal & state revenue.	Private insurance incuding capitation & other financing mechanisms.
Main Provider %	80% of beds private in for profit or nonprofit hospitals. Public care contracted out to private providers. MDs work simultaneously in public and private sectors.	Private MD's and hospitals, both for profit or non-profit. Some public hospital use.	Private MD and hospitals; public VA system serves < 5%. Public hospitals serve most uninsured.
Rationing of Care	Minimal: ceiling on number of AIHs. Some public facilities have waiting periods.	Restrict access to elderly (Medicare) & poor (Medicaid). HMOs for Medicaid Patients. Some procedures excluded.	None. Insurance company restrict some items.
Cost/Volume control	No cost control other than PPS. Volume controlled by number of AIH. No co-payments.	Disincentives for long hospitalization under PPS. Medicare: deductible and co-payment. Medicaid: no co-payments.	Deductible and co-payments common.
Physician /Hospital payment	Physician hospital payment set under AIH. Private market sets and standardizes by AMB.	Set by diagnosis for hospitals and based on costs.	Market based.
Govt. Regulation of private market	Limited regulations on private providers and none on financiers. No licensing or accreditation for providers. Enforcement absent.	Regulates financing and performance of participating hospitals, and regulates insurers.	Regulates fairness and quality in financing & delivery. Legal system ajudicates.
Consumer Choice	Open.	Open generally but can be restrict to participating providers (eg. Medicaid HMOs).	Open.
Price Setting	Procedure prices set based on DRG's but are now out of date. Market and professional association sets prices in the private sector.	DRG's based on frequent resource cost estimates set amount for reimbursement.	None, insurance companies beginning to set ceiling and use Medicare as guide.
Drawbacks	Lack of regulation. Low quality.	No volume controls. Medicare only for those over 65 & Medicaid only for poor. Over consumption and limited preventive care. High volume.	Costs spiralling. Costs rise due to high uncompensated care for 30% of population without insurance; over consumption by insured. High administrative costs.
Comment		Well documented.	Well documented.

Source: Rosenthal and Frenkel, 1992; Health Affairs, Fall 1991; Health Care Financing Review, Summer 1992.

efficiency in delivery characterize the United States. Private providers are relied upon in Canada, Germany, the Netherlands and the United States, and less so in most other OECD countries.

9.23 All systems face resource constraints in the face of rising costs and/or shrinking budgets. Moreover, while the United States gropes for a viable means to improve access to health care, the rest of the OECD countries search for mechanisms to improve efficiency, and virtually all have adopted some form of prospective payment (Wiley, 1992). In a sense, the OECD countries are converging with the United States "Europeanizing" its system and the rest of the OECD seeking improved efficiency and competition, and in some cases greater consumer choice, in line with the United States model. These circumstances reflect the lack of consensus on the "best" system, and, more importantly, that elements of every system deserve some degree of consideration.9.24 What entails an acceptable system is somewhat country-specific. The capacity of government and its ability to be held accountable are highly relevant, because publicly financed and/or delivered systems assume that government can and will perform acceptably. A related consideration is the willingness of the population to relegate medical care to bureaucratic decisionmaking. However, the issue is not if the government should be involved, but how much and how. And decisions on health system structure define the extent of the government's role.

9.25 There are functions in the health sector that are largely if not exclusively a public responsibility. In conjunction with private groups, government must assure a basic level of quality, consumer protection, medical and financial practice standards, and containment of costs and volume. The market provides inadequate incentives to achieve these objectives, as evidence from OECD countries suggests.

9.26 **Quality and Regulation.** Most countries rely on a combination of professional groups (e.g., physician and nurses associations), provider self-regulation (e.g., quality assurance in hospitals), government oversight and litigation to ensure quality and medical practice standards. Regulations are enforced by professional associations and government bodies, that license and re-license practitioners, and accredit facilities, closing down or penalizing substandard performers. Consumer protection evolves from these same initiatives, as well as through consumer participation on hospital boards, consumer associations and the press.

9.27 **Cost Containment and Health Care Rationing.** A more difficult issue is how to contain costs and volume of health care services. Given that resources are constrained, the issue comes down to using resources efficiently and effectively, prioritizing the selection and use of services and technologies, and establishing incentives that control use and costs. The United States has chosen to ration on the basis of income, allowing middle and upper income households access to high quality medical care through private insurance. The poorest have access to an underfunded and unevenly distributed public insurance system (Medicaid), and the elderly have access to private care financed through the federal government (Medicare). Those in-between only have access to overcrowded public facilities on an ad hoc basis, meaning poor or no access to preventive care, and unguaranteed emergency treatment at private facilities.

9.28 In much of Europe, annual global budgets (fixed expenditure ceiling) determine how much will be spent on health care, which determines what funds will be available, and forces providers to contain costs and allocate funds more judiciously. Where government pays and delivers health care, as in countries like Sweden, Spain and Great Britain, budgets define activities. In Canada and Japan,

hospitals and physician fees are set through annual negotiations with federal/provincial governments. Although Britain has an impressive record at controlling costs, Canada's costs are growing rapidly, matching rates in the United States. Canada, Britain and Sweden, among others, rely on queues for non-emergency tests and procedures as a way to ration care. "Gatekeepers" are also relied upon (e.g., primary physicians in Britain determine when and where patients consult specialists).

9.29 Germany also establishes global budgets, and care is financed through public insurance and private insurance groups (sickness funds) and then delivered through private providers. What is unique in Germany are the tight controls on insurance premiums and practices (companies may not exclude anyone applying, but are compensated somewhat through public transfers for high risks), and on private sector prices (through government approval of hospital rates and caps on physician fees). Each sickness fund contracts with particular providers within guidelines set by the government, which has worked to contain costs. Some of these same policies emerge in the recent proposal by President Clinton to reform the United States system, particularly the government oversight and the formation of large purchasing cooperatives, which could act as a broker, as the German government does.

9.30 The United States record on cost containment is abysmal, and how to restructure to contain costs and volume of care while expanding access is the challenge facing that country. Historically, the United States relied on competition to control costs, but had only nominal success. Health Maintenance Organizations have been somewhat more successful. Medicare, on the other hand, has a better track record through PPS, although price increases in the overall system affect Medicare's ability to negotiate fees with hospitals and physicians. Hence as overall prices rise, Medicare payments must keep pace or lose participating providers, an issue that has emerged in Brazil with the decline in hospital participation in SIH/SUS and SIA/SUS.

9.31 The United States has begun to experiment with alternative means of rationing care and controlling costs, which are relevant to Brazil. The first and simplest federal initiative is the control of administrative costs due to multiple insurance companies (each with their own set of paperwork). These costs absorb about 25% of all health care expenditures. Second, a number of states are attempting to address unequal access through innovative means.

9.32 Reforms from four states are described here: Minnesota, Florida, Hawaii and Oregon. These experiments will serve to guide future national policies in the United States, functioning as laboratory experiments for the federal government. They also offer alternatives for Brazil in dealing with the issues raised in this report.

9.33 Minnesota's 1992 health reform law establishes a commission of providers, payers, employers and consumers to set targets for cost containment and to develop proposals to achieve those targets. The plan emphasizes primary, preventive and mental health care, requires a 10% co-payment, and includes tightened regulation of private insurance. The state will reimburse part or all of the cost of health insurance for low income earners. Care is financed by a tax on hospitals and health care providers, an insurers' gross revenue tax and a cigarette tax (Miles, Lurie, Quam and Caplan, 1992).

9.34 Hawaii, one of the few states with near universal coverage, went through serious health care reform in the 1980s. The highly successful plan centers around: a standard benefit package that emphasizes prevention, outpatient and community care but with access to higher level care as needed; and an employee mandated program requiring that all employers must extend health insurance to their

employees and share some part of the cost; co-payments (usually 20%) and deductibles tied to income; and requirements that insurance companies use "community ratings" to avoid identification and exclusion of high risks individuals or firms (Lewin and Sybinsky, 1993).

9.35 Florida's plan, also guided by a 1992 health reform law, exhibits somewhat different characteristics. Health insurers (public and private) will be required to develop a basic, standard benefit plan, the state will operate with a statewide global budget, high technology care will be controlled, billings will be simplified and standardized, and insurance companies will be regulated to control premium increases and prevent excluding high risk patients. Financing of the system entails aggressive cost containment (e.g., global budgeting, expanding managed care, malpractice reforms) with back up plans to implement an employee mandated program like Hawaii's.

9.36 Oregon has put forward a controversial proposal to ensure access to basic care, prevention and emergency services with more sophisticated services available on a funds-available basis. The public has rated the value of interventions in order of priority, which forms the basis for decisions on what and whose care to pay for. The limit on expenditure is defined by the annual state health budget. Thus births, immunizations, appendectomies, inguinal hernias and other basic services are covered for all state residents. Controversial surgeries -- for example, coronary bypass operations for elderly patients -- or interventions that will not prolong or improve the quality of life are near the bottom of the list and are unlikely to be covered in most years. However, private insurance can be drawn on to cover the cost of "off-list" procedures. This arrangement is driven by fiscal limits and a desire to provide all citizens access to a basic package of proven services, and gives priority to financing public and merit goods along with other conditions with a high probability of improving an individual's chances of survival or quality of life. Although only an experiment, it offers the possibility of eliminating waiting lists for needed services, not crowding out private insurers and providers, and setting social priorities while ensuring that all citizens have access to basic care. It is an arrangement that may have particular promise in market oriented systems like those of the United States and Brazil.

