

PNHBE-815
XN-ABE-815-A
YN-ABE-815-B

HEALTH SECTOR FINANCING PROJECT

**MINISTRY OF HEALTH
REPUBLIC OF INDONESIA**

REPORTS 22, 23, 24:

**PAUL ZUKIN
BLAINE RASMUSSEN
CARL STEVENS**

A USAID-Sponsored Project in Collaboration with
The International Science and Technology Institute, Inc.

TABLE OF CONTENTS

- A. **PAUL ZUKIN**
The Indonesian Hospitals Study
Quality of Care and Production of Services

- B. **BLAINE RASMUSSEN**
Lecture:
Hospital Unit Costs:
Their Value and How They Relate to Each Component of the Health
Sector Financing Project
And
A Survey of Hospital Management Practices

- C. **CARL STEVENS**
Indonesia Health Sector Financing Project



HEALTH SECTOR FINANCING PROJECT

Ministry of Health
Republic of Indonesia

CONSULTANT REPORT SERIES

REPORT 22:

THE INDONESIAN HOSPITALS STUDY
QUALITY OF CARE AND PRODUCTION
OF SERVICES



A USAID-Sponsored Project in Collaboration with
The International Science and Technology Institute, Inc.

HEALTH SECTOR FINANCING PROJECT

MINISTRY OF HEALTH
REPUBLIC OF INDONESIA

REPORT 22:

THE INDONESIAN HOSPITALS STUDY
QUALITY OF CARE AND PRODUCTION
OF SERVICES

Author:

Paul Zukin, MD, MPH

July 1989

Prepared by:

International Science and Technology Institute
1129 29th Street, NW
Washington, DC 20036
Tel: (202) 785-0831
Telex: 272785 ISTI UR
Fax: (202) 223-3865

USAID Contract No. ANE-0354-C-00-8030-00

TABLE OF CONTENTS

- I. Introduction 1
- II. Quality of Care Issues and Problems 3
 - A. Options for Dealing with the Quality of Care
and the Setting of Standards Issue 6
- IV. Production of Services 9
 - B. Improving the Production of Hospital Based Health Services 9

I. INTRODUCTION

Between 24 June and 7 July 1989, W. Blaine Rasmussen, Carl M. Stevens and Paul Zukin served as a team of consultants to assist the Project Implementation Office for Hospitals to review and analyze the findings of a hospital diagnosis study in three provinces in Indonesia.

The scope of work called for the team to interpret the implications of the studies and to recommend options for potential interventions and reforms to improve the efficiency and effectiveness of hospitals and to increase cost recovery and reduce government subsidies to the country's hospital sector.

It had been anticipated that all of the study data would have been gathered, processed, analyzed and preliminarily interpreted by the two contractor groups which conducted the studies; and further, that all of this would be available in English, before the arrival of the team of consultants. Unfortunately this was only partially accomplished. The study in West Sumatra was largely complete but not fully analyzed nor all in English. The studies in Bali and East Java had produced only a large amount of raw data with no analysis and these data were not received by the consultant team until a short time before its recommendations were due.

The reports of the consultants were prepared individually. Collectively they do not fully respond to what had been desired but they do address many of the significant issues and problems impairing the Indonesian hospital sector.

Despite the fact that the present status of the studies is incomplete, a great deal of information has been assembled concerning the quality of care in hospitals, the management of hospitals and the process of care, and the unit costs of hospital operations and services. Further, some indication has been made of the ability of the population to pay for hospital care, at the present level and content of care, through some type of social financing mechanism. These subjects are addressed in the reports of the consultants, this report being primarily concerned with the quality of care and the production of services.

There are many ways to look at a service organization, its structure and functioning, the environmental factors that influence it and its subsystems or component parts. The attached Planning Pyramid exhibit is one way to graphically represent such an organization and is useful for the present discussion and for grouping related problems for analysis and resolution.

II. QUALITY OF CARE ISSUES AND PROBLEMS

The quality of care component of the Hospitals' Study examines and assesses a number of elements of hospital activity and patient care with the objective of recommending interventions and reforms in those areas which are found to be deficient. That quality of care in Indonesian hospitals is perceived as poor by the general population is suggested by the extremely low hospital utilization rates. However, this hypothesis is as yet unproven and requires further study.

In assessing the quality of care, the study protocol attempted to get some estimate of the adequacy of the hospitals' physical plant and equipment, including use and maintenance of these; the allocation, functioning and performance of staff; the appropriateness of admissions; average length of stay in general and for specific conditions and components of care; mortality and morbidity data; appraisal of various elements of care by exit interviews of inpatients and outpatients, hospital staff and members of the community served; and finally, by examining inpatient and outpatient medical records.

Although the data are incomplete and require further analysis and interpretation, several things stand out, as follows:

1. The ability of the hospitals to provide a reasonable level of care - this level yet to be established - is severely constrained by serious shortages of drugs and supplies and by the failure of available equipment to function properly, often because of lack of maintenance.
2. Although there are protocols for patient care and job descriptions available or posted in wards and special service areas, in many instances these do not relate to what is actually followed or to the care that is delivered. One is struck by the number of staff, particularly nursing, that just seem to be sitting.
3. A superficial appraisal of several hundred randomly selected medical records found that they generally contained some medical history, report of physical findings and had a diagnosis and some information regarding patient care. However, in the view of the consulting team, this appraisal does not adequately address the quality of care issue. A much better picture of the quality of care is provided by the in depth analysis of medical records by teams of specialists from the three Type B hospitals in the provinces studied.

These teams which were indoctrinated in the use of a medical record review form specially prepared for this Hospital Study, found that the quality of care as deduced from the majority of records reviewed was rated as poor or worse. Specifically, from these records, in most cases there was inadequate evidence to substantiate: (1) that the diagnosis made - if one was made at all - based on the medical history, physical examination and other diagnostic procedures, was rational, (2) that the therapy prescribed was rational and consistent with the diagnosis, (3) that the therapy was actually carried out as prescribed and (4) that

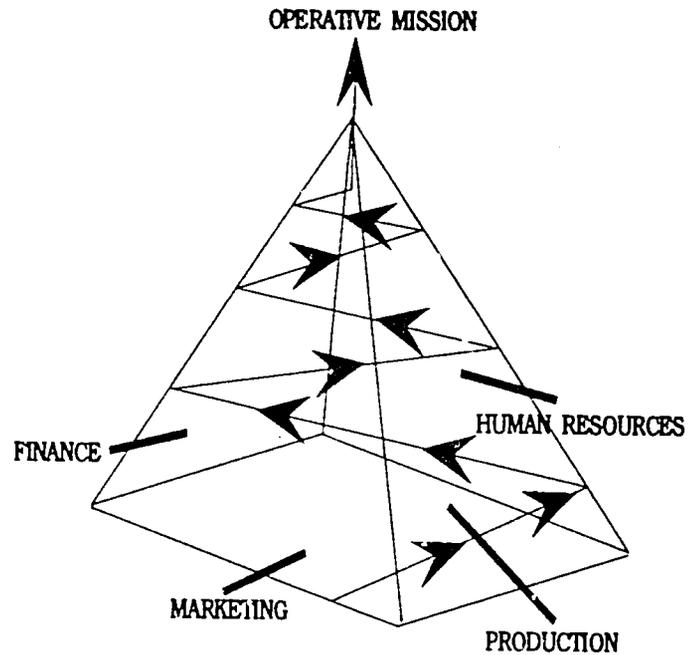
hospital services were used appropriately.

4. The conditions of service, particularly the low remuneration and incentives for physicians in government hospitals, reduces staff commitment. In the case of physicians, most have outside private practices to augment their government salaries and this causes inefficiency and conflicting demands. For example, the absentee rate for physicians in the R.S. Achmad Mochtar in Bukittinggi was reported at 46 percent. This was cited as the main cause for the extremely long average pre-operative hospitalization for elective hernia repair of 9.35 days.
5. Existing government regulations and policies, for example, limiting revenue retention by hospitals, seriously constrain hospital administrators to manage their hospitals efficiently and effectively. Further, there are no incentives to stimulate the performance of hospital staff.
6. Few of the hospitals studied have even rudimentary mechanisms to set quality of care standards and to monitor care and hospital operations in general. Parenthetically, mechanisms that could accomplish these objectives include committees of hospital staff to review: general patient care; hospital utilization; admission criteria; pre and post operative care; hospital-related morbidity and mortality, nosocomial infections; equipment need and maintenance; drug needs and utilization; etc. Related to all of this is the matter of continuing education, in service training and staff development, etc.

Turning now to the Planning Pyramid model, one can see that the quality of care issue cuts across essentially all aspects of hospital management and operations and is impacted on by various policy guidelines and environmental influences. The following discussion will deal primarily with the marketing and service production functions. Human resources, financial and policy and legal/regulatory aspects are addressed more in depth in the reports of other members of the consultant team.

- **The Marketing Function and Quality of Care Needs and Demands Assessment** - The needs and demands for health services and products as seen from the perspective of the health care professionals (both in the public and private sectors) and the population served have not been well established. These need to be specified and analyzed to a sufficient degree so that we can come to some conclusions as to whether or not the hospital sector is set up and functioning adequately - however adequacy is defined - i.e., from the stand point of government, health professionals, users, etc.; specifically, to what degree is the level or quality of care actually meeting perceived needs and demands.
- **Scope of Services and Products** - what are these now and how do they relate to the needs and demands? What is the process by which services and products are specified and selected; how are they monitored and reviewed for adequacy and appropriateness? How are the services arranged? How are they accessed by the users and what are the constraints on use or measures to increase utilization? All of this gets at the health system design, i.e., the role of the hospital and its

THE PLANNING PYRAMID¹



The Operative Mission -- What the organization can actually do -- the products and services to be provided to whom and under what circumstances, after a series of accommodations to the realities of the market, production, human resources, financial and environmental factors.

POLICY GUIDELINES AND ENVIRONMENTAL FACTORS

- Physical
- Socio-cultural
- Economic
- Legal Regulatory
- Technological
- Political

MARKETING

- Needs Assessment
- Scope of Services
- Promoting Services
- Price Impact

PRODUCTION

- Facilities
- Operations
- Maintenance
- Transport
- Communications
- Logistics

HUMAN RESOURCES

- Needs Assessment
- Staffing
- Training
- Staff Development
- Evaluation
- Conditions of Service

FINANCIAL

- Sources of Funds
- Capital
- Operating
- Use of Funds
- Control of Funds
- Budgeting

¹ Adapted from Adizes A. and Zukin P. "A Management Approach to Health Planning in Developing Countries." Health Care Management Review, Winter 1977, 19-28.

relation to other medical facilities and services and how these in turn impact on a specific hospital or health facility. Who and what health problems are referred to whom and by various hospitals or health services? What are the decision rules concerning referrals, and how are these established, coordinated and controlled.

The setting of standards of care, including the process of care delivery, has yet to be established and is fundamental to the hospitals project. The quality of care component of this project should lead to the development and acceptance of standards and how to monitor and control them. This in turn ultimately should result in reforms and interventions which will better meet needs and demands in a more cost-effective system.