9.37 Effectively, most states are aiming to increase access to all citizens. The difficulty is the costs of achieving that. Interestingly, states have selected very different approaches to paying for health care, from employee mandates to a broad effort to contain costs, to initiatives to control volume. These ideas may prove useful to Brazil, although they would need to be adapted to the Brazilian context and health care system.

9.38 Brazil has decreed equal access, but now must meet the promise. This report has detailed the difficulty of meeting that challenge under the current institutional and fiscal arrangements. To ensure a viable, fiscally sound system, some difficult decisions must be made that define the limits of government finance.

9.39 Table 9-2 summarizes effective means for controlling costs, some of which are more relevant for Brazil than others. It is the "control expenditures" column that deserves the most attention. The health care market in Brazil works, the prospective payment system (SIH/SUS) is in place and HMOs and medical cooperatives are growing rapidly. Moreover, "gatekeepers" exist under SIH/SUS, despite the fact that their functions seem to have eroded over time. Greater efforts to ensure the effectiveness of these existing activities is needed if costs are to be contained.

Table 9-2: Health Care Rationing & Cost Containment Strategies by Control Mechanisms			
Control Use	**Control Expenditures**	**Control Payment**	**Promote Competition**
GP gatekeepers	Global/clinical budgets	Prospective payment	Tax incentives for private insurance
GP budget holders	Outpatient alternatives	Capitation (HMO)	Public system buys more private service
Managed care (HMO)	Home care	Negotiated fees	Push more care into private sector
Patient co-payment	Reduce hospital beds and stays	Limit fee-for-service	Create "internal markets" in the public Systems
Waiting lists	Limit technology or access to it	Limit insurance for co-payment	
	Increase productivity	Limit services & technology	
	Control technology acquisition	Reduce administrative costs of private insurance	
	Limit coverage, population, or diagnoses treated		
Source: Adapted from Rosenthal (1992).			

9.40 Although brief and incomplete this short summary provides some key lessons for Brazil. First, the most effective forms of cost containment involve government control over the entire system, but it has other costs. The most successful cost containment efforts, however, reduce consumer choice and neglect efficiency. Competition is important for both public and private systems, but is insufficient for controlling costs. Second, rationing care entails reducing access by some group or some conditions, and/or delays in service delivery. Third, without government effort, costs and volume in the private sector will continue to grow. Fourth, the options for containing costs are numerous, however, no single initiative will ensure a sensible or acceptable form of cost control.

9.41 In the Brazilian case, the simplest interventions are to enforce existing policies that can control costs, such as "gatekeepers" under SIH/SUS. Secondly, technology acquisition and use, co-payments, shifting inpatient care to outpatient services where possible, and reducing administrative costs of private insurance should all be applied in efforts to control costs.

9.42 More fundamental, difficult and long range changes are implied by the development of a standard benefit package and prioritization of tertiary care by global budgeting (since federal, state and municipal governments are involved with no apparent authority among them), and controls over insurance. All entail major structural changes, but deserve consideration due to their effectiveness. Indeed, these hold the most promise for serious cost containment. They also require intensive government intervention and accountability.

C. Key Strategies for the Short and Medium Term

9.43 Reform in the delivery and financing of health care must be considered within the context of what already exists, consumer expectations, financial constraints and government limitations (e.g., in regulatory enforcement). In Brazil, it is abundantly clear that consumers value choice of provider and private care; Brazilians also appear to be willing to pay for (some) care. The hybrid public-private arrangement is firmly established in Brazil and change must revolve around that reality. The fundamental decision is the precise role of government, how government can best guide the health care system without damaging its strengths, and avoiding the temptation to control the private sector rather than relying on incentives to affect behavior.

9.44 This report has emphasized a need for government to define policy priorities, consolidate institutional reforms, better control costs and volume of care, improve and guarantee quality, and fortify regulation and enforcement. Consistent with the current health care delivery and financing structure, these reforms should be integrated rather than used to try and transform what exists. What is called for are adjustments not an overhaul. Table 9-3 summarizes the priority actions and timing under the five categories. Further details are provided at the end of earlier chapters.

9.45 The highest priority is consolidation of the changes under the *Reforma Sanitária* by defining the respective roles across government levels, as well as the overall role of government in the health sector. These institutional issues imply other decisions affecting the health care system, including the public-private mix, and the level and flow of funds. Serious discussion on this issue is essential to evaluate experiences of the past decade and to ensure that adjustments address real priorities. A conference of federal, state and municipal officials with experts from the outside would be an ideal beginning to reform. The Conselho Nacional de Saúde (CNS - National Health Council) would be a logical beginning for forming such a group. This group combined with a synthesis of existing studies would establish a sound basis for change based on documented experiences.

9.46 Second, health policy currently evolves through accumulation of decrees and initiatives. Defining and implementing policy allows better control over actions and expenditures, and promotes the matching of goals with resource and other constraints. Indeed many of the recommendations of this report aim specifically at promoting policy as a leadership tool. But policymaking requires information and analysis, and that focus requires the capacity to identify and analyze policy issues and design initiatives accordingly. This implies not just planning, but the analysis and considerations that should guide decisionmaking.

9.47 An area for serious consideration is the relative roles of public and private payers and providers. The private sector has been neglected and no longer appears to be a serious partner of government in terms of explicit policy. As discussed, Brazil, like the United States, has relied heavily on the private sector to finance and deliver services. The major difference is the apparent lack of partnership between the private and public sector in Brazil and, as already amply discussed, the lack of regulatory oversight. Defining the public-private nexus is clearly a function for the federal government because of its responsibility for the AIH system. However, state-level policies are essential given state mandates, their heterogeneous nature and their regulatory enforcement responsibilities. A fundamental question at all levels is the ideal mix of public and private services

Table 9-3: Recommendations on Key Strategies for the Short and Medium Term		
	Short Term (Next Three Years)	**Medium Term (Four to Seven Years Hence)**
Consolidating Institutional Reforms	Set up a commission with representation from all three levels of government and informed citizens to debate the issue, and propose revisions to Congress and the federal government. The National Health Council could assist the process. Issues include: flexibility of SUS to meet different needs given Brazil's heterogenious states; necessary roles across federal states and municipal governments; balancing access and resources and reflecting. Design system for assisting states to experiment with alternative structures for delivering, financing, and regulating health care within their borders under SUS, including municipal-state relationships.	Develop proposals for better defining federal, state and municipal roles, emphasizing state flexibility in adapting federal guidelines in the organization and delivery of care. Ensure transparent and consistent fiscal transfers from the federal government to states and municipalities.
Policy Formulation Capacity	Establish a health policy office in the Ministry of Health with responsibility for identifying key policy issues in health, with input from experts from outside the MOH. The MOH Department of Planning could take on this effort, if they expanded their activities. Establish an inter-disciplinary committee under the leadership of the MOH, with health researchers and administrators to: determine how to best identify, finance and disseminate health policy research in Brazil; and, draw up a policy research agenda with and for the health policy office. A sub-group of the National Health Council with other input would be appropriate. Initiate with IBGE and others a health demand survey to determine where patients seek care, where they obtain it, who pays for it, and how much they pay out-of-pocket.	Establish a system for financing health services research, following the recommendations of the committee, relying on competition and external review in selecting researchers. Establish specific oversight committee for policy research with federal, state, municipal, university and professional association representation. Build congressional support and encourage a line item in the budget for health services research.

Table 9-3: Recommendations on Key Strategies for the Short and Medium Term		
	Short Term (Next Three Years)	**Medium Term (Four to Seven Years Hence)**
Costs and Cost Containment	Initiate a study of service costs as a first step toward establishing policies that match budgets and priority investments. Establish a standard benefit package for all citizens, covering prevention and secondary care, and prioritizing funding for tertiary care services. Design a comprehensive study to evaluate SIH/SUS and SIA/SUS with regard to costs, cost containment and volume controls, drawing on experience and expertise from inside and outside the government and Brazil. Should coordinate with health policy unit. Design documented experiments to test alternative options for cost and volume control, and evaluate them critically for policy guidance. Establish a body to regularly recalculate reimbursement rates for SIH/SUS and SIA/SUS.	Based on evaluation of costs and performance, develop incentives and oversight to promote greater efficiency in service delivery under reimbursed hospital and ambulatory care. Develop a standard cost accounting system for participating SIH/SUS hospitals to assist their management and monitoring, provide training. Experiment with co-payments, drawing on the results of the demand survey and experiences in states or municipalities, and applying income cutoffs to protect the poor. Develop and implant, in cooperation with private insurance and provider groups, standard billing forms for public and private providers.
Enhancing Quality	Establish three external advisory groups for setting standards for clinical care, administrative and financial services and physical plant and equipment. Place quality on the policy research agenda; finance studies on the definition of quality and how to obtain quality health services, considering costs, feasibility and enforcement. Finance methodological and operational studies to develop and test various approaches to quality assurance in Brazil.	In conjunction with professional organizations, establish quality assurance guidelines, with sufficient flexibility to allow adaptation by different providers. Provide grants to universities to establish quality assurance training in universities. Initiate revision of current federal "quality standards" for their applicability and relevance. Establish federal requirements that citizens participate in quality assessments at the local and state levels.

Table 9-3: Recommendations on Key Strategies for the Short and Medium Term		
	Short Term (Next Three Years)	**Medium Term (Four to Seven Years Hence)**
Improving Regulations	In conjunction with professional associations, draw up a federal licensing exam for physicians and nurses. Support professional association efforts to accredit medical schools through agreements among the federal and state governments, and professional associations. Identify insurance company practices and problems (financial, performance) and assess policy options for addressing these. Establish a public-private commission to develop model regulations for hospitals and clinics that protect the public, and are affordable, implementable and enforceable by states. Evaluate federal, state and municipal enforcement of existing regulations to determine strengths, weaknesses and gaps.	Establish a federal licensing exam for physicians and nurses to be adapted and used by states. Assist states in drawing up enforcement arrangements. Commission a plan for continuing education for health personnel from professional health associations, and sponsor meetings with states and professional associations to develop a policy on continuing education. Establish federal hospital accreditation standards based on the commission's recommendations, and apply them in all public and participating private hospitals. Develop enforcement arrangements with states and municipalities. Establish model regulations for insurance companies, and assist states develop state regulations and enforcement.

and the allocation of resources to each. A clear, informed policy on public and private delivery would assist the division of responsibility and the prioritization of services.

9.48 Third, the other high priority entails decisions about how health care will be rationed. As discussed in the report, rationing has been given little attention. The options in Table 9-2 offer some initiatives. However, these need to be integrated into an overall set of objectives.

9.49 The policy decision to open access to all citizens while meeting equity objectives needs to be reassessed in terms of what is affordable. As discussed in a previous report (World Bank, 1989b), there is a need for government to ensure access to a basic set of services, including information and preventive measures (e.g., environmental sanitation, immunizations, maternal and child care). A minimal package of services should be adequately funded and accessible. However, under current law, citizens are guaranteed more than that, but resources are inadequate to ensure it. Virtually no country ignores emergency medicine, which can be defined as a private good but saves lives (e.g., appendectomy, cholecystectomy).

9.50 The issues to be decided are how much of what services can the government afford to supply, and how should priorities be set. Global budgets can assist this process by forcing decisions to be made within the confines of a resource ceiling; however, it represents only the first step and requires accountability for performance to be effective. The next and more difficult step is how to best

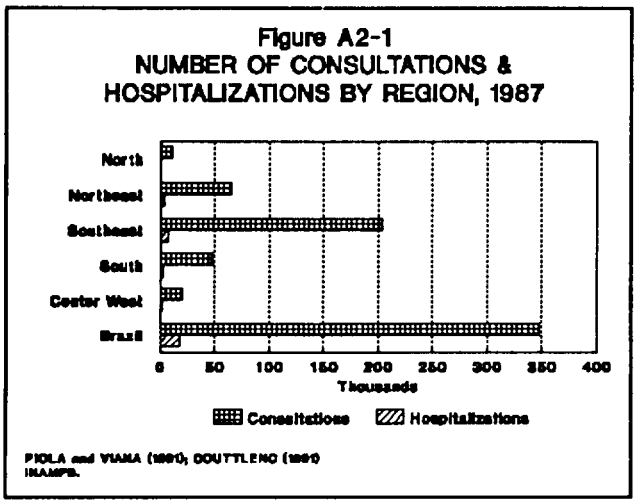
allocate those resources. Examples mentioned above -- such as the experiment in various United States states of (Oregon, Hawaii, Minnesota) the Canadian or British prioritization on the basis of relative need or emergency, or the exclusion of some services -- represent areas for further consideration.

9.51 The current underpayment under both SIH/SUS and SIA/SUS is not viable over the long term. Similarly, each municipality can now choose how much to spend in ambulatory care and how to distribute hospital services across providers and on what, while relying heavily on federal funds and with the option of having its citizens use state facilities. Different policies within states makes a single policy difficult to establish or enforce, and rationing policies would face the same difficulty. But rationing decisions to establish alternative means of controlling how much is spent and on what is key to making the system work effectively and to realizing the fruits of the *Reforma Sanitária*. This ties in with the first priority of consolidating the institutional reforms.

9.52 Fourth, quality of care needs serious attention. The recommendations at the end of Chapter 7 summarize the necessary steps to achieve quality (that also need to be tied to reforms in regulation). The initiatives proposed entail time and actions on multiple fronts. However, they offer important means for raising and ensuring quality and should be of the highest priority for government.

9.53 Finally, existing regulation deserve review, and a set of appropriate regulations should be developed that are tied to specific goals of the health sector. That means that square footage of hospitals is far less important than: (i) inputs, such as hygiene, and minimally acceptable staffing; and (ii) outputs, such as physician performance, infection rates and death rates during or immediately after hospitalization. Again, a commission of public (federal, state and municipal) and private leaders is needed to define realistic priorities and an agenda for achieving specific objectives. This could also be a sub-group of the CNS. Assistance from OECD countries would be appropriate as well, since the current regulatory structure does not always address the pressing regulatory needs.

A2.1



A2.2 Almost all children in São Paulo receive some well-baby care, but the frequency and quality vary widely. Frequency of well child and dental care are provided in Table 2-3. Preventive care is commonly obtained by upper income households with the exception of dental care, and frequency declines with income, which is consistent with the household utilization patterns for 1981 discussed below and the study by Arruda (1987) just described. Overall, data for Brazil indicate increasing coverage of basic preventive care such as prenatal attention, well-child care, and vaccination, between the 1970's and 1980's, probably a result of the massive expansion of the ambulatory care system during that period (Monteiro, 1988).

Table A2-1: **UTILIZATION OF WELL-CHILD CARE BY HOUSEHOLD SOCIO-ECONOMIC STATUS, SAO PAULO 1984/85**

SES Level	Well Child Care Begun at 2 Months	Mean Number of Visits First Year	Visits After 12 Months	Dental Care
High	83.6%	8.9	62.9%	28.2%
Medium High	70.8%	7.5	52.7%	24.3%
Medium	63.4%	7.8	52.7%	18.6%
Medium Low	60.6%	7.5	45.4%	15.2%
Low	45.7%	6.4	47.2%	9.1%
Total	63.3%	7.7	52.0%	19.5%

Source: Monteiro (1988).

A2.3 Table A2-2 summarizes the source of finance for all services and for hospitalizations for each region in 1981. Regionally, the South and Central Regions claimed the largest proportions of hospitalization and are also the heaviest users of private providers (Table 2-7). The pattern across regions is quite different, with patients in the North relying most heavily (absolutely and relatively) on personal

income to finance their care, and those in the Central region doing the same for hospital care (22% of hospital care).

Table A2-2: **SOURCES OF FINANCE FOR ALL & HOSPITAL CARE BY REGION, 1981 (%)**

Source of Finance	Region					
	Brazil	North	Central	Northeast	Southeast	South
ALL CARE						
Out-of-Pocket	42.26	56.30	44.00	46.70	40.66	35.00
INAMPS	37.45	31.50	42.00	29.20	32.93	50.70
Private Insurance	4.81	2.30	1.70	3.00	6.41	2.70
Employer	12.80	6.30	8.0	11.90	15.96	7.30
Other	3.88	3.10	3.80	8.60	3.19	3.50
More than One	0.80	0.60	0.50	0.60	0.85	0.90
HOSPITAL CARE						
Out-of- Pocket	11.30	16.50	22.40	11.70	9.13	10.60
INAMPS	75.96	68.30	70.90	67.90	77.70	82.20
Private Insurance	1.53	1.10	0.90	1.00	2.08	1.20
Employer	4.45	1.70	1.90	2.50	7.32	1.70
Other	6.75	12.40	3.90	16.90	3.76	4.40

Source: Iunes (1991) based on PNAD (1981).

A2.4 As shown in Table A2-3, pre-payment coverage was directly correlated with income, going from 1.9% of those earning less than 1/4 minimum salary to 7.8% of patients with incomes over 10 minimum salaries. Interestingly, only about 1% or less relied on more than one form of finance in every income group. These figures suggest that even outpatient care is a financial burden for low income households and that in general patients from all income classes purchase some of their outpatient care.