- **Promoting Services** - These include such diverse activities as health education; community involvement; special disease campaigns; focus on high priority problems such as prenatal care, immunizations, diarrheal disease, etc.; customer satisfaction and how to enhance this, etc.
- **Price/Cost Impact** - The price or cost of services bears directly on their utilization or non-utilization. However who pays and how fees are collected and disbursed significantly impacts on the cost-utilization relationships. This subject is explored in depth in the section of the consultant team's report dealing with the ability of households to pay for medical care in government hospitals. A significant accomplishment of the Hospital Study has been the development of unit costs for various components of hospital based care at the present quality or level of care. It certainly is important to know what the present system costs but it is equally necessary to know what the gaps in the present system are (however these gaps are arrived at) and what it will cost to raise the current level of care to the quality or level desired and how to do this over what time frame, using what resources.

Options for Dealing with the Quality of Care and the Setting of Standards Issues

There are a considerable number of options or ways that quality of care assessment can be improved, standards set and assurance programs established. The following list undoubtedly is not complete and the use of more than one approach probably will be necessary.

1. Have committees established at the national and regional levels to accomplish this, geared to various levels and kinds of hospitals, public and private.
2. Establish a hospital accreditation entity, if one does not now exist, with representation from appropriate physician, hospital, university (faculties of medicine and health services administration), and government organizations.

3. Ministry of Health and Ministry of Home Affairs establish standards and mechanisms to enforce these standards.
4. Develop and strengthen quality assurance programs at the hospital level:
 - Establish committees to assess various aspects of patient care (these are standard in many health care systems), worldwide.
 - Expand the micro sampling of medical records utilizing specialists from Type B and teaching hospitals to assess care in smaller, geographically related facilities.
 - Expand in service training and continuing education.
5. Secure assistance from international organization (WHO, International Hospital Federation, etc.) and/or, send appropriate Indonesian health professionals abroad on study tours.
6. Establish training programs in Indonesian educational institutions.
7. Accept the status quo, i.e., that the present level of care is adequate and establish mechanisms to see that it does not diminish. This option undoubtedly is not acceptable.

Although the establishment of various committees to set quality standards are listed as options for consideration, in fact, the imposition of quality standards by any group that does not fully represent the combined wisdom and judgment of the health professionals actually involved in delivering patient care is to be avoided. For quality standards to be used effectively they must be agreed to by the users and there must be incentives for their use. (The Zukin/Rasmussen, April 1989 report, Appendices I, II and III, more fully address quality of care studies, quality assurance and evaluation and medical records).

Once quality guidelines have been established a mechanism must be put in place to keep the guidelines updated and to continuously monitor those hospitals subject to the guidelines. The mechanism may take the form of a commission comprised of a representative mix of hospital professionals. Whether this body would be empowered by government or the hospital industry is one of the issues that would need resolution.

III. PRODUCTION OF SERVICES

The production of health services involves detailed planning and implementation. It includes all of the activities that have to occur at the right time, place, rate and force to produce the desired services and products. To do this it is necessary to design, locate and operate facilities; properly arrange the facilities' components and patient flow; provide for maintenance of facilities and equipment; provide and maintain transport, communications and other infrastructure, stores, drugs and supplies; provide primary health care, curative services and other health programs. Although the present studies address some of the organizational and human resource aspects of producing services, there are significant areas yet to be investigated. Not at all clear is how the hospital goes about to produce its services; for example policies in respect of ward arrangements, clustering or separation of patients (in one hospital five patients with acute typhoid were in the same room with several patients with pneumonia), routines for diagnosis and treatment, and analysis of patient flow, both inpatient and outpatient.

Many of the hospitals assessed are said to have a variety of mechanisms in place, i.e., for maintenance of plant and equipment. However, direct observations make one seriously question the degree to which these activities are actually functioning.

The above notwithstanding, the studies, particularly the Binaman assessment of the hospitals in Bukittinggi, provide a wealth of information and insights into hospital operations, their strengths and weaknesses.

A. Improving the Production of Hospital Based Health Services

1. Building upon the data from the present studies, undertake a more detailed analysis of the process of care in the various hospitals to determine what is and is not done, the status of facilities and equipment, the skills needed to produce services and their actual functional availability, etc.
2. Develop realistic operational plans and controls. These are most successful when prepared with those actually involved and responsible for services delivery.
3. Research the basic management information needs in the context of what currently exists and what is a realistic, effective management information system geared to the operation and control of the hospital.
4. Review the logistics system for drugs and supplies, their procurement, storage, use and control and how this can be strengthened, even in the existing hospital environment.

5. Review the selection, procurement, operation and maintenance of hospital equipment, high tech vs. low tech, labor intensive vs. capital intensive, in the existing hospital environment and also for what would be a realistic desired level of care.
6. The previous report by Zukin and Rasmussen (April 1989) calls attention to the constraints in hospital care caused by non-functioning medical equipment. We emphasize again the importance of aggressively addressing the equipment maintenance problem and refer the reader to the report which details one comprehensive approach to hospital equipment management and maintenance. Although the approach described makes use of a personal computer, the important activities can also be carried out with a manual control system.



HEALTH SECTOR FINANCING PROJECT

Ministry of Health
Republic of Indonesia

CONSULTANT REPORT SERIES

REPORT 23:

LECTURE:

- PART I OVERVIEW
- PART II HOSPITAL UNIT COSTS:
THEIR VALUE AND HOW THEY
RELATE TO EACH COMPONENT OF
THE HEALTH SECTOR FINANCING
PROJECT
- PART III A SURVEY OF HOSPITAL
MANAGEMENT PRACTICES



HEALTH SECTOR FINANCING PROJECT

MINISTRY OF HEALTH
REPUBLIC OF INDONESIA

Author:

Blaine Rasmussen

Prepared by:

International Science and Technology Institute
1129 29th Street, NW
Washington, DC 20036
Tel: (202) 785-0831
Telex: 272785 ISTI UR
Fax: (202) 223-3865

USAID Contract No. ANE-0354-C-00-8030-00

TABLE OF CONTENTS

ACRONYMS	ii
INTRODUCTION	iii
PART I OVERVIEW	1
PART II HOSPITAL UNIT COSTS, THEIR VALUE AND HOW THEY RELATE TO EACH COMPONENT OF THE HEALTH SECTOR FINANCING PROJECT	5
A. INTRODUCTION	7
B. UNIT COST METHODOLOGY	9
C. UNIT COSTS -- ACCRUAL ACCOUNTING SYSTEM, NEXT STEPS	11
D. QUALITY OF CARE	13
E. ORGANIZATION AND MANAGEMENT	15
F. UNIT COSTS -- HEALTH SECTOR FINANCING AND THE ABILITY TO PAY	17
G. SUMMARY	19
PART III A SURVEY OF HOSPITAL MANAGEMENT PRACTICES	21

ACRONYMS

DEPKES	Ministry of Health
KANWIL	District Health Office
RSAM	Rumah Sakit Achmad Mochtar (class B hospital)
RSIS	Rumah Sakit Ibnu Sina (private Moslem hospital)
RSUD	Rumah Sakit Umum Daerah (province-owned hospital in Padang Jagong)
RSUP	Rumah Sakit Umum Pusat (centrally-owned hospital)

INTRODUCTION

This presentation was given to the Ministry of Health and other invited Indonesian Government officials and staff. Also present were International Science and Technology Institute, Inc. representatives. My presentation was given in conjunction with other team members, Dr. Paul Zukin and Professor Carl M. Stevens.

Our presentation responded to the assignment to review the reports generated by two local Indonesian contractors, PT Binaman Utama (Binaman) and Productivity and Quality Management Consultants (PQM). The review was conducted during the period June 23 through July 7, 1989. The review was somewhat compromised since the PQM report had not been fully compiled nor translated into English. However, from my view point, this was not a serious problem since I was familiar with their findings. I had worked closely with the two contractors earlier in the year helping them develop methodology and gather information at the various hospitals.

The presentation consisted of three parts:

1. Overview
2. Hospital Unit Costs, Their Value and How They Relate to Each Component of the Health Sector Financing Project
3. A Survey of Hospital Management Practices

PART I:

OVERVIEW

OVERVIEW

PART I

The general objective of this project is to improve access to health care by the people of Indonesia, and more particularly to enhance the prospects of child survival. A key element to this project is the necessity to improve hospital efficiency and cost recovery and thus be able to divert funds to the child survival program. All this is to be accomplished in an equitable manner with special attention given to those at the lower end of the economic spectrum.

The focus of this project is on hospitals. Other health care projects (primary care - puskesmas, health sector financing, pharmaceuticals, etc.) are being handled separately.

The Binaman Progress Report dated June 24, 1989 presented much evidence that the government hospitals studied in the Bukittinggi area were poorly managed. This resulted in low morale and productivity, and lost revenue which negatively impacted quality of care. The evidence consisted of both subjective and objective data; surveys of government hospital managers to gain their opinions supported by statistical information. The evidence consistently indicated that government constraints at the national and local levels was the main problem. The constraints had effectively stifled hospital management initiative and created a mis-match of facility, man-power, drugs and equipment.

The findings of the Binaman Report are not surprising. Many of the findings were previously recognized in other reports and by individual observation. The real impact of the Binaman report is that, for the first time, hospital deficiencies are documented leaving little doubt that major changes, even structural changes, are needed.

The question now arises as to the next steps. Summarized below are some steps to consider:

1. **"Analysis paralysis"** which usually follows a report of this nature should be avoided. Little benefit would be gained from further study and analysis of the Binaman data. The data speaks for itself. Further study would only divert energy and resources away from the immediate and fundamental task of effecting structural change. The report itemizes more problems than can be effectively addressed so care should be given to address the important structural issues first.
2. **The number one structural issue is the need to decentralize the government hospital system and place hospital managers at risk for their actions and decisions.** A system of incentives would accompany decentralization to reward physicians, managers and staff according to

performance. Unless this structural change is made, improvements to hospital operations, cost recovery and quality of care will be marginal at best. Numerous examples from around the world could be cited regarding the shortcomings of central control and the debilitating effect it has on efficiency and human initiative.

A determination should be made regarding legal and other constraints which must be overcome in order to effect the necessary organizational changes.

3. **Associated with structural issue number one is the need to integrate primary care (puskesmas) and secondary care (hospitals) into a single health care delivery system.** Medical procedures are increasingly being provided in an outpatient setting and referral patterns and treatments must be integrated in order to achieve operational efficiency. Keeping primary and secondary care systems separate for planning and operational purposes will unnecessarily compete for scarce resources and encourage expensive redundancy.

Presumably, at least some of the expanded child survival program will be provided using both primary and secondary care facilities. This is another reason that primary and secondary care should be integrated in order to achieve greater operational efficiency.

4. **A modern accrual accounting system should be developed concurrent with the restructuring of the health care organization.** The new organization will require an accounting and cost system that will provide necessary management information. Such an accounting system would serve two other vital functions:

- a. **Provide the Health Sector Financing Project with unit cost information for the development of health insurance rates and premiums.**

Central to the Health Sector Financing project is the social issue, ability to pay. Should upper income members of society be called upon to subsidize the people having lower incomes? Unit costs will be important to the policy makers when they begin to sort out these types of issues.