Table A2-3: **DISTRIBUTION OF PAYERS FOR PRIVATE OUTPATIENT SERVICES BY INCOME GROUP, 1981**

Source of Finance	Income Group						
	<1 Minimum Wage	1-2 Minimum Wages	2-3 Minimum Wages	3-5 Minimum Wages	5-10 Minimum Wages	>10 Minimum Wages	Total
Out-of-pocket	38.6%	34.3%	32.1%	32.8%	39.4%	57.7%	40.1%
Social Security	44.6%	53.5%	49.0%	43.9%	33.1%	14.6%	37.4%
Employer	3.1%	4.6%	11.9%	14.1%	17.9%	16.0%	12.7%
Pre-Payment	1.9%	1.3%	2.5%	5.5%	5.8%	7.8%	4.8%
Other	10.7%	5.5%	3.7%	2.7%	2.5%	2.7%	3.8%
More than One	0.6%	0.5%	0.6%	0.8%	1.1%	0.9%	0.8%
No Information	0.5%	0.3%	0.2%	0.2%	0.3%	0.3%	0.4%

Source: Chorny (1982) based on PNAD.

A2.5 Figure A2-2 summarizes the proportion of patients who paid out-of-pocket for any type of health service within each of five income categories in 1986. Those paying is inversely related to income with over 60% of those earning over two minimum salaries in 1986 paying for some amount of health care. In contrast, only about 16% of those below the government's poverty line (1/4 of a minimum salary equivalent to US$25 per month in 1981) purchased health services. This estimate captures both partial and full payment and provides a measure of willingness to pay.

Figure A2-2
PROPORTION OF PATIENTS PAYING FOR HEALTH SERVICES BY INCOME GROUP, 1986

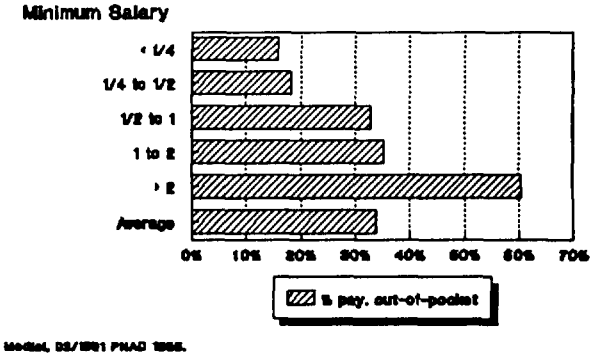


Table A2-4: **TYPE OF HOSPITALS USED BY INCOME GROUP FOR EACH REGION, 1981**
(Constant US$)

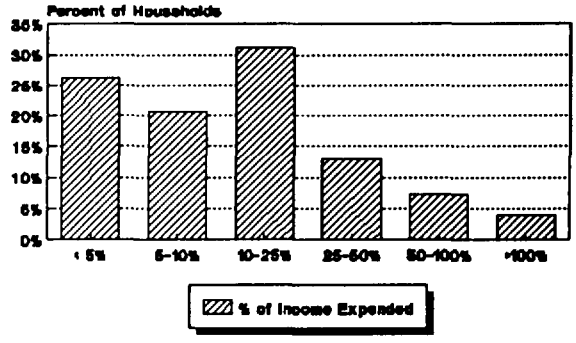
Region/ Hospital Type	Monthly Income						
	$25 [a]	$25-50	$51-100	$101-200	$201-1000	>$1000	Total
BRAZIL	24.61%	28.40%	24.81%	13.27%	8.60%	0.31%	
Private	57.79%	64.44%	67.46%	70.91%	76.50%	81.74%	65.51%
Public	42.21%	35.56%	32.54%	29.09%	23.50%	18.26%	34.49%
NORTH	22.66%	32.62%	24.35%	13.59%	6.57%	0.21%	
Private	43.01%	40.15%	39.38%	52.07%	69.28%	56.93%	44.18%
Public	56.99%	59.85%	60.62%	47.93%	30.72%	43.07%	55.82%
CENTER	25.48%	31.04%	23.05%	12.77%	7.37%	0.29%	
Private	79.88%	75.91%	75.43%	76.95%	77.61%	79.73%	77.08%
Public	20.12%	24.09%	24.57%	23.05%	22.39%	20.27%	22.92%
NORTHEAST	46.58%	27.97%	14.97%	6.24%	4.07%	0.17%	
Private	29.46%	33.33%	38.54%	50.61%	70.45%	84.23%	34.98%
Public	70.54%	66.67%	61.46%	49.39%	29.55%	15.77%	65.02%
SOUTHEAST	16.33%	25.88%	28.51%	16.75%	12.08%	0.46%	
Private	68.31%	67.60%	68.55%	71.49%	77.75%	80.29%	69.92%
Public	31.69%	32.40%	31.45%	28.51%	22.25%	19.71%	30.08%
SOUTH	21.83%	32.39%	26.71%	12.64%	6.27%	0.15%	
Private	86.44%	81.02%	79.12%	77.74%	75.39%	92.70%	80.95%
Public	13.56%	18.98%	20.88%	22.26%	24.61%	7.30%	19.05%

[a] US$ is the monthly wage for the accepted poverty line for Brazil, equal to 1/4 of a minimum salary.
Source: Iunes (1991) based on PNAD (1981).

A2.6 The patterns of hospitalizations also suggest something about the underlying incentives for inpatient care and/or the costs of inaccessibility. For example, among those earning less than US$25 per month, 49% with social security were hospitalized while only 37% of those without that coverage were. The pattern is identical for households in the highest income group, with 37% of those participating in social security being hospitalized while only 11% of those who paid out-of-pocket were admitted to the hospital. The discrepancy is too large to be wholly attributable to case mix differences.

A2.7 The poorest households in the South (86%) and Southeast (69%) skew the national average away from reliance on private facilities because in the Northeast and North, less than 30% and 43% of hospitalizations, respectively, were in private hospitals. Part of this pattern was due to the limited supply of private options in the poorer regions, a conclusions somewhat supported by the relatively modest reliance on private hospital care among the wealthiest households in the North (57%); in the Northeast 84% of the highest income group favored private hospitals.

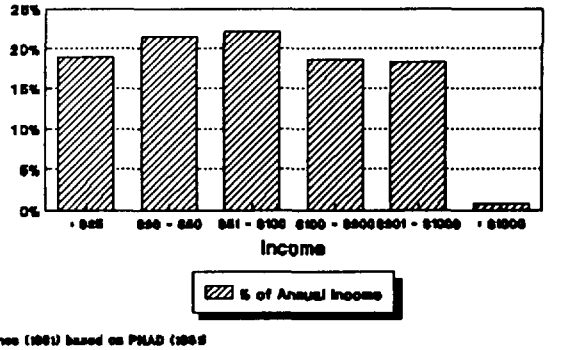
Figure A2-3
PROPORTION OF PER CAPITA INCOME EXPENDED ON HOSPITAL CARE, 1981



A2.6 Figure A2-3 summarizes the distribution of the proportion of income spent on hospital care among those who sought care. Forty-seven percent spend at least 10% of their income on hospitalizations while over three-quarters spend 25%. In contrast, almost 4% of households spent more than their annual earnings. Regionally, close to 7% of hospitalized patients in the Northeast spent over 100% of their annual earnings on hospital care and 18% half or more, the largest proportions for any region and significantly above the next highest, Central Region, with 12.9% spending over half their income. Thus the burden on a minority of households is quite substantial and the variations by region are significant.

A2.7

Figure A2-4
DISTRIBUTION OF PER CAPITA INCOME DEVOTED TO HOSPITAL CARE BY INCOME, 1981



A3.1 Table A3-1 shows the distribution of expenditure among purchased services, transfers, and own production of services, for the two institutions; data cover 1988 and 1990 for the Ministry, and those years as well as 1984 and 1986 in the case of INAMPS. For own production, the table also shows the distribution of expenditure on personnel (some of whom do not produce medical services but administer the institution's programs), recurrent inputs such as drugs, and capital. The latter item is, like current expenditure, divided between (own) investment and transfers on capital account.

A3.2 For the longer interval 1982-1988, detailed analyses of federal and state health expenditure exist for ten states in the Northeast of the country. These are summarized in Table A3-2; they do not include expenditure by municipalities, so dollar amounts rather than percentage shares are shown. Unfortunately, a complete picture of spending at all three levels is not available at the state level. Note that expenditure financed by federal transfers appears as state government spending. States vary in whether these funds are consolidated with the state treasury or reported as "other sources", so that distinction is not used here. Only totals are shown for INAMPS and for the Ministry of Health; the original data discriminate between own production of services and purchases from third parties, for each of the federal agencies, but that detail is not treated here at the state level.

A3.3 The states for which data are available are mostly poorer than average, and more dependent on federal funding for health than the average for Brazil. For the same reason, they are able to spend relatively little through municipalities' own revenues. This means that fluctuations in federal transfers and direct spending cannot easily be cushioned by state or municipal funding; and, as the table shows, these fluctuations have been quite large, especially in 1987-88. In every state there was a large decline in combined state and federal spending on health, following a considerable increase--sometimes a doubling--over the previous five years. Because SUDS had not gone fully into effect, and SUS was still in the future in 1988, these changes reflect only the impact of AIS (in raising expenditure) and of worsened economic conditions (in curtailing it).