- b. **Quality of care and unit costs are directly related.** Unit costs by themselves can be misleading. In order for unit costs to have meaning, they must be related to the quality or level of care being provided. Conversely, it makes little sense to discuss quality or level of care without asking the question, "at what cost".

Quality of care, and the necessity to address this issue is discussed

in more detail in the report "Hospital Unit Costs, Their Value and How They Relate to each Component of the Health Sector Financing Project."

5. **Elasticity of demand is one of the great unknowns in the Indonesian health care equation.** It has the real possibility of defeating one of the key objectives of the project; transferring some hospital resources to the child survival program. The relationship between hospital utilization, quality of care and price (tariffs) needs to be determined. These relationships will have an important bearing on the ability of hospitals to provide needed services at an affordable cost. History in other countries has shown that an improvement in quality in a heavily subsidized system can substantially increase the demand for hospital services. This is particularly pertinent to Indonesia which has one of the lowest hospital utilization rates of any country.

Because utilization rates are extremely low, there is a potential for much higher demand for hospital services should quality of care improve and prices remain low. In this instance, the government could be overwhelmed by soaring demand resulting in increased costs rather than the surplus which is contemplated when reforms are instituted.

6. **To effectively implement the above changes, existing hospital managers would have to be retrained, perhaps in overseas schools, and/or new managers recruited.**

To summarize, it is hoped that a concerted effort can be mounted and sustained to the extent necessary to implement the needed structural changes. Once a decentralized organizational structure and associated systems are put in place, there will be a basic framework upon which to support and sustain the other programs and changes that will be necessary to implement the project goals. To this end, the immediate task will be to plan and construct the basic framework in an orderly fashion. The components of the framework need not be developed in a linear fashion but should be developed concurrently. Early development of the framework will be important to the success of this endeavor.

PART II:

**HOSPITAL UNIT COSTS
THEIR VALUE AND HOW THEY RELATE TO
EACH COMPONENT OF THE HEALTH SECTOR
FINANCING PROJECT**

A. INTRODUCTION

For managers and decision makers everywhere, there is no more important question than, "how much does it cost?" Wherever there are scarce resources and alternatives from which to choose, the question demands an answer.

With this in mind, it is important to report that the hospital project has developed a working model for determining unit costs for hospitals in Indonesia. The model was tested in twelve (12) hospitals, in three (3) provinces, West Sumatra, East Java and Bali. The remainder of this section will be concerned with explaining the significance of this achievement and what it portends for the future. Before doing so, however, a brief description will be given regarding the unit cost methodology and what further steps should be taken.

B. UNIT COST METHODOLOGY

Five steps were undertaken to identify total costs and unit costs for hospital departments.

First, routine expenditures for the 1988 fiscal year were undertaken from data available in the hospital reports.

Second, nineteen departments were identified for purposes of cost allocation and calculation of unit costs. These departments were separated into six (6) indirect service (non-revenue producing) departments and thirteen (13) direct service (revenue producing) departments. The nursing wards were further broken down into classes, thus increasing direct cost centers to a total of twenty two (22).

Third, line item expenses were assigned as appropriate to the various hospital departments. The figures were adjusted to include "imputed" costs (costs incurred by the hospital but not included in their expenditure reports); i.e., pharmaceuticals purchased by patients in outside apotiks when hospitals experienced stock outs, etc.

Fourth, the costs of the indirect or non-revenue producing departments were spread across direct service or revenue producing departments through a step-down procedure. This was done in two ways, including and excluding depreciation in the cost calculation.

Fifth, the total (direct and indirect) costs of the direct service departments were divided by each department's service volume (unit of measure) in order to calculate the cost per unit of service.

C. UNIT COSTS - ACCRUAL ACCOUNTING SYSTEM, NEXT STEPS

This project has developed a unit cost model and demonstrated the value of the information it produced. Because there was no accrual accounting system, many assumptions and reconstruction of data were necessary in order to develop the unit costs. This was a time consuming and laborious process and the quality and comparability of the data was compromised accordingly.

While the development of the unit cost model produced valuable insights, it is only a first step. For unit cost and other types of financial information to be useful in the management of hospitals, the information must be uniform for all hospitals and be produced on a timely and routine basis. This can only be accomplished by the development and implementation of an accrual accounting system. With such a system, revenues, expenses and the consumption of services and materials can be properly assigned to the period in which they occur. Thus, they can be accurately measured, analyzed and compared.

D. QUALITY OF CARE

Unit costs in Bukittinggi indicated that for 2nd class nursing wards, RSAM hospital had a unit cost per patient day of Rp.16, 704, RSUP Rp.17, 198, RSUD Rp.9,178 and RSIS Rp.14,356. Does this necessarily mean that RSUD, the lowest cost provider at 9,178 Rp. is the most efficient? Of course not.

The point of the example is unit costs by themselves can be misleading. In order for unit costs to have meaning, they must be related to the quality or level of care being provided. Conversely, it makes little sense to discuss quality or level of care without asking the question, "at what cost?".

To address the intrinsic interdependence of quality and cost, a standard or guidelines must be established from which other hospitals being studied can be compared. To establish a standard or guideline there are at least three (3) options to consider.

Option 1. Identify a well managed hospital (presumably a private hospital) which provides a level of care that is considered to be reasonable and acceptable. The various services comprising this reasonable level of care (physician, nursing, lab, radiology, pharmaceuticals, housekeeping, dietary and other services) would be quantified or otherwise described. Unit costs would then be calculated to answer the question, "quality at what cost?". Having quantified or described both quality and unit costs, this model could be used as a standard by which other hospitals could be compared.

Option 2. A representative group of health care professionals would develop a set of hospital quality of care guidelines appropriate for hospitals in Indonesia. Unit costs would be calculated to answer the question, "quality at what cost?". This model, as in Option 1 could be used as a standard or guideline by which other hospitals could be compared.

Either of these options could form the framework for addressing the quality/cost relationship and arriving at what is appropriate for the various catchment areas in Indonesia.

Option 3. This option could be entitled, status quo. It would assume that the quality/cost relationship as now constituted for Indonesian hospitals is acceptable. This option would not meet the project objective of increasing the efficiency of hospitals.

E. ORGANIZATION AND MANAGEMENT

A common misconception is that cost and economic indicators associated with "good management" in the private sector are not relevant in a non-profit or government environment. This notion should be dispelled. While it may be more difficult to provide an atmosphere in the government sector where "good" management can be practiced, it is nonetheless desirable and possible. For instance, in the management of hospitals, it is equally important for a government hospital administrator to know the costs of services being provided as for a private administrator. This is particularly true when considering the government objective of reducing subsidies to hospitals.

The following tables are examples of how unit cost information can be used to increase the efficiency of hospital operations. (Please note, the reader should be aware that the data in the following tables has not been verified or analyzed and is meant for illustration purposes only).

Department	Unit of Measure	Total Units	Tariff Schedule Rp.	Revenue (000 Rp.)		
				Potential	Actual	Difference
Outpatient Clinic	Patient Visit	113,964	350	39,887	29,176	10,771
Emergency Clinic	Patient Visit	4,929	1,500	7,394	2,229	5,165
Nursing Wards	Patient Visit			68,343	67,613	730
VIP	Patient Visit	347	10,000	3,470		
1st Class	Patient Visit	1,016	5,000	5,080		
2nd Class	Patient Visit	15,291	2,500	38,228		
3rd Class	Patient Visit	21,565	1,000	21,565		
OB GYN	Patient Visit			14,400	8,235	6,171
2nd class	Patient Visit	2,490	2,500	6,225		
3rd Class	Patient Visit	8,181	1,000	8,810		
Laboratory	Procedures			47,462	22,800	24,662
Sophisticated	Procedures	1,650	8,500	14,025		
Medium	Procedures	3,976	1,300	5,157		
Minor	Procedures	80,799	350	28,280		
Radiology	Procedures			16,501	11,233	5,268
Sophisticated	Procedures	206	15,000	3,090		
Medium	Procedures	175	3,000	525		
Minor	Procedures	6,443	2,000	12,886		

The above schedule indicates that a substantial amount of tariff is not being collected. Knowing this, a hospital administrator can take corrective action.

Another important use for unit costs is illustrated by the following table.

Comparison of Charges (Tariffs)
Vs. Unit costs
RSAM Hospital Bukittinggi

Department	Tariff Schedule Rp.	Unit Cost Rp.	Gov't Subsidy %
Outpatient Clinics	350	5,990	94
Emergency Clinics	1,500	21,527	93
Nursing Wards			
• VIP	10,000	27,456	64
• 1st Class	5,000	20,682	76
• 2nd Class	2,500	16,704	85
• 3rd Class	1,000	15,549	94
ICU/CCU	2,500	221,186	99
OB GYN			
• 2nd Class	2,500	13,204	81
• 3rd Class	1,000	11,744	91
LABORATORY			
• Sophisticated	7,830	23,834	67
• Medium	1,300	18,079	93
• Minor	300	894	66
RADIOLOGY			
• Sophisticated	15,000	31,514	52
• Medium	3,000	10,505	71
• Minor	2,000	5,252	62

The above example illustrates the magnitude of government subsidy. This type of information will be necessary input in achieving the objective of reducing and managing the government subsidy.

29

F. UNIT COSTS - HEALTH SECTOR FINANCING AND THE ABILITY TO PAY

It is clear that both the hospital and health sector financing (insurance) projects have need for unit costs. Hospitals need unit cost information in order to manage their operations efficiently and to effectively reduce government subsidies. The health sector financing project is dependent upon hospital unit cost information for the development of health insurance rates and premiums.

Central to the health sector financing project is the social issue, ability to pay. Should upper income members of society receive government subsidy, should they pay an amount equal to unit cost or should they be called upon to subsidize the people having lower incomes? Unit costs will be helpful to the policy makers when sorting out these types of issues.

G. SUMMARY

Each component of the Health Sector Finance Project has need for unit cost and other financial information. A unit cost model has been developed which is an important step towards being able to provide this information. However, it should be emphasized that this is only a first step and much more is needed before unit cost information will be available for general use.

A sustained program will be necessary to transform unit costs from a special study mode to an ongoing operating system. The first step in this process should be the development and implementation of an accrual accounting system. Having this, unit costs and other financial information can be produced on a consistent and timely basis to satisfy the needs of all users. Unless basic financial management information, including unit costs, can be provided in this manner, it is unlikely that the several hospital sector projects discussed above can be implemented and managed effectively.

PART III:

**A SURVEY OF HOSPITAL MANAGEMENT
PRACTICES**

The two contractors made a rather exhaustive tabulation in the three provinces of management systems and capacities. By almost any standard the results indicated that management practices in the nine government hospitals studied were poor. Many reasons were given but the reasons all had a common thread, central control. Central control has effectively brought to a halt any semblance of local hospital management and initiative and created a massive mismatch of facilities, manpower, pharmaceuticals and equipment.