Table A3-1: **PERCENTAGE SHARES OF INAMPS AND MINISTRY OF HEALTH SPENDING ON CURRENT ACCOUNT AND CAPITAL ACCOUNT SELECTED YEARS, 1984-1990**

Institution and Expenditure Category	1984	1986	1988	1990
INAMPS: Total recurrent spending	99.6	98.0	95.3	96.1
Own Production of Services	19.8	30.2	19.7	24.6
Personnel	14.9	23.2	13.5	21.7
Drugs and Supplies	4.8	4.6	4.9	2.4
Purchases from Private Providers	68.0	45.1	27.6	30.9
Transfers	11.7	22.7	48.0	40.5
Within Federal Government	1.1	3.7	0.9	4.7
To States and Federal District	3.2	7.2	41.5	22.7
To Municipalities	1.6	3.5	0.3	3.7
Total Capital Expenditure	0.4	2.0	4.7	3.9
Own Physical Investment	0.4	1.8	0.6	0.2
Capital Transfers	0.0	0.2	4.1	3.8
Within Federal Government	0.0	0.0	0.0	0.1
To States and Federal District	0.0	0.0	4.0	2.9
To Municipalities	0.0	0.1	0.0	0.6
MINISTRY OF HEALTH: Total Recurrent	–	–	83.7	83.7
Own Production of Services[1/]	–	–	31.7	38.6
Personnel	–	–	17.8	23.1
Drugs and Supplies	–	–	13.8	11.9
Purchases from Private Providers	–	–	7.2	0.0
Transfers[1/]	–	–	44.9	45.1
Personnel	–	–	17.8	23.7
Financial: Within Federal Government	–	–	22.1	23.8
To States and Federal District	–	–	1.4	1.1
To Municipalities	–	–	0.1	0.1
Total Capital Expenditure	–	–	16.3	16.3
Own Physical Investment	–	–	4.2	2.2
Capital Transfers	–	–	12.1	13.8
Within Federal Government	–	–	7.1	8.3
To States and Federal District	–	–	4.3	3.9
To Municipalities	–	–	0.3	0.4

[1/] Personnel transferred to other agencies but paid by MOH are classified under "transfer" rather than own production".
Source: Piola and Vianna 1991.

Table A3-2: **FEDERAL AND STATE EXPENDITURE ON HEALTH IN TEN STATES SELECTED YEARS, 1982-1988 (Millions of 1989 U.S. Dollars)**

State and Source	1982	1984	1986	1987	1988
Alagoas: Total	56.86	50.97	72.69	164.46	87.40
State Government	14.69	12.35	12.65	56.09	43.09
Federal Total	42.17	38.62	60.04	108.37	44.31
INAMPS	34.20	32.87	39.69	62.52	9.81
Ministry of Health	7.97	5.75	20.35	45.84	34.50
Bahia: Total	246.80	190.84	305.91	517.09	359.78
State Government	61.20	59.09	103.12	46.68	240.68
Federal Total[1/]	185.60	131.75	202.79	470.41	119.10
INAMPS	155.89	110.61	127.83	334.53	37.37
Ministry of Health	29.27	19.68	73.96	135.87	81.73
Ceara: Total	144.25	113.98	171.32	270.70	152.18
State Government	19.94	17.19	29.50	42.31	62.04
Federal Total [1/]	124.31	96.79	141.82	228.39	90.14
INAMPS	107.05	82.33	102.78	141.56	38.44
Ministry of Health	16.57	14.46	38.83	86.82	51.70
Maranhao: Total	56.66	50.40	102.78	151.52	126.11
State Government	8.93	6.90	20.66	18.67	46.20
Federal Total[1/]	47.73	43.50	82.12	132.85	79.91
INAMPS	33.61	32.13	52.86	60.24	25.93
Ministry of Health	13.90	11.07	29.22	72.61	53.99
Minas Gerais: Total	403.07	333.00	451.76	525.10	303.31
State Government	64.50	57.76	105.36	72.34	179.69
Federal Total[1/]	338.57	275.24	346.38	452.76	123.62
INAMPS	310.02	254.09	295.67	352.80	59.08
Ministry of Health	26.07	18.95	48.48	99.97	64.54
Paraiba: Total	83.72	65.61	99.02	115.95	65.09
State Government	14.84	8.07	12.64	9.89	19.76
Federal Total	68.88	57.55	86.38	106.06	45.35

Table A3-2: **FEDERAL AND STATE EXPENDITURE ON HEALTH IN TEN STATES SELECTED YEARS, 1982-1988 (Millions of 1989 U.S. Dollars)**

State and Source	1982	1984	1986	1987	1988
INAMPS	61.03	51.62	63.81	74.28	22.89
Ministry of Health	7.85	5.93	22.57	31.78	22.46
Pernambuco: Total	163.35	131.98	237.62	277.03	187.92
State Government	31.76	26.40	58.78	57.86	81.84
Federal Total	131.58	111.58	178.85	219.16	106.08
INAMPS	117.22	94.70	132.99	136.68	50.85
Ministry of Health	14.36	10.88	45.86	82.48	55.23
Piaui: Total	49.38	46.03	79.97	98.29	64.32
State Government	12.84	13.71	26.48	16.86	24.94
Federal Total	36.53	32.31	53.49	68.26	39.38
INAMPS	27.70	25.12	33.12	40.76	12.86
Ministry of Health	8.83	7.19	20.37	40.67	26.52
Rio Grand do Norte: Total	53.90	41.88	81.91	178.22	121.24
State Government	10.17	12.68	25.76	57.59	69.90
Federal Total [1/]	43.73	29.20	56.15	120.63	51.34
INAMPS	33.89	22.66	33.08	71.65	9.52
Ministry of Health	9.31	6.25	23.02	48.98	41.82
Sergipe: Total	42.88	32.30	53.64	93.07	47.97
State Government	15.80	8.39	17.04	25.19	20.00
Federal Total	27.08	23.91	36.60	67.88	27.97
INAMPS	19.58	18.54	23.13	39.16	5.20
Ministry of Health	7.49	5.36	13.47	28.73	22.77

[1/] Includes some transfers through agencies other than INAMPS and MOH.
Source: Couttolenc, Table 13, pp. 27-31.

A4.1

Table A4-1: **VOLUME UNDER PRIVATE AND PUBLIC FINANCING, 1989**[a]

Plan	Outpatient Visits (Million)	Hospitali-zations (Million)	Hospital Days (Million)	Diagnostic Tests (Million)
Pre-paid Group Practice	60.0	1.05	4.07	45.60
Medical Cooperative	24.5	0.96	3.84	29.43
Company Plans	21.0	0.53	1.68	22.05
Contracted Administration	2.0	0.08	n/a	n/a
INAMPS Reimbursed	102.5	9.37	n/a	85.50 [b]
INAMPS Provision	134.1	2.13	n/a	[b]

[a] Data are taken for a 12-month period during 1988-1989.
[b] Figure is for all INAMPS-reimbursed providers.
Source: TPF&C (1989), DATAPREV.

A4.2

Table A4-2: **VOLUME OF SERVICE USE PER ENROLLEE AND AVERAGE LENGTHS OF STAY UNDER PRIVATE HEALTH PLANS & INAMPS, 1988-89**

Plan	Average Medical Visits	Average Diagnostic Tests	Hospitalization (Per 10 enrollees)	ALOS
Prepaid Group Practice				
Plan A	4.00	3.04	0.70	3.86
Plan B	2.78	1.97	0.57	4.37
Medical Cooperatives	3.36	4.03	1.32	3.98
Company Plans				
Plan A	2.80	2.94	0.70	3.22
Plan B	1.41	1.70	0.32	5.38
Contracted Administration	2.50	2.98	0.71	3.95
Health Insurance	0.75	0.38	0.59	2.80
INAMPS	2.25	0.82	1.06	n/a

[a] Data for INAMPS are based on a covered population of 110 million (the total population of Brazil less those covered by private health plans). Does not include all the public sector, but only those services paid by INAMPS.

Source: TPF&C (1989) for averages by type of plan, and Couttolenc (1991) for corporate reports of specific plans.

ANNEX TO CHAPTER 5

Reimbursing Hospital Service - SH

A5.1 The amount received by the hospital is calculated by multiplying the frequency of each performed procedure by the SH value attributed to the diagnostic group that pertains to those procedures. Additional charges are added for special procedures that carry allowable supplemental payments for specific consumables and drugs. The main procedures with additional allowable charges include: peritoneal or hemo-dialysis, parenteral nutrition, day-treatment for cancer chemotherapy, among others.

A5.2 Another exception are intensive care use (ICU) payments, and those for patients whose length of stay approaches twice the allowable LOS. Two other exceptions to the reimbursement schedule are psychiatric patients and chronically ill patients with untreatable diseases. In both cases a schedule of per day payments is multiplied by the number of hospital days up to 180 days. After that the patient must submit a new admittance request. During such stays patients are required to be admitted under a succession of hospital authorizations (AIH-1 through AIH-5).

Reimbursing Professional Services and Diagnostic Tests - SP and SADT

A5.3 Unlike hospital reimbursement (SH), Professional Services (SP) and Diagnostic Tests (SADT) are not directly traceable to the professional or service received by a patient. Actual reimbursement is based on a calculation pegged between the average monthly value of SP and SADT measured across AIHs and weighted by the number of points (determined by the schedule for each procedure) corresponding to the actual services/tests provided. The simple formulas are as follows:

$$\text{Point Value} = \frac{\text{Total Value SP/SADT in Month x}}{\text{Number of SP/SADT Points in Month x}}$$

$$\text{Monthly SP/SADT Reimbursement} = (\text{Number of Points for Services Provided}) \times (\text{Value of the Points}).$$

A5.4 The apportionment is based on total monthly hospital production not solely on the specific services or tests provided given patients. Hospital payments are therefore based on overall hospital services during the month not for each individual sub-procedure. Payments can be credited to the hospital where the physician is contracted or on the hospital staff, or it can be paid directly to independent medical practitioners. The former is more common in the North and Northeast, the latter in the South.

A5.5 There are limits on the apportionment of points to discourage reduction in the quality or quantity of services. For example, for each day of hospitalization an outpatient visit is paid. Clinical intervention, surgery and anesthesiology, where relevant, have defined ceilings and are paid based on the ceiling whether they fall short, reach or exceed the ceiling. There are norms for "Procedure Groups" that define the minimum number of professionals in a surgical team. Norms do not exist that define the maximum number of individual services to be provided, however. So it is not the limits of services under SADT/SP but the distribution of the apportioned services that matters (Levcovitz, 1992).

Interpretation of the AIH Form

A5.6 **Identification of AIH**: has the sequential number and the identification of the INAMPS "network manager" who issued the AIH. This allows tracking of the number of AIHs, identifies the type and volume of hospitalizations authorized/admitted by the issuing agent, and avoids double issuing of AIHs.

A5.7 **Issuing Agent**: has patient identification, the diagnosis/procedure that was the basis for hospitalization authorization, and the physician responsible for issuing the AIH and designating the medical procedure. Also indicates whether the admittance is elective or an emergency.

A5.8 **Physician Auditor**: oversees admission and controls authorization of special procedures that will raise the costs of the AIH. This function is the responsibility of each department director or unit chief in the hospital. Physician auditor also controls admittance and discharge of the intensive care unit, UTI (Unidade de Terapia Intensiva) and can adjust the original authorized procedure to reflect a new diagnosis or medical complication.

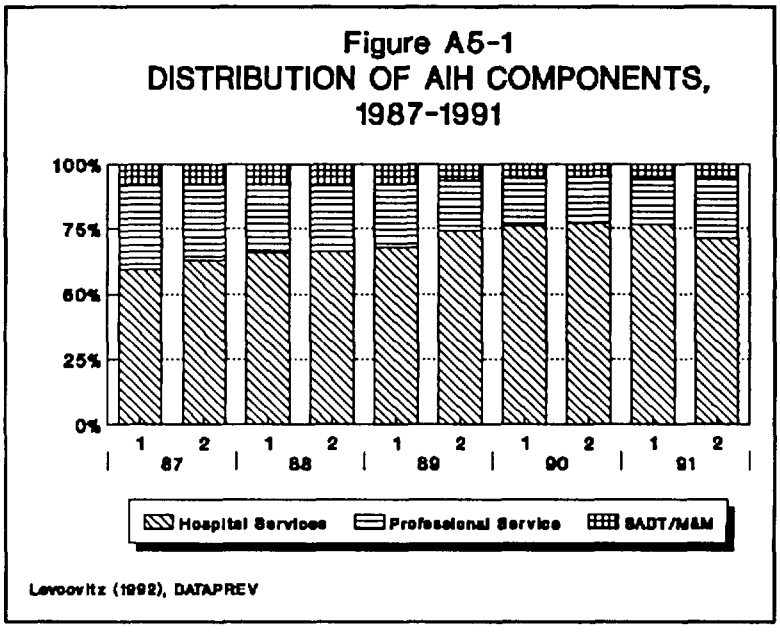
A5.9 **Physician Services**: records completed medical procedures (clinical or surgical), diagnostic exams (laboratory, radiological etc.) and auxiliary services. These sections do not increase the value of the reimbursement since this is included in the procedure code allocation. Physician and ancillary services provided by the hospital (codes 4 and 3, respectively) or by an outside service (codes 7 and 8 respectively) are also registered here. In the first case the hospital is reimbursed, in the second payment is made directly to the independent provider.

A5.10 **Hospital**: Includes the hospital code of the Internal Revenue Service equivalent CGC (Cadastro Geral de Contribuintes); the hospital clinical director; dates of admittance and discharge; reason for discharge; ICD-9 code for primary and secondary diagnoses; whether the patient was deceased at discharge; and whether the actual procedure was consistent with that authorized at admittance.

A5.11 The rest of the form is concerned with hospital performance in the production of service. Complementary documentation regarding billings and issuing processes are not discussed here.

A5.12

Table A5-1: DISTRIBUTION OF AIH COMPONENTS 1987-1991			
Component	Period Average (%)	Maximum (%)	Minimum (%)
SH	70%	77%	56%
SP	24%	35%	18%
SADT	6%	9%	5%
Source: Levcovitz (1992) based on DATAPREV.			



A5.13 Table A5-2 summarizes the principle subgroups of diseases and their frequency as of the second half of 1991. Obstetrics with 1,556,141 cases represents 21.1% of all admittances, and encompasses normal and Cesarean births and treatment of abortion complications. Respiratory disease (13.9%), gastro-intestinal disease (9.2%), diseases of the circulatory system (8.4%), psychiatric care (7.8%) and genito-urinary diseases (5.9%) are the most frequent diagnoses treated representing 66.4% of the total case load.

A5.14 The majority of care is provided in clinical medicine (29.3%), surgery (28.3%), pediatrics (11.2%) and psychiatry (7.8%). In surgery, obstetrics represents almost 75% of all procedures. Within pediatrics, pneumonia (33.8%) and enteric infections (31.5%) are the most common procedures.

Table A5-2: **DISTRIBUTIONS OF THE MOST FREQUENT DIAGNOSIS UNDER SIH/SUS**
Second Half of 1991

Diagnosis Group	Number	Percent
Obstetrics	1,556,141	21.12%
Respiratory System	1,026,636	13.93%
Gastro-intestinal System	678,685	9.21%
Circulatory System	618,524	8.39%
Psychiatry	574,795	7.80%
Genito-urinary System	436,995	5.93%
TOTAL	4,891,776	66.38%

Source: Levcovitz (1992) based on DATAPREV.

A5.15

Table A5-3: **PERCENTAGE DISTRIBUTION OF THE 10 MOST FREQUENT DIAGNOSIS/PROCEDURES BY REGION UNDER SIH/SUS**
Second Half of 1991

	REGIONS					
Diagnosis/ Procedure	North	North-east	South-east	South	Center-West	Brazil
Normal Birth	20.46	15.75	9.63	11.20	10.21	12.06
Psychiatric Treatment	0.61	5.87	11.08	5.39	5.16	7.80
Cesarean Birth	6.38	4.32	5.96	5.83	6.60	5.54
Congestive Heart Failure	1.10	2.12	3.38	3.30	4.10	2.98
Abortion Complications	2.75	3.43	2.22	1.08	1.67	2.34
Enteric-infections (Pediatrics)	4.45	2.49	1.62	2.31	3.49	2.23
Enteric-infections (Adults)	3.54	3.03	1.35	1.47	2.38	2.00
Bronco-pneumonia	1.68	2.35	1.41	2.88	1.53	1.94
Hypertensive Crisis	1.15	1.87	1.82	1.58	1.30	1.73
Stroke	0.72	1.27	1.92	2.22	1.33	1.69
TOTAL	42.85	42.52	40.40	37.26	37.78	40.31

Source: Levcovitz (1992) based on DATAPREV.

A5.16 At the state level trends show some interesting patterns. Tables A5-4 and A5-5 compare the procedures which represent about 50% of all procedures in Rio de Janeiro and São Paulo states for the second half of 1987 and the same period in 1991. The two states are similar in the relative importance of births, psychiatric care and congestive heart failure but diverge on the relative frequency of other diagnoses. Lengths of stay are higher on average in Rio de Janeiro both in 1987 and 1991. Moreover that state had a significant number of "procedures outside the schedule" in 1987 with ALOS of 14 days (1.6% of all procedures). In contrast, São Paulo had none. By 1991, when the public sector had been merged into the reimbursement system, "procedures outside the schedule" rose to 7.1% with an ALOS of 211 probably reflecting the large number of patients in resident leprosy hospitals and perhaps the flexibility of Rio de Janeiro hospitals.