This condition should come as no surprise. For instance, the paper written some two years ago outlining this project on page 18 states:

A substantial body of evidence exists which documents hospital inefficiency, however, the reasons are less clear. Several causes can be deduced: over staffing, absence of appropriate management and information systems, and inadequate training. There may be less apparent impediments to efficient performance such as restrictive regulations, lack of discretionary budget resources, or no effective incentive structure.

At the macro level, the shortcomings of central control and the debilitating effect it has on efficiency is well documented by many countries around the world.

The following examples of conditions resulting from central control are taken from the contractor's report covering West Sumatra.

... several of the indicators used to evaluate management performance are wholly or partially outside the control of the hospital managers themselves (page 10).

Although hospital directors acknowledged problems with respect to the unclear delineation of authority and responsibility within the hospitals, little was actively being done to investigate further or develop a structure and division of tasks that was more appropriate because of the constraints imposed by the existence of the government standard. (Page 11).

A lack of adequately trained staff, both in terms of the number and type of employees and in the skill levels of existing employees seems to be one of the most fundamental problems facing the managers of the hospitals studied. (Page 21).

In addition to reflecting the extent to which the needs of the hospital are not met by the government, the number of volunteer staff is, in fact, a reflection of the extent to which the community, in fact, subsidizes the government by providing it with free labor. (Page 21).

High usage of volunteer staff also has implications with respect to the skill level of the employees. It can be safely assumed that the skill level of volunteer staff will be lower, as will the level of motivation and job satisfaction, as compared with full time, salaried employees. (Page 21).

All hospitals show deficiencies in the number of staff required at the higher educational levels. (Page 25).

The most common reason cited for inadequate staffing was the inability of the government to provide the appropriate number and type of employee. (Page 25).

The fact that the government tends to provide more medical than non-medical staff, forced management to transfer senior paramedics to administrative positions (e.g. Head of Secretariat and Head of Planning and Reporting).

... RSAM urgently needs skilled and experienced managers, especially for administrative functions. The education and qualifications in this area is considered poor. (Page 28).

DEPKES has sent staff that were not requested or needed. (Page 29).

Perhaps the most fundamental cause of the current problem with respect to manpower provisions ... is the lack of coordination between the type and qualification of manpower provided and the type of facilities and equipment provided. An example of this is the fact that RSUD has operating facilities and equipment that cannot be used as it has no surgeon. This lack of coordination can, at times, be attributed to the fact, that there are separate routine and development budgets - manpower allowances are often included in the routine budget allocations, whereas facilities development is done through the development budgets. This lack of coordination also results from the fact that often approval of facilities is done by separate and unrelated governmental authorities from those that make the manpower decisions. (Page 30).

Any assessment of needs was done in relation to the standard established by the government regarding class of hospital and number and education of staff. Local demand for services of a given quality or type was not considered. (Page 32).

For the most part, the top management of the government hospitals did not feel a need to have a detailed development of expansion program as this was beyond their control. (Page 32).

This Director is in the opinion that the government's role in hospital operation is so big that planning beyond fulfilling government's request is useless. (Page 38).

RSUP does not make the effort to prepare the 5-year plans as requested knowing the KANWIL is at the moment preparing the plan for all hospitals in the area. (Page 38).

A common reason given by managers for a lack of planning beyond that required by the government was that they are too dependent of the government to make planning independently of any use. (Page 40).

The above direct quotes taken from the contractor and hospital managers working in the government hospitals are eloquently spoken, consistent and to the point. Many statistical tables based on questionnaires substantiate their statements.

Much could be written on the management deficiencies in the individual hospitals but this would only confuse and dilute the overarching issue, central control. Until this issue is addressed, improvements to local hospital management systems and managerial capacities will be marginal at best.

To prepare hospital managers for the day they will be at risk for the success or failure of the hospitals they govern, two additional programs must be developed.

1. Management Education and Training. Interventions to educate and train a new generation of hospital administrators in the practice of management and finance, perhaps in overseas schools, may be desirable, and
2. Management Information. As discussed earlier, a management information system must be developed capable of producing at least basic financial and management information.

Summary

In the broadest sense, success in the hospital component of the Health Sector Financing Project will be realized to the extent the following key factors are implemented:

1. Decentralization of the decision making and management function.
2. Management training.
3. Management information.



HEALTH SECTOR FINANCING PROJECT

Ministry of Health
Republic of Indonesia

CONSULTANT REPORT SERIES

REPORT 24:

INDONESIA HEALTH SECTOR
FINANCING PROJECT



A USAID-Sponsored Project in Collaboration with
The International Science and Technology Institute, Inc.

HEALTH SECTOR FINANCING PROJECT

MINISTRY OF HEALTH
REPUBLIC OF INDONESIA

REPORT 24:

INDONESIA HEALTH SECTOR
FINANCING PROJECT

Author:

Carl M. Stevens

July 1989

Prepared by:

International Science and Technology Institute
1129 29th Street, NW
Washington, DC 20036
Tel: (202) 785-0831
Telex: 272785 ISTI UR
Fax: (202) 223-3865

USAID Contract No. ANE-0354-C-00-8030-00

Contents

INTRODUCTION	iii
SECTION I: THE ABILITY OF HOUSEHOLDS (HHs) TO PAY FOR MEDICAL CARE PROVIDED BY GOVERNMENT FACILITIES AND THE ROLE OF SOCIAL FINANCING OF THE DEMAND FOR SUCH CARE	1
Introduction	1
The Ability of HHs to Pay for Inpatient Care at Current User-Charge (Fee) Rates	1
The Advantages and Risks of Social Financing of the Demand for Care Provided by Government Hospitals Given Prevailing Charges	4
The Ability of HHs to Pay for Inpatient Care at Charges by Government Hospitals High Enough to Result in a Reduction in Government Subsidies	4
SECTION II: HOSPITAL SECTOR ORGANIZATION AND MANAGEMENT: THE QUESTION OF EFFICIENCY	9
Introduction	9
The Problems of Too Many Problems	10
Problems Which are Obstacles to More Efficient Performance of Government Hospitals	11
Shortages of Skilled staff	11
Employee Incentive System in Government Hospitals is not Effective	11
Lack of Strategic Forward Planning	11
Monitoring and Control Processes	12
Development of Qualified Staff in the Hospitals	13
There is no Effective System to Monitor	13
The Question of Intervention Options to Address Management Problems: Introduction	13

SECTION III:	INTERVENTION OPTIONS TO ACHIEVE THE	
	OBJECTIVES OF THE HEALTH SECTOR FINANCING	
	(HSF) PROJECT	15
	
A Hospital Organization Format to Promote Efficiency	.....	16
Incentives	.....	16
Authority	.....	17
Resources	.....	19
Implementing the Model System: First Steps	.....	24
Evaluation of These First Steps	.....	26

10

INTRODUCTION

This Report has been informed by observations made during a trip to Indonesia June 23, 1989 - July 10, 1989. The author was part of a team including Dr. Paul Zukin and Blaine Rasmussen. Our assigned tasks were partitioned in such a way that it proved most feasible for each of us to generate his own report.

Generally speaking, the team was to review reports which had been produced by two Indonesian management-consulting firms on selected hospitals--three clusters of three government and one private hospital each in three provinces. This review was to determine what important problems and issues for the performance of the hospital-services sector were set out in these reports and to suggest possible interventions which would be responsive to these problems and issues.

This report consists of three sections:

- I: The Ability of Households to Pay for Medical Care Provided by Government Facilities and the Role of Social Financing of the Demand for Such Care**
- II: Hospital Sector Organization and Management: The Question of Efficiency**
- III: Intervention Options to Achieve the Objectives of the Health Sector Financing (HSF) Project**

SECTION I: THE ABILITY OF HOUSEHOLDS (HHs) TO PAY FOR MEDICAL CARE PROVIDED BY GOVERNMENT FACILITIES AND THE ROLE OF SOCIAL FINANCING OF THE DEMAND FOR SUCH CARE

Introduction

An objective of the hospital component of the HSF Project is to contribute to institutional developments such that government hospitals will recover a larger share of their costs than is now the case so that government subsidies to the hospitals can be reduced. To realize this objective will require (among other things) an increase in the fees (user charges) charged for services provided by these facilities. At the same time, however, the Government of Indonesia (GOI) wants to achieve equity in this domain such that the burden of supporting the nation's health care system is fairly distributed among the individuals and HHs to be served by the health-care system. Consequently, the issue (problem) of the ability of HHs to pay for services within the constraints imposed by equity considerations becomes very important for developing appropriate project interventions. In what follows here, we summarize some of the implications of some findings reported by the consultant firms who conducted studies of government and private hospitals in three provinces--Bali, West Sumatra and East Java.¹

The Ability of HHs to Pay for Inpatient Care at Current User-Charge (Fee) Rates

Table I (below) assembles some findings from the PQM Bali study. Column (5) of this table reports average expenditure by HH income class for an episode of inpatient care in the three government hospitals included in the Bali study. Column (3) of this table reports discretionary income per month by HH income class, defined as the excess of HH monthly income over HH monthly expenditure for food.²

¹These firms were P.T. Binaman (for West Sumatra) and PQM Consultants for Bali and East Java. In this initial analysis, we do not attempt a comprehensive review of the findings of these consultant reports. Rather, we selectively review some findings and attempt to put them into a conceptual framework such that they will inform judgments about ability to pay. The provision of such a conceptual framework (which may be used for additional findings and by other investigators) is one purpose of this initial analysis.

²It may, of course, be argued that since HHs must make expenditures in addition to those for food, the income excess reported in Column (3) cannot be regarded as genuinely discretionary income. These figures (reported by PQM) are used here for general illustrative purposes.

PQM Bali data/N 130 inpatients/3 government hospitals

TABLE I

	(1)	(2)	(3)	(4)	(5) ³	(6)
Average Household Income Classes	Income Rp. Month	Expenditure for Food Rp. Month	Discretionary Income (1)-(2)	HH Income per Year Rp. 000s	Expenditure per episode of Care	Out-of-Pocket Burden (5)/(3)
Lowest 40.0%	83,000	68,000	15,000	996	50,000	3.3
Nex 40.0%	138,000	94,000	43,000	1,656	126,000	2.9
Highest 20.0%	207,000	92,000	115,000	2,484	144,000	1.25

Source : Adapted from PQM Table E.3.1 with entries rounded to the nearest Rs. 000.

These findings suggest a problem for plans to enhance rates of cost recovery in the public hospital sector--namely, expenditures for an episode of inpatient care at prevailing rates (which fall far short of the levels necessary to reduce government subsidies) are quite high relative to household discretionary income. Column (6) of Table I reports the burden of these expenditures by showing average expenditure for an episode of care as a multiple of HH monthly discretionary income. For example, for those HHs in the lowest 40.0 percent of HHs by income class, paying for an episode of care would require 3.3 month's worth of discretionary income.

It seems clear that if these HHs were attempting to finance their demand for care by making out-of-pocket payments (cash payments), they would confront a serious financing problem which might well put their access to needed care at risk. For the most part in Indonesia, HHs do finance their demand for care by out-of-pocket payments. These findings suggest that, with this mode of financing demand for care, the cost to consumers of care even at present modest levels of cost recovery in the government hospitals, might well result in a significant barrier to access to care.

However, it is very important to stress at this point that with social financing (rather than out-of-pocket financing) of the demand for this care, the picture is quite different. Table II (following page) reports the insurance-premium cost, under various assumptions, to finance demand for inpatient hospital care at expenditure rates reported in Table I. In this table, the burden (Column (3)) is measured as the ratio of the insurance premium to HH income. As can be seen, the "burden" measured in this way is very modest, from 0.25 percent to 0.38 percent of HH income depending on HH income class.

³Includes both Column (4) expenditure for hospital stay and Column (6) previsit expenditure.

TABLE II

THE PREMIUM COST (UNDER VARIOUS ASSUMPTIONS) TO FINANCE DEMAND FOR INPATIENT HOSPITAL CARE AT EXPENDITURE RATES REPORTED IN TABLE I:

	(1)	(2)	(3)
Income Class	Annual Household Income Rp. 000s	Annual Insurance Premiums	Burden (2)/(1)
Lowest 40.0%	966	2,500	0.25%
Next 40.0%	1,656	6,310	0.38%
Highest 20.0%	2,484	7,200	0.29%

This table assumes that there is a 0.01 chance of an individual having an episode of care at the expenditure rates reported in Table I (this probability reported by PQM spokesman). This means, for example, that for, say, an individual in the lowest 40.0 percent, the expected cost of inpatient care in any year is about Rp. 500/- (i.e., Rp. 50,000 X 0.01). Put another way--neglecting administrative costs, a premium payment of Rs. 500/- on behalf of each of 100 beneficiaries would create an insurance fund of Rp. 50,000, enough to defray the cost of the one episode of care per year expected to be generated by this group of beneficiaries. (And so on for the other income groups.) If we assume an average of five persons per household, the annual premium for the lowest 40.0 percent HHs would be Rp. 2,5000, or about 0.25 percent of HH income.

The findings reported foregoing are, of course, based upon a very small sample, they cannot be represented as statistically reliable measures of central tendencies in this domain.⁴ It should be noted, however, that these findings are very similar to findings reported earlier in a study that examined the implications for ability to pay for the user charges prevailing in the twelve Central Government hospitals. There it was found that the cost of an episode of inpatient hospital care would amount to more than one month's income for about 40.0 percent of HHs in the rural areas and about 9.0 percent of HHs in urban areas. And, as in this case, the picture under social financing was very different. The insurance premium necessary to create a fund to cover these expenditures was calculated to be more than 1.0 percent of HH expenditures for only about 9.0 percent of the rural population and virtually none of the urban population.⁵

⁴As was appropriate for the purposes intended, the P.T. Binaman and PQM reports adopted a case-study methodology. That is, these studies were not based on probability samples intended to yield findings of some predetermined precision and reliability. In our report discussing the implications of these findings, we regard them as exemplary--helping in this way to inform judgments and as suggesting testable hypotheses.

⁵See Carl M. Stevens and Arie Doodoh, "Increasing the Efficiency of Health Services in Indonesia: A Key Strategy for Child Survival," USAID, Jakarta, September 1986, pp. 38 and 39.

The Advantages and Risks of Social Financing of the Demand for Care Provided by Government Hospitals Given Prevailing Charges

There has been much discussion of the very low Bed Occupancy Rates (BORs) prevailing in the government hospital sector. The findings reported above suggest one factor that may be part of the explanation. As long as most of the demand for hospital services is financed by out-of-pocket payments, prevailing charges, modest though they may be in light of cost-recovery goals, may pose a bar to access for many people. A potential advantage of more social financing of the demand for care provided by government hospitals at prevailing charges is that it might well increase access to care and increase BORs. There are problems however. At least measured against the full cost of producing services, prevailing charges entail substantial government subsidies for virtually all categories of care produced by these facilities--under these circumstances, increasing access and increasing BORs might well end up increasing rather than decreasing government subsidies to the hospital sector. We say might do this because it is not necessary that charges cover full costs of production of services in order to reduce subsidies. For this purpose, it is only necessary that the marginal revenue (the addition to total revenue) from services marketed be greater than the marginal cost (the addition to total cost) incurred by the production of these services. Do prevailing charges cover marginal cost of services? What charges would be necessary to cover these costs? To cover total costs? And what would be the implications of any such charges for ability to pay?

It was pursuant to answering these kinds of important questions that the P.T. Binaman and PQM studies addressed the matter of costs for the hospitals included in case studies. We now turn to these matters.

The ability of HHs to Pay for Inpatient Care at Charges by Government Hospitals High Enough to Result in a Reduction in Government Subsidies

Table III (following page) exhibits some cost data for the three government hospitals included in the Binaman West Sumatra study. Table IV (following) exhibits the insurance premium per beneficiary per month required under various assumptions to defray inpatient hospital costs. And Table V (following) exhibits the percentage distribution of the population in Indonesia by monthly per capita expenditure class for 1987.

The information contained in these tables (which are pretty much self-explanatory) can be used in various ways to inform judgments about ability to pay and about the feasibility of cost recovery insofar as constraints that might be imposed by ability-to-pay-related equity considerations are concerned.

Before turning to a few examples, it may be helpful to provide some definition of the concept of ability-to-pay as we use it in this context. As we use the term here, there is no absolute standard for ability-to-pay. The concept is defined in terms of distributional

equity. A HH may be said (for public-policy purposes) to have the ability to pay health-care fees at some given level if, in light of the HH's income, the economic burden imposed by paying fees at this given level is regarded as appropriate or fair--i.e., as not imposing too heavy a burden. Criteria commonly adopted in this context are put in terms of percentages of income to be paid for health care. Thus, HHs below a certain income level may be regarded as medically indigent such that they are not expected to pay anything.

For households at a somewhat higher level of income, an economic burden of, say, 2.0 percent of income for health care might be regarded as fair, and for higher incomes, perhaps larger percentage burdens. Under this kind of scheme, the charges are what is known as income-related--the poorest HHs are entitled to free care and above that level the well-off may pay more than the not-so-well off, etc.⁶

Obviously, what income-related charges for health care are to be regarded as complying with ability-to-pay criteria must be determined by the public-policy makers in Indonesia. What we can do in this report is to provide some examples which show the implications of various levels of charges, both for degree of cost recovery and for economic burden on consumers, and in this way may help to inform the thinking of the policy makers. For example, looking at Table IV, we learn that the insurance premium necessary to provide benefits to cover the full cost of inpatient services provided by RSAM comes to Rp 212/-per beneficiary per month. Looking at Table V, we find that this would come to about 2.0 percent or less (at higher incomes, of course, very much less) for about 90.0 percent of HHs in Indonesia. This kind of example suggests that it may well be feasible to come up with user-charge schemes which will reduce government subsidies to hospitals and still be consistent with achieving equity. The reader may try various other combinations of costs and HH income levels. And, of course, the hospital cost data should be assembled in this way for the hospitals included in the Bali and East Java studies. And, more of these data should be collected in the field to get a better measure of what are the central tendencies and distribution of costs throughout the system.

⁶This is not the place to attempt to spell out such a scheme in operational detail nor to engage the issue of just how such a scheme might in practice be implemented. This discussion is intended just to make the concept of "ability to pay" more definite than it might otherwise be.

TABLE III

BINAMAN STUDY/WEST SUMATRA/THREE GOVERNMENT HOSPITALS

Hospital	Class	Beds	BOR	Patient Days/Year
RSAM	B	436	51.0%	80,400
RSUP	C	68	57.0%	12,616
RSUD	D	62	41.0%	9,345

COST CATEGORY		RSAM	RSUP	RSUD
		Rp. 000,000		
TOTAL COST		2,065.8	524.8	200.1
Depreciation		215.8	100.5	23.7
Administration		245.8	113.6	27.0
Maintenance		155.9	46.0	4.6
OPD		606.0	116.6	65.3
ER		82.0	5.4	17.0

COST PER PATIENT DAY		Rp.		
Total Inpatient Cost ⁶		17,000	32,000	12,600
Variable Cost ⁷		10,000	11,600	6,800

Note: For present purposes, we would prefer a measure of the marginal cost of producing these services, but this information is not readily available from the study tables from which this table has been adapted. Variable cost as reported here might be regarded as a rough proxy for marginal cost. It measures average variable cost at prevailing rates of capacity utilization. But there is considerable excess capacity in these facilities overall and perhaps in some of the individual service activities such that, over some range, increased output might be secured without increased (budgeted) input. Another way to put this point is that some of the inputs usually assigned to variable costs, e.g., labor provided by various categories of health manpower, may, given budgeting procedures, be more in the nature of fixed costs.

⁷Total cost less OPD and ER.

⁶Total cost less administration, depreciation, maintenance, and the non-depreciation share of OPD and ER.

TABLE IV
INSURANCE PREMIUM PER BENEFICIARY PER MONTH REQUIRED UNDER
VARIOUS ASSUMPTIONS TO DEFRAY INPATIENT HOSPITAL COSTS⁹
PREMIUM FOR BENEFIT TO COVER

	RSAM	RSUP	RSUD
	Rp.		
Variable Cost	125	145	85
1.5. X Variable Cost	190	218	128
Total Cost	212	400	158

TABLE V
PERCENTAGE DISTRIBUTION OF POPULATION BY MONTHLY PER CAPITA
EXPENDITURE CLASS
1987

Monthly Per Capita Expenditure (Rp.)	Rural	Urban	Rural and Urban
Less than 6,000	0.8	0.1	0.6
6,000-7,999	4.3	0.4	3.3
8,000-9,999	9.4	1.4	7.3
10,000-14,999	33.2	10.8	27.3
15,000-19,999	24.0	15.6	21.8
20,000-29,999	19.1	29.4	21.8
30,000-39,999	5.6	17.8	8.8
Over 40,000	3.7	24.5	9.2
TOTAL	100.0	100.0	100.0

Source: SUSENAS (rounded to nearest 0.1 percentage point). For approximate conversion from per capita to household monthly expenditure, multiply by 5.0 (average number of persons per household).

⁹We assume a hospitalization rate of 150 days per 1,000 population (Stevens and Doodoh 1986, p. 39) and neglect administrative costs and profits.

SECTION II: HOSPITAL SECTOR ORGANIZATION AND MANAGEMENT: THE QUESTION OF EFFICIENCY

Introduction

An objective of the hospital component of the HSF Project is to contribute to institutional developments such that government hospitals will recover a larger share of their costs than is now the case and thus government subsidies to the hospitals can be reduced. It has been generally recognized that an increase in the efficiency with which the government hospitals perform can contribute importantly to realization of this objective, e.g., with increased efficiency, fewer resources are required to produce any given level of output. Beyond this, in one sense at least, increasing the efficiency with which government hospitals perform may be necessary for realization of this objective. If the hospitals are to market a product at charges high enough to recover a significant part of the costs of producing that product, that product must be of appropriate quality. It has generally been recognized that to achieve such appropriate quality will entail increases in the quality of the services being produced by the government hospitals, particularly as this is judged by the consumers of these services. Such increases in quality are regarded as an important part of what is meant by increases in the efficiency with which these hospitals perform.