A5.17

Table A5-4: **FREQUENCY OF DIAGNOSES UNDER SIH/SUS, RIO DE JANEIRO 1987 & 1991**

	Second Half of 1987			Second Half of 1991		
	Monthly Frequency	% of Total	ALOS	Monthly Frequency	% of Total	ALOS
Normal Birth	10.310	12.74	2	10.799	10.07	2
Cesarean Birth	5.234	6.47	3	5.730	5.34	3
Psychiatric Treatment	4.994	6.17	19	17.137	15.98	166
Congestive Heart Failure	3.472	4.29	7	3.276	3.05	8
Stroke	2.662	3.29	8	2.343	2.18	8
Hypertensive Crisis	2.334	2.89	6	2.095	1.95	5
Unspecified Pneumonia	1.696	2.10	7	1.651	1.53	7
Post Abortion D&C	1.694	2.09	1	2.639	2.46	1
Other Pneumonias	1.541	1.90	6	1.662	1.54	6
Procedures Outside Schedule	1.328	1.64	14	7.665	7.14	211
Acute Coronary Insufficiency	1.194	1.48	5	1.084	1.01	6
Enteric Infection (Pediatrics)	1.120	1.38	5	1.082	1.00	4
Diabetes	1.087	1.34	8	1.036	0.96	9
TOTAL	38.656	47.78		58.199	54.21	

Source: Levcovitz (1972) based on Pereira (1989) & DATAPREV.

A5.18 The other striking change between 1987 and 1991 is the dramatic rise in psychiatric treatment from 6.2% to 15.98% with the ALOS increasing from 19 to 166 in Rio de Janeiro, and a similar shift in São Paulo from 3.5% to 13.0% of all diagnoses and ALOS going from 17 to 139. The Secretariats of Health in both states have numerous psychiatric hospitals that function as asylums, as is suggested by high ALOS data. Moreover, some of the increase observed in 1991 stems from inclusion of inpatient psychiatric care in AIH as of 1990. The question is whether

these states require that level of inpatient capacity, and whether significant inpatient capacity is being used unnecessarily when these same services could be effectively and less expensively provided on an outpatient basis.

Table A5-5: **FREQUENCY OF DIAGNOSES UNDER SIH/SUS, SAO PAULO 1987 & 1991**

	Second Half of 1987			Second Half of 1991		
	Monthly Frequency	% of Total	ALOS	Monthly Frequency	% of Total	ALOS
Normal Birth	20.235	8.89	3	22.340	8.35	2
Cesarean Birth	18.005	7.87	2	15.309	5.72	3
Psychiatric Treatment	8.001	3.49	17	34.898	13.04	139
Congestive Heart Failure	7.923	3.46	5	8.128	3.03	6
Hypertensive Crisis	5.593	2.44	4	4.457	1.66	4
Broncopneumonia (Pediatric)	5.055	2.20	5	4.561	1.70	5
Stroke	4.674	2.04	6	4.738	1.77	6
Enteric Infection (Adult)	4.588	2.00	3	3.619	1.35	3
Post Abortion D&C	4.421	1.93	1	5.798	2.16	1
Enteric Infection (Pediatric)	4.355	1.90	4	3.855	1.44	3
Broncopneumonia (Adult)	4.035	1.78	4	3.812	1.42	5
Renal Colic	3.348	1.46	2	2.668	0.99	2
Pneumonia (Adult)	3.024	1.40	5	3.322	1.24	5
Pyeleonephritis	3.089	1.35	4	2.539	0.94	4
TOTAL	96.346	42.21		120.044	44.81	

Source: Levcovitz (1992) based on Levcovitz (1989) & DATAPREV.

A5.19 In São Paulo, ALOS stayed roughly the same between 1987 and 1991 except for psychiatric treatment. Disease frequency experienced some adjustments, most notably a 10% rise in births (but a decrease in frequency percentage), about a 15%

decline in cesarean sections and dramatic increases in psychiatric treatment from about 8,000 patients a month to almost 35,000. Post-abortion D&C and multiple surgery were the only other procedures that experienced increases, raising the relative prominence of both.

Table A5-6: **AVERAGE COST OF ROOM & BOARD IN SELECTED PRIVATE HOSPITALS AND AVERAGE INAMPS REIMBURSEMENT**
(Current Cr$)

Hospital[a]	Dec. 1990	Jan. 1991	Feb. 1991
A	3,281	N/A	N/A
B	4,588	3,940	4,807
C	6,318	5,313	6,269
D	5,170	7,266	8,390
E	4,307	6,152	7,259
F	1,825	5,168	6,166
G	2,721	2,183	2,496
H	3,565	3,206	3,245
I	3,927	4,231	4,743
J	3,629	4,655	5,160
L	4,175	4,369	5,003
M	4,990	6,093	7,377
N	4,631	6,334	8,933
O	4,791	6,664	7,846
P	5,136	5,240	5,900
Average	4,203	6,655	6,124
INAMPS[b]	349	549	656

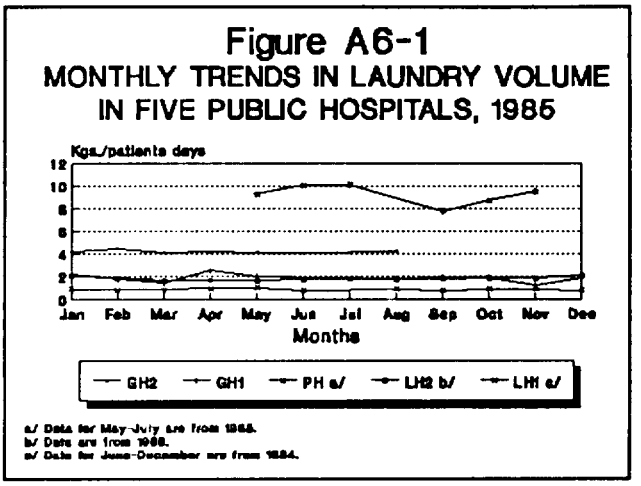
[a] Sample of 15 private hospitals in Minas Gerais, Parana and São Paulo.
[b] Data for INAMPS are estimates, for January & February 1991.
Source: de Matos.

A5.20 Particularly important factors in the growth and costs of the reimbursement system are the diagnostic groups that are most frequently treated. The 10 most frequent procedures, as opposed to groups of diseases, for the 5 macro-regions of the country, are listed in Table A5-2 and Table A5-3 and include breakdowns of AIH numbers and expenditures for 1989. The relatively higher birth rates in the North and Northeast are reflected in the greater importance of hospital births in these two

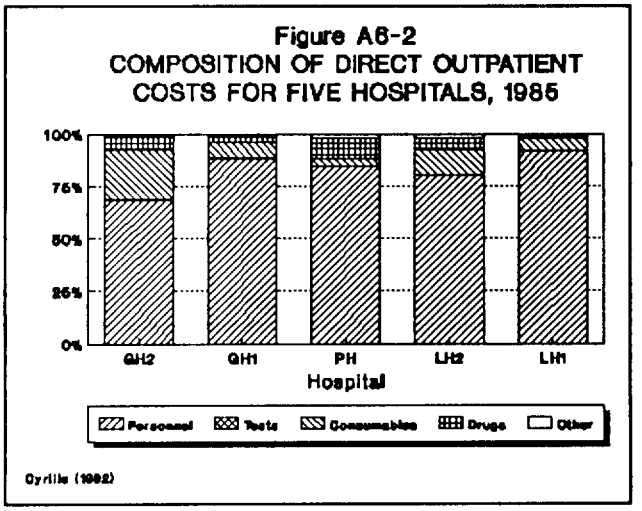
regions: 26.8% and 20.1%, respectively, compared to 17.6% nationally, although it remains the major reason for hospitalization in every region. Similarly, treatment of enteric infections are higher in these two regions than in the rest of Brazil due primarily to poor sanitation and more limited access to clean water and other preventive measures. Psychiatric services (especially in the Southeast) and cardiac arrest predominate in the South, Southeast and Center-West regions.

ANNEX TO CHAPTER 6

A6.1 Laundry services would be expected to vary somewhat due to occupancy rates and the "linen/gown-intensity" of admitted patient. As Figure 6-3 indicates, GH1, GH2, and the Pediatric Hospital show consistent laundry volume. In the chronic care facilities (LH1 and LH2), where patient flow should be more rather than less predictable, surprisingly laundry volume varies (eg., from 1.65 to 2.2 kilograms per patient day at LH2).