Before getting to the findings of the consultant reports on the question of efficiency, a few remarks on devising a conceptual framework to engage these issues will be helpful. Generally speaking, the efficiency of a process or activity is measured as the ratio of desired output to input--other things equal, the higher this ratio (the more output per unit input) the more efficient the activity. Where the activity, as in the case of hospitals, uses more than one category of input (e.g., labor equipment, supplies, etc.), one may look at efficiency from the point of view of the productivity of each of the inputs (e.g., for labor, output per man hour). Generally, however, total input productivity will be of more interest, and this may be measured in terms of cost of production. Other things equal, the activity producing any given output at least cost is regarded as the most efficient.

While these efficiency concepts are fairly straightforward, difficulties arise in attempting to apply them to the hospital-services sector. A major problem is that of how to measure the output of the hospital. Hospital services, like other medical services, are intended to improve the health of the consumers of them. In principle, the output of hospitals should be measured in these terms, i.e., measured in terms of health-status impact. Frequently, however, this simply will not be feasible, e.g., because it would entail an observation program that was too complicated and costly for the purposes at hand. Usually (as in the instant studies) hospital output is measured in terms of such units as inpatient hospital days for OPD visits, and the like. To compare the efficiency of hospitals measured in terms of such units, the investigator must be able to assume that the medical content (as this relates to health-status impact) of each unit of output--the inpatient day or the OPD visit--is about the same, or at least be able to adjust the findings for differences on this score, as between the institutions being compared. In the context of the present studies, however, such an assumption cannot safely be made.

Indeed, there seems to be some agreement that we know very little about the medical content of the inpatient days and OPD visits being produced by the hospitals in our case-study samples. Under these circumstances, and as the PT Binaman and PQM Consultant reports recognize, conventional unit cost comparisons may not cast much light on relative efficiencies.

What will be the best approach under these circumstances? Organization theory suggests that certain structural features of organizations may enhance or reduce the efficiency with which they perform. Indeed, some structural features of organizations may be regarded as virtually necessary conditions for efficient performance (if not also sufficient conditions for such performance). A promising strategy will be to look at the government hospitals to determine if they exhibit those structural features which may be necessary for efficient performance, and the consultants reports appear to adopt this strategy (among others). In what follows we will analyze particularly the PT Binaman report from this point of view. There is, however, another conceptual-framework issue that must be discussed.

The Problems of Too Many Problems

We have been given the task of analyzing the consultants' reports to determine what problems are suggested by the findings therein (and with an eye to devising intervention options to cope). Examination of the consultants' reports reveals a very long list of what may be regarded as problems which entail obstacles to efficient performance of the government hospitals. It would not be fruitful for us to attempt in this report to address every such problem and suggest a number of possible remedies (intervention options) for each.

It will be far more useful for us at this stage of analysis to prioritize, to select a relatively few strategic problems for attention. Strategic problems will be those for which workable remedies can be devised and will be those for which a successful remedy will have a significant impact in improving hospital performance. Thus problems should be selected for attention with an eye to the implications of successful remedies for them. A recent consultant's report on the IISF Project contains some words of wisdom on the score, viz.:

There are too many problems to be addressed individually. It is difficult not to address a problem when it is pointed out, but yielding to that temptation can easily overwhelm limited manpower and resources. Priorities must be established . . .

Early interventions should emphasize changes in the support system rather than specific problems. The stress must be on cause rather than symptoms. For example, poor housekeeping might be addressed directly, and will improve at least for awhile. But if people do not believe it is

important, and the structure is not in place that provides the determination and resources to maintain an ongoing effort, standards soon slip back to their original state.¹⁰

The point made in the second of the paragraphs quoted above is of central importance. It applies, of course, not only to housekeeping problems, but also to such problems as equipment malfunction and down time, stockouts of important supplies, failure systematically to supervise employee performance, inadequate medical records and treatment protocols, and many others.

In line with the foregoing discussion, in addressing problems we will give priority to what may be thought of as management process problems and problems with what might be thought of as the origination structure of the hospitals. While some of these may qualify as symptoms rather than causes, in proposing remedies (intervention options) for them the emphasis will be on causes (rather than on symptomatic treatment, per se).

Problems Which are Obstacles to More Efficient Performance of Government Hospitals

1. Shortages of skilled staff including mismatches between the types of equipment and facilities and the occupational qualifications of the staff such that equipment, although in place, cannot be used. (Binaman, pp. 29-30)

There appears to be an overall shortage in the availability of skilled candidates for some positions. In addition, however, two additional factors exacerbate this problem, viz.:

- The government hospitals are bound to a personnel recruitment system in which they are only able to request additional staff. Whether these requests are filled is outside the control of hospital management itself. In short, hospital managements cannot hire staff.
 - The fact that there are separate routine and development budgets with manpower allowances often included in the routine budgets and equipment/facilities usually included in the development budgets, this separation resulting in a lack of coordination.
2. Overall it appears that the employee incentive system in government hospitals is not effective at its primary objective, which is to motivate employees. (Binaman, p.36)

The problem is said to be owing primarily to the fact that there is no relationship between incentive levels and work performance.

¹⁰See "A Study of the Health Sector Financing Project, Republic of Indonesia," prepared for USAID/Jakarta Office of Population and Health by Taylor Associates International, Inc., June 1989, pp. 13-14.

3. A lack of strategic forward planning to set organization goals and directions and to establish success criteria to evaluate hospital performance. For the government hospitals, the primary planning activities undertaken are in relation to the preparation of the budget for the coming year. Little else in the way of planning is done beyond what is requested by the government. (Binaman, pp. 34 et seq.)

An important part of the reason for this lack of forward planning may be lack of necessary skills in the staff. There are, however, more fundamental causal factors at work, viz.:

- A common reason given by hospital managers for lack of planning beyond that required by the government was that they are too dependent on the government to make planning independently of any use.
 - Exemplary of this, with respect to decisions concerning facilities or new equipment, government hospitals follow procedures laid out by government regulations and make requests rather than decisions in this domain. (Binaman, p.42)
4. Monitoring and control processes in place in government hospitals (as these might relate, e.g., to employee absenteeism, inventory control, financial audit, hospital performance) are in need of improvement. Of particular importance, none of the hospitals (in West Sumatra case-study group) appeared to have an effective system of monitoring and measuring its own performance in terms of output or quality of services provided. (Binaman, p.54)

The following remarks from the consultant's report (p. 54) provides important insight into the etiology of these and other problems which impede more effective management of these hospitals:

"It can be assumed that institutions, like individuals, perform better if they are provided with some kind of motivation and reward for good performance. Before performance can be rewarded, however, an effective system of evaluating performance must be in place. Neither a motivation and reward system nor an effective means of evaluating hospital performance, either from within or without, exists in the government hospital system. Hospital managers are in no way rewarded for such things as increasing the quality of care or increasing revenue collected in fees. In the case of revenue earned, in fact there is a disincentive to increasing revenue from fees as it means that funding allocated by the government will be reduced."

5. Development of qualified staff in the hospitals should be made one of the top priorities of hospital managers. Unfortunately, however, in the government hospitals, the managers have little or no control over the training of their staff but are reliant on government programs. It becomes the responsibility of the government therefore to ensure that government hospital employees get adequate and appropriate training in accordance with their needs and those of the hospitals. (Binaman, p.58)
6. There is no effective system to monitor or control employee absenteeism in the government hospitals. Although lack of accurate records makes evaluation difficult, the impression was that absenteeism is not a serious problem for most categories of employees. However, there is some evidence to suggest that the absenteeism rates for some groups of employees, in particular medical staff, are much higher than the above findings would suggest. One estimate puts the absenteeism rate for doctors at RSAM at 46 percent. (Binaman, p.63)

The Question of Intervention Options to Address Management Problems: Introduction

It was suggested in the prior discussion that in thinking about the design of intervention options, the stress should be on the causes for poor hospital management performance rather than upon just the symptoms. An examination of the consultant's report (Binaman) led to the enumeration of management problems assembled here. We have not tried to list all problems but rather have attempted selectively to direct attention to those we regard as the most fundamental.

From this exercise, a general picture of the causes of poor management performance in the government hospitals does seem to emerge. A basic part of this is that government hospital managers are hemmed in by regulations and procedures which deny them the flexibility and authority they would need to do a more effective job. For example, in the domain of personnel administration (one of the most crucial domains for effective management), managers do not hire their own staff and they are dependent upon outside agencies and programs for staff training and development. Personnel administration procedures which seem to prevail in the public sector civil service (whether by regulation or custom) are such that employee incentive systems which tie rewards to performance do not seem to be feasible. Under these circumstances, there is little point in developing job descriptions and monitoring performance in order to inform supervisors. The manager has little budget authority, e.g., he requests rather than orders equipment and facilities. The hospital manager gets no reward for achievements such as, say, cost containment or improving the quality of the product. If the hospital management is assiduous in its attention to patient welfare, tries to market a quality product and achieve good collection rates--this does not result in additional resources for the hospital since revenue from marketing these services is supposed to revert to the exchequer.

More details could be sketched into this picture, but that is probably not necessary to make the point. Simply put, the point is that, as hospital organization and structure now stand, managers of government hospitals cannot realistically be at risk for success (nor are they at risk for failure). Interventions to improve the management of government hospitals will be of little use unless they can come to grips with these fundamental and basic structural problems. In what follows we put forward some tentative suggestions for intervention options. We are well aware that it will be difficult to find feasible, effective interventions addressed to causal factors. But we are convinced that serious efforts must be made to address these fundamental factors.

SECTION III: INTERVENTION OPTIONS TO ACHIEVE THE OBJECTIVES OF THE HSF PROJECT

The first point to recognize is that interventions to achieve the objectives of the HCF Project will comprise a package of interdependent elements. An objective of the HSF Project is to contribute to institutional developments such that government hospitals will recover a larger share of their costs than is now the case and thus government subsidies to the hospitals can be reduced. This means that the government hospitals must market a product at prices (user charges) high enough to recover a significant part of the costs of producing that product. To facilitate this will in turn require an increase in the efficiency of government hospital performance (see prior discussion on this point). To achieve an increase in the efficiency of government hospital performance will in turn require fundamental changes in the organization format of these facilities--such that, to put it in a nutshell, the managers of these facilities have the incentives, the authority and the resources realistically to be at risk for success and at risk for failure. To implement an organization format with these properties will in turn require a change in the rules with respect to the disposition of revenue earned from services marketed by government hospitals. As matters now stand, most of this revenue is supposed to revert to various exchequers. The change required is that government hospitals should be allowed to retain this revenue to be used (subject to appropriate rules) to in various ways forward the mission of these hospitals. Accompanying all of these developments, there must be a change in the way in which the demand for health care is financed in Indonesia--from the present widespread dependence on out-of-pocket financing to social financing (insurance, prepay) of the demand for services, both those provided by the government hospitals and by other providers. This change is necessary for the hospitals to be able to market services at appropriate cost-recovery prices and for helping to insure that cost recovery remains consistent with equity for consumers of these services. As the hospital managers move into a regime of enhanced cost recovery through marketing services at appropriate prices, they will need to put into place systems to provide needed management information and there will be a need for training of hospital staff in management and administrative skills.

Let us suppose that we agree that this whole package of interdependent elements must be in place in the longer run if we are to achieve the objectives of the HSF Project. This would still leave open, however, two very important matters, viz.:

- We have called for a change in the organization format of the government hospitals. The general nature of this change has been indicated, but it is necessary to spell it out in much more operational detail if we are really to understand what's entailed.
- It is one thing to know where we are going. It is quite another thing to know how we are going to be able to get there from here. What are the feasible first steps? What sequence of developments should we attempt to implement? Will it be feasible to proceed in small, incremental steps? Or do we need to bite off a rather big piece at the outset if things are going to work? These matters will require discussion and planning.

A Hospital Organization Format to Promote Efficiency

We have characterized this in a general way by saying that the hospital managers must have the incentives and the authority and the resources realistically to be at risk for success and at risk for failure. We now set out some more particular features of the format in question.

1. **Incentives:** There is general agreement that, as matters stand, managers of government hospitals have little incentive to do all of those things necessary significantly to enhance cost recovery in these hospitals. Hard (and sometimes onerous) work is entailed--to contain costs, to develop a quality product, to understand the preferences of the customers (patients), to achieve good collection rates, and so on. Assiduous attention to all of these matters can decrease costs, increase revenue and enhance cost recovery. But, as matters stand, the revenue simply reverts to any of various exchequers and there is even a danger of diminished support from the budget. On the other hand, it would seem reasonable to suppose that if the hospital could retain the revenue from marketing services and use this revenue (within appropriate rules) to forward the mission of the hospital and increase the welfare of the management and staff--then there would be incentive and motivation to strive for efficiency in the ways outlined above.

These considerations suggest:

Strategic Change

A change in the rules with respect to disposition of revenue from marketing services by government hospitals. These facilities must be allowed to retain for their own use (subject to agreed upon rules) the revenues earned in this way.

Operational Change

Rules will have to be developed regarding the uses to which the hospital managers can put these revenues. The general idea is that they should be deployed in ways that will contribute to the success of the hospital pursuant to its mission of delivering an appropriate quality and quantity of health care to the community. We cannot attempt here to spell out in detail an example set of such rules. However, here are a few possibilities to be kept in mind:

- Incentives are necessary not only for hospital management but also for the staff of the hospital if they are to be welded into a working team. This would suggest that the hospital manager should be allowed to use some part of the revenue earned to provide performance related incentives to hospital staff, including management itself.

- One of the big problems for the managers of government hospitals as matters now stand is the lack of sufficient discretionary budget to permit quick responses to problems such as stockouts of important supplies, equipment in need of maintenance, and the like. This would suggest that the hospital manager should be allowed to use some part of the income earned from the sale of services for these and other such purposes.

Plan of Work: re: Incentives

We have considered strategic and then operational changes pursuant to providing incentives/motivation necessary for more efficient operation of government hospitals. We should now address the question: What early steps might we take to facilitate implementation of these changes? A few suggestions on this score follow:

It would seem clear that some kind of incentives are crucial for organization performance. But what kind of employee incentives are acceptable and feasible in the setting of the Indonesian work place? For example, are performance related monetary incentives acceptable and feasible, assuming that hospital managements were granted enough authority with respect to personnel administration to employ such incentives if it wanted to? The P.T. Binaman report on the hospitals in West Sumatra noted that, although the private hospital in this group had a system of performance related incentives, in administering it no real effort seemed to be made to really measure employee performance. Why is this so? Discussion here suggests that, quite apart from prevailing civil service rules and customs, there tends to be a sense of community in the Indonesian work place such that the Indonesian work place might not be hospitable to such policies as performance-related monetary incentives. Are there other kinds of incentives which might be more appropriate? One might conjecture about these matters, but what is needed is information. It might be a good idea for the Project to undertake a modest research activity which would take a look at Indonesian firms in the private sector or organizations in the parastatal (or other government) sector which are examples of outstanding efficiency and effectiveness of performance. For these enterprises, a study would be made of what personnel administration rules and procedures they were using. These findings might inform redesign of personnel policies in the government hospitals--at least, at the outset, for purposes of trial runs with the model hospitals to test hypotheses about what rules and procedures will work.

2. **Authority:** Incentives and motivation are necessary but not sufficient for improved efficiency in hospital performance. Managers must have appropriate authority in order to manage effectively. As matters now stand, much of the authority a hospital manager would need to manage effectively is delegated to decision makers outside the hospital. To a large extent, operationalizing the concept of decentralization to the hospital level is a matter of stipulating just what authority the hospital management is to have. Some options to be considered in the domain include:

- Hospital management might be given authority to order (purchase) equipment and supplies from suppliers of its own selection insofar, at least, as these purchases could be made from revenue earned from marketing services.
- Hospital management might be given authority to arrange for spare parts and to hire technicians as necessary to keep equipment in repair and running, at least insofar as these purchases could be made from revenue earned from the sale of services.
- Authority with respect to personnel administration is, of course, central to the ability to manage effectively. No aspect of management performance, perhaps, is more crucial to the success of the enterprise than that of recruiting, motivating and committing the staff, the members of which must work effectively as a team and with genuine interest in the success of the enterprise. At the same time, however, this is one of the most difficult domains in which to propose acceptable and workable interventions. Much thought will have to be given to the question of how much of what kind of authority can be given to the managers of government hospitals with respect to personnel policy and administration. We have already suggested above that management have the authority to pay performance related incentives out of revenues earned from the sale of services. Ideally, hospital management would have the authority to hire its own staff, contract with physicians of its own choice for the provision of services and the like. To give government hospital managers the requisite authority with respect to personnel administration, it may be necessary to move these hospitals out of the MOH and Health Departments and into some kind of semi-autonomous or parastatal (perum) status.

Plan of Work: re: Authority

We have considered strategic and operational changes pursuant to providing government hospital management with the authority necessary for more efficient performance of these facilities. What early steps might we take with an eye to informing implementation of these changes? Herewith a suggestion:

We have remarked that authority with respect to personnel administration is central to the ability to manage effectively. But how much of what kinds of authority in this domain is it feasible (e.g., acceptable, lawful) to delegate to government hospital managers? This would seem to depend in good part on the legal status of the hospital--for example, whether it remained as now an integral part of MOH and Department of Health systems, whether it moved into semi-autonomous (parastatal) status, or whether (perhaps in the

longer run) it moved more nearly into private-enterprise status. It might be a good idea for the project to undertake some research activity to determine what the possibilities are in this domain. It seems likely that in the near term if hospitals are to change their organization status at all it would be to some kind of parastatal format. Hence the research might concentrate on the possibilities for these organizations, addressing questions such as: What are the various forms (if there are such) of parastatal enterprise in Indonesia? What legally is allowed to these institutions by way of authority with respect to personnel administration? To what extent and in what ways does management of these institutions use the legal authority it has in the domain of personnel administration. (The research suggested in section foregoing, Plan or Work: re Incentives, might also cover this point.) The findings from these inquiries would be valuable to inform the design of personnel policies for the government hospitals when they begin trial runs to test hypotheses in this domain.

3. Resources

Strategic Change

In addition to incentives (motivation) and authority (these were discussed above), hospital managers must command adequate resources in order to run their organizations effectively and efficiently. From this point of view, allowing government hospitals to retain revenue earned from marketing services is a key element. (In the discussion to follow in this section, I assume that the regulations have been modified to allow this.) It is this which, in large part, provides hospital management with the opportunity to be at risk for success. By careful attention to costs, to supervision of the staff, to product quality, and to marketing hospital management can increase the resources available to forward the mission of the hospital.

Although this general proposition is clear enough, it does not address a number of problems which will be confronted in making decisions about resource availability to the government hospitals. We may now turn to consideration of some of these.

Operational Change

At the outset of change (and likely in the longer run as well) these facilities will have two sources of revenue (resources)--namely, what they earn from marketing services and whatever subvention is being paid to them by government. Some decisions have to be made about how this dual-resource pattern is to be managed. It is understood that the government is embarking on the scheme of enhanced cost recovery with an eye to reduced government subsidies to these hospitals. However, at least at the outset, if government were to reduce its subsidy Rupiah for Rupiah with increased earnings, this would have, at a minimum, a chilling effect on another major object of the scheme--notably, to provide incentives and motivation necessary for more efficient performance.

One kind of pattern to manage this dual-resource situation could be along the following lines:

- For each government hospital marketing services, a prospective budget is established by negotiation between the facility and the government. This budget would take account of anticipated output (services to be delivered over the coming budget period based on needs assessment, the success criteria the hospital had adopted, etc.) and the unit costs of producing these outputs.
- For each government hospital marketing services, an estimate is made of anticipated income from fees during the forthcoming accounting period. The estimate should be based on anticipated sales of services and an agreed upon set of tariffs. Since it is the intention of the government to recover costs to the extent necessary to permit some reduction in subsidies to government hospitals, the prices of services (tariffs) will have to at least cover the marginal costs of producing them.
- A subvention based on the difference between the first and the second would be paid by the government to the hospital to complete funding of operating costs. Whatever the precise subvention formula used, it should try to preserve the incentive/motivation features of the scheme. This would seem to imply that the subvention should be somewhat more than the difference between the first and the second and should not be reduced from one accounting period to the next Rupiah for Rupiah with increased earnings (the idea is to leave an appropriate amount of net income in the picture).
- It is very important that, to the extent possible, the demand for services marketed by government hospitals attempting enhanced cost recovery be third-party financed (insurance, prepay).

An example of an operating scheme very much along the lines suggested above is in University Hospital in Kingston, Jamaica.

A couple of years ago, what appeared to be a new set of guidelines for government hospital budgeting/costing/pricing were suggested by the Directorate of Medical Services, viz.:

- Instruction for the Compilation of Routine Activity Plans, Directorate General of Medical Services, Fiscal Year 1986/87.
- Letter of Declaration from the Minister of Health Governing Tariff Pattern for Government Hospitals.
- Letter of Decree of the Director General of Medical Services, R.I. Department of Health/Governing Guidelines for the Implementation of the Pattern of Tariff for Government Hospitals.

I do not know what the present status of these guidelines/instructions is. It has seemed to me, however, that with some modification, they could result in a hospital-government-relations format along the lines suggested above.

Plan of Work

We have considered strategic and then operational changes pursuant to making the resources available to government hospitals necessary for their effective operation. All of this still leaves open, however, the question of just how we get there from here. What are the first steps in implementing these changes? What is the proper sequence of steps? What questions need to be addressed now to facilitate implementation? A series of deliberations between the interested parties will be necessary to identify these questions and generate answers to them and to decide upon the first steps and the next steps. Here I make a few suggestions and direct attention to a few points with the intent of in this way facilitating the deliberative process.