A6.2



A6.3

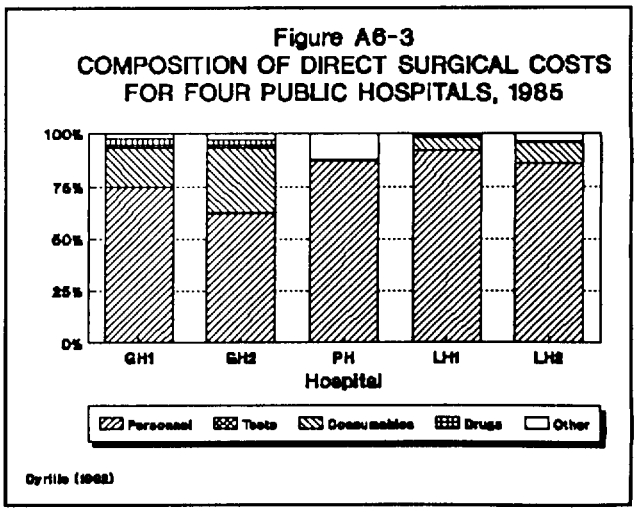


Table A6-1: COMPARISON OF AVERAGE MONTHLY COSTS FOR FIVE São PAULO HOSPITALS (US$)

Cost Center	Units	GH1	GH2	PH	LH1	LH2a/
Outpatient Departments						
Consultations	Consult.	1.90	3.89	12.83	27.19	12.41
Obstetrics	Pat./Day	19.61	15.53	-	-	-
Pediatrics	Pat./Day	17.52	17.86	37.18	-	-
Adult Surgery	Pat./Day	10.85	15.31	-	4.49	-
Dental Care	Consult.	4.81	-	-	36.21	-
Inpatient Departments						
Obstetrics	Birth	23.96	9.23	-	-	-
Nursery	Pat./Day	11.16	5.34	-	-	-
Surgery	Surgery	15.79	24.18	59.66	199.82	-
Residential Care	Pat./Day	-	-	-	3.34	6.04
Isolation	Pat./Day	484.89	-	-	-	-

a/ Most services are costed by specialized centers such as nursing, central curative services.
Source: Cyrillo (1992).

Table A6-2: **AVERAGE COST PER OUTPUT FOR SELECTED INDIRECT COST CENTERS IN THREE São PAULO PUBLIC HOSPITALS (1990 US$)**

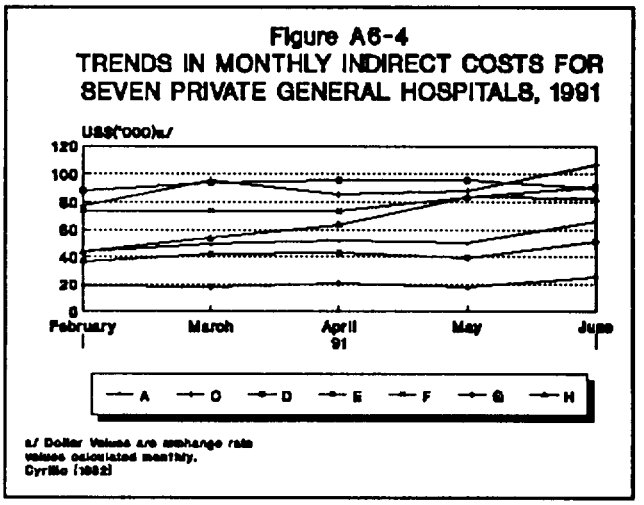
Indirect Cost Center	Unit	Hospitals		
		General 1	General 2	Pediatric
Pharmacy	$/Pat. day	8,685.40	1,944.39	7,475.31
	$/case a/	5,409.55	406.57	2,243.02
Laboratory	Exams/100 cases a/			
	Exams/10 pat.	8.00	12.99	1.39
Blood Bank	Ml./Pat.	43.91	18.17	32.47
	Ml./Surg.	2.89	4.08	8.99
X-Ray	Exams/1,000 cases a/	13.35	2.57	5.75
	Exams/100 Pat.	18.42	9.54	10.56
Food Service	Meals/pat. day	17.97	15.27	14.26
	Meals/100 Pat.	15.36	17.37	8.08
Laundry	Kg/pat. day	1.48	3.38	7.78
	Kg/100 Pat.	5.81	6.92	1.96
Sterilization	Vol./pat. day	4.19	2.35	3.27
	Vol./100 Pat.	12.00	6.53	3.77
Morgue	Deaths/100 pat.	1.91	2.04	2.10

a/ Cases refer to each request individually, so that patient could have more than one set of laboratory or x-ray tests completed or drugs provided.

Source: Cyrillo (1992).

AIDS

A6.4 Acquired Immuno-Deficiency Syndrome (AIDS) is a serious and rapidly growing problem in Brazil. As such it has begun to receive special attention in the health field, including assessment of current and likely future costs. AIDS, however, was only added to the hospital fee schedule (Tabela Basica) in 1992. Prior to that SIH/SUS technically did not cover AIDS. Two recent studies (Medici and Beltrao, 1992; Cyrillo, 1992) estimate the cost per patient day of AIDS in four public university and one private hospital, respectively. Public costs were US$405 and US$151 in two different Porto Alegre hospitals, US$799 in Clinicas do Parana and US$360 in Clementino Fraga Filho University Hospital (CFFH). Costs of AIDS at Umberto Primo Hospital are US$222. The two Porto Alegre Hospitals excluded the cost of AZT, a costly imported drug that can slow the progression of AIDS when administered properly.



A6.5 Why these costs differ so widely is not entirely clear, but some of the data limitations can provide some hypotheses. First there are variations in the costing methodologies which apply across university hospitals, despite existing federal guidelines, and between public and private hospitals as discussed. Second, no information is provided on the severity of HIV infection among patients treated at each facility, and severity is a major determinant of costs. Third much of the necessary complementary data regarding specific services received, among other things, are missing for all but CFFH and UPH. Last, some of the discrepancy may reflect whether patients received AZT. Table A6-4 shows the structure of costs for CFFH and UPH based on one and four months of data, respectively. Costs in Table A6-1 are higher for the public hospital, although the cost breakdown across components in each hospital are not very different. For example,

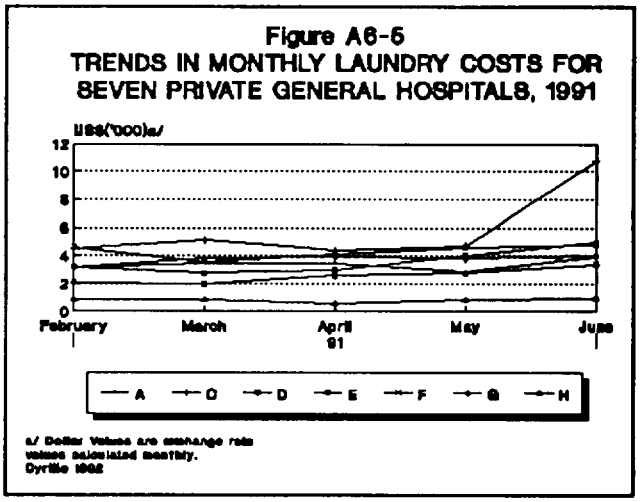


Table A6-4: **COSTS OF AIDS AND COST DISTRIBUTIONS IN A PUBLIC & PRIVATE HOSPITAL** (1991 US$)

	Clemente Frago Filho Hospital (Public)	Umberto Primo Hospital (Private)
Inpatient Care		
Total Cost	$129,848	$29,970
Cost per Patient Day	$360	$112-321 b/
Number of Patient Days	361	135
Outpatient Care		
Total Cost	$35,098	
Cost per Visit	$52-56	
Cost Per Patient Day	$294	
Number of Patient Days	231	
Distribution of Inpatient Costs (%)		
Personnel	50	64
Drugs/Materials	26	20
Exams	5	-
Indirect	2	6
Distribution of Outpatient Costs (%) b/		
Personnel	68/29	
Exams	0/66	
Indirect	24/24	

a/ Monthly Average
b/ Two cost allocations are provided, the first for existing and the second for new patients.
Source: Cyrillo (1992); Medici and Beltrao (1991).

at CFFH 22% of costs go to drugs and materials; the figure is 20% at UPH. Similarly, personnel represents 50% and 64%, respectively, but since some personnel costs in CFFH are included in indirect costs the divergence is much smaller than the figures initially suggest. These data show higher average costs for each component in public hospitals, but again severity may be an important differentiating factor.

A6.6 Although not available for UPH, the per visit cost of outpatient diagnosis and treatment are also provided in Table A6-4. Costs per visit are quite low unless calculated on a per patient day basis. Then the cost rises beyond the average inpatient cost for UPH. The difference is due to the range of services beyond the consultation that are provided patients, but no details exist on this. An issue of considerable importance for planning purposes is the high cost of diagnostic exams. For first time patients at CFFH, exams absorb 66% of costs, relegating personnel to just 29%. For registered (return) patients personnel composes 68% of costs, well above the 50% for inpatients. What causes this pattern is not explained, but is important for assessing the appropriateness of resource allocation and medical intervention.

A6.7 These data demonstrate some of the discrepancies between public and private hospital costs, although much more needs to be known to make any strong conclusions. The losses associated with the lack of consistency across cost accounting methods are evident from this attempt to explain costs by diagnosis. The results are cumbersome and only somewhat revealing. Indeed the findings raise more questions than they answer precisely because of the lack of meaningful data on key characteristics of patients and facilities. Better and more complete information would permit adequate understanding of why the costs differ so much among public hospitals and between public and private ones, an issue that is key to how the government maximizes efficiency in delivering and financing care, and how it selects and keeps hospitals in its prospective payment system. Most importantly, better information and more easily accessed data would permit hospital managers to improve resource allocation and more effectively manage their facility.

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