Determining an Appropriate Rate of User Charges (Tariff)

A number of considerations enter into this decision, e.g., the effect of charges on marketing (elasticity of demand), the desired rate of cost recovery, equity for the consumers including impact on access to care. Herewith a few points to consider:

- What about "price discrimination," i.e., different prices charged to different consumers? Different prices for different classes of service (e.g., VIP < Class II, III, etc) are appropriate. Many regard income-related charges to be equitable, e.g., no charge to the poorest consumers, higher charges for the very well to do than for the not so well to do. Sometimes it is suggested that different prices be charged depending upon how the

demand for care is financed, *per se* (same class service, same income class consumer), e.g., that those financing demand by insurance pay a higher price than those paying out of pocket. This is probably not a good approach. Many would doubt the equity of price differences based on mode of financing alone. Indeed, since from the facility's point of view insurance financing is advantageous, charging these consumers a higher price would be penalizing the very consumers who provide this advantage. In any case, it seems likely that any such price discrimination would be apt to have an adverse impact on the demand for insurance. Even with no price discrimination based on mode of financing, however, it may turn out that higher prices tend to be associated with insurance financing, for example, if insured customers tend to opt for higher class services and if they tend to be in upper income brackets.

- How should prices relate to costs? There are a number of options here. Since the government wants to reduce subsidies to government hospitals, at a minimum the prices must yield marginal revenue (addition to total revenue owing to increased sales of the product) at least equal to marginal cost (addition to total cost to produce this output). It is likely that over the relevant range of outputs average variable cost is quite flat (and equal to marginal cost). The policy might be to set prices equal to average variable cost plus a stated markup (say, 10 percent), to in this way begin to enhance cost recovery. It is likely that as the scheme develops over time, increasing rates of cost recovery will be feasible. At the outset it probably would be wise to start with modest rates of cost recovery. The relationship of price to cost need not be the same for all service. Thus it might seem to be in line with equity for higher-class services (VIP, I, etc) to be priced to cover full cost plus a substantial markup. Lower class services, on the other hand, might continue to enjoy a subsidy, since these are the services apt to be selected by those at the lower end of the income distribution. The hospital management should be free to adjust the volume of resources going to each class of service to demand for services. As has been mentioned, it is likely that the consumers opting for the higher-class higher-priced services will tend to be beneficiaries of insurance schemes.
- (3) What will be the impact of higher prices on sales (marketing, this is the question of price elasticity of demand). It seems clear that even at present high rates of subsidy, prices charged by government hospitals can be a substantial barrier to access to services for those at the lower end of the income distribution, so long as demand is financed by out-of-pocket payments. Under social financing (insurance, prepay) of the demand for these services, however it is a very different story--the premium burden tends to be small even for substantially higher prices than those now current, especially for the upper end of the income distribution. As has been frequently emphasized, the success of the whole enhanced cost recovery scheme depends upon a significant increase in the extent to which demand for these services is socially financed. Hence the more relevant

question concerns the impact of higher prices on the demand for health insurance by beneficiaries who will use government hospitals. It probably will require a trial (social experiment) to get the answer to this question.

- What are the relevant costs for price policy, i.e., for determining prices? Hospitals have substantial fixed costs. This means that average total costs are sensitive to percent of capacity utilization (i.e., to BOR). Is the average total cost of a hospital with a BOR of, say, 40 percent relevant for price policy? Probably not, one might argue, since over the longer run it is doubtful if a facility that can't improve on such a BOR should be maintained (it would seem to represent an instance of over bedding). One approach would be to adjust costs used for pricing policy to represent what they would be at acceptable BORs (say, 80.0 percent?). But there is also a question of the quality or standard of service the policy makers have in mind. One approach would be to begin setting prices in accord with whatever the prevailing standards of services are. One problem with this is suggested by the circumstance that service standards (quality) will have to improve substantially if large-scale cost recovery is to be feasible. This might suggest looking at a bellwether facility--probably of private hospital producing a mix and quality of services deemed to be about right for the government hospitals in the intermediate run--and using these costs as a standard for government hospital pricing policy.
- Should government hospitals charge the same prices? It seems likely that some kind of price control will be maintained in this domain at least for the near term. Generally, this aspect of pricing policy for the government hospitals is a difficult and sensitive matter since it is intimately involved with the public's perception of how fair the hospital system is, e.g., problems may arise if some consumers have to pay higher prices at one hospital than other consumers pay for apparently the same services at another. As I understand it, as matters now stand, there is considerable diversity in pricing policy among government hospitals (in spite of the fact that governments would like greater uniformity in this domain). It probably would be acceptable for the more sophisticated hospitals to charge higher prices (say, the B hospitals) than those charged by the less sophisticated C and D hospitals, this on the ground that prices should tend to measure the cost of the resources used to produce the output and that the public might understand this principle as fair. Should hospitals of the same sophistication (Class) charge the same prices? One way to get some uniformity in this domain while at the same time allowing for some individual differences would be to adopt the same pricing rule for all hospitals--e.g., that each should charge a price equal to its average variable cost of production plus a stipulated mark up. This would have the advantage that a hospital wanting to produce a higher quality and more costly product could adjust price to recover the cost (and this kind of quality/cost competition might well benefit consumers). On the other hand, any such cost-plus pricing rule doesn't afford much incentive for

v2

producing whatever is produced at least cost. Another approach would be to set the price at, say, the average (for the group of hospitals in question) variable cost plus a stipulated markup. This does have favorable implications for cost containment since hospitals able to produce output at lower average cost can make a profit and those with higher than average cost will make less profit, maybe a loss.

More could be said about pricing policy for the government hospitals but perhaps enough has been said to provide a starting agenda for the deliberation that will take place as the interested parties strive to design the model system with which the HSF Project will make trial runs with enhanced cost recovery. We should turn now to the question of what some of the first steps might be in attempting to get the model system up and running. As will be seen this is not an easy matter, but it is important to begin addressing it early on.

Implementing the Model System: First Steps

It will not be feasible to begin by launching a full-blown version of the model system as it might look over the longer run. Rather, it will be necessary to move into this system step by step. I'm far from sure that the steps suggested in what follows are the best way to go. In any event, however, they will perhaps provide an agenda for the deliberations on this matter and in this way help the interested parties to begin engagement with this matter. It might be well to begin developments to field the model system working with one of the Project's clusters of hospitals (rather than by attempting to get started in all three provinces at once).

1. Select a bellwether facility--say a well run private hospital such as St. Carolus, study its mix and standard of care to determine if this would represent an appropriate standard for government hospitals over the longer run. If so, contract with, say, P.T. Binaman to assemble cost data on this hospital as they have done for the project hospitals.
 - Determine what user charge (fees) would be yielded by a number of plausible pricing formulas--e.g., average variable cost plus various markups.¹¹
 - Assume plausible utilization rates and determine for the various charges developed in a) what premium would be required for insurance to cover these charges. Taking into account the distribution of households by size of income (from SUSENAS), evaluate the charges in terms of the burden the insurance premiums would imply (the equity/access issue).

¹¹ Given the cost figures, there will still be a question of on what units of output to base the charges to patients. Should one charge separately for each service (output for each cost center)? Or, should one try to come up with an all inclusive per diem?

- What we are looking for is a set of charges which will yield an appropriate rate of cost recovery (in light of intention to reduce subsidies) while at the same time being acceptable from a burden (equity) point of view for consumers. If we find such a set of charges in the course of this exercise we will designate them as the standard charges. If this exercise does not find such a set of charges, we will have to start over with a different bellwether facility, one producing a less costly mix and quality of services but still regarded as an acceptable standard to aim at for government hospitals. Assuming that we have been able to find a set of standard charges, we now turn to the cluster of hospitals to comprise the model system.
2. For the model system hospitals, we examine the tariff now in place. We put into effect substantial increases for the more deluxe services, say VIP and first class, these charges should be high enough to cover full costs (there seems to be general agreement on this point, quite apart from Project activities). It is true that as matters now stand, these classes of services have not been big income earners. However, we may hope to increase utilization of these services. At the outset, we might leave the charges for the lower classes of services the same (or give them whatever increase government policy may call for overall in the normal course of events).
 3. The model hospitals will now be producing and marketing services as before, except with higher charges for the deluxe services (this change would probably have to be made throughout the relevant system [province wide?], e.g., not just in the model hospitals).
 - If the rules still require revenue earned from marketing these services to revert to an exchequer, the Project would pay to the model hospitals the amount of revenue they would have earned had they charged for services actually marketed at the standard charges.
 - If the rules have been changed such that hospitals may now retain revenue from marketing services, then the Project would pay to the model hospitals the difference between what they earned and what they would have earned at the standard charges.
 4. The model hospitals now begin a period of efficiency/quality improvement. The incentive/motivation is provided by the Project payments for services provided as if they were marketed at the standard charges (which will be well in excess of the marginal cost of producing the services). If the hospitals can market more services, they can increase net revenue--improving quality (particularly from the point of view of patient perceptions) will be one strategy pursuant to this. Containing costs can also result in more net revenue, i.e., the standard charges stay the same whatever the actual cost of production.

- Rules will have to be devised on how the hospital managers can use the revenue they earn in this way. Since these revenues are Project funds, presumably the parties are free to devise whatever rules they want. But it must be kept in mind that in the longer run the Project hopes to persuade the government that providing government hospital managers with more budget authority is in the interests of the government and the consumers and the Project will want at his early stage to work with rules which are plausible candidates for adoption by the government in the future.
 - On the first round, it may not be feasible to get substantial changes in the rules for personnel administration in these model hospitals (which will at the outset continue to be part of the MOH/Health Department system and hence, presumably subject to the rules that apply to all). However, the discretionary budget provided in 4a) foregoing should permit the hospital manager to devise an incentive system to improve the performance of staff.
 - Down and otherwise malfunctioning equipment will be a special problem for Project implementation in its first phases. Perhaps the Project should provide a one-time assist to get this equipment in good working order-- after which the hospital managers should, under these arrangements, have an incentive to keep in order.
 - It is anticipated that the model hospital managers will request various kinds of technical assistance from the Project, e.g., for the design of management information systems, for other aspects of hospital administration (e.g., inventory control), and so on. The Project should respond promptly to such initiatives by the model-hospital managers (but probably should not offer such technical assistance unless it is requested).
5. The model hospitals should begin aggressively attempting to develop insurance financing of the demand for the services they are marketing, requesting technical assistance to help with this. For example, they might offer to market any of their services on a prepaid basis, to firms to cover their employees as beneficiaries, to members of agriculture coops, and to other groups of prospective beneficiaries.
- The higher charges for VIP, first Class, etc. services might well be an advantage from this point of view. It has been suggested that prevailing charges for these services are too low to make health insurance to cover them attractive to the upper part of the income distribution.

Evaluation of These First Steps

We want to pause now for an evaluation of these first steps. It may be argued that they are quite feasible in the sense, at least, that they do not entail any radical, irreversible departures from standard operating procedures. At the same time, however, they should provide some test of the hypotheses that these kind of incentives and increased hospital

management authority and resources can have a favorable impact on the efficiency with which government hospitals perform. And they also provide some test of the feasibility of developing social financing for the demand for these services.

Of course, we are still a long way short of the full-blown model. We have not yet negotiated a prospective budget (although, during the period of implementation of these early steps, the parties should devote some attention to just how this might be done when the time comes). We have not yet decided upon a formula for calculating the government's subvention when in the longer run prospective budgeting is in place. And so on.

However, the hope would be that experience with these first steps would be encouraging and provide the foundation for going on to full-scale implementation of the scheme as outlined in the introduction to this report.