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HEALTH SECTOR FINANCING PROJECT

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**HOSPITAL DIAGNOSIS
STUDY**

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HOSPITAL DIAGNOSIS STUDY

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is a joint project between the Ministry of Health and the United States Agency for International Development. Since its inception in June 1988, the project has provided technical assistance toward the development of a managed health care program (DUKM/JPKM), improved hospital management, efficient drug management and rational drug use, and health policy and economic analysis. The fundamental goal of the project is to reallocate and increase resources for child survival programs in Indonesia.

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I. Title

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- 1. Health Financing**
- 2. Hospitals**
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FOREWORD

The Fourth Five Year Plan (1983/84 - 1987/88) witnessed dramatic improvements in the health status of Indonesia's population. However, several problems continue to hinder health sector development. One of these issues is the financing of the health sector.

To address this issue, a series of integrated studies on health financing were undertaken via cooperation agreement between the Government of Indonesia and the Government of the United States of America based upon Grant No. 497 - 0354 Health Sector Financing Project, or Proyek Pengkajian Sumber Daya Kesehatan, signed on March 12, 1988.

The Health Sector Financing Project is conducted under the direction of the Chief, Bureau of Planning of the Ministry of Health, while the day-to-day operations are carried out in collaboration with the International Science and Technology Institute, Inc., (ISTI).

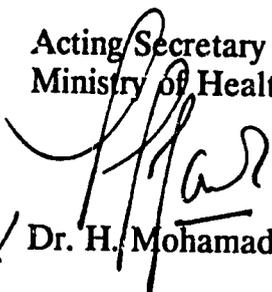
The main goal of this project is to assist the Ministry of Health with the development of policies and institutions needed to support its child survival programs. Specific objectives include improved rational use of drugs, increasing community involvement in financing health services, and promoting more equitable distribution of health resources.

This Monograph Series was introduced as a vehicle to disseminate the information and results of activities carried out by the Health Sector Financing Project. This edition, covering the Hospital Diagnosis Study, addresses current issues in government hospitals such as quality of services, management, organization, financing and costs, and the population's ability to pay for services at public hospitals.

The next edition will present an analysis of Health Financing Data, collected between 1982/83 - 1986/87 by staff and consultants of the Health Economics and Policy Analysis Unit, Bureau of Planning, Ministry of Health.

I hope that the Monograph Series will be useful to all professionals who are concerned and involved with the improvement of health services in Indonesia.

Acting Secretary General
Ministry of Health



Dr. H. Mohamad Isa

CONTENTS

	Page
<i>INTRODUCTION</i>	I
<i>PREFACE</i>	II
<i>ORGANISATION OF THE STUDY</i>	1
<i>STUDY CLASSIFICATION</i>	4
<i>GENERAL PICTURE OF A HOSPITAL</i>	6
Location of hospital under study	6
Source of Patients	6
Morbidity and Mortality Frequently Occuring of Diseases	6
Capacity and Utilisation of Hospitals	7
Referral process	10
<i>QUALITY OF HOSPITAL SERVICES</i>	11
Facilities	11
Manpower	11
Medical Records	12
Patient Satisfaction	12
<i>HOSPITAL ORGANISATION AND MANAGEMENT</i>	13
Organization Structure	13
Compensation System	13
Aim, strategy and work-plan formulation process	14
Decision making process	14
Management and quality of services	15
Level of absenteeism	15
Employee Satisfaction	16
Level of human resources productivity	16
Pre-surgery length of stay	18

<i>HOSPITAL COST AND FINANCE</i>	19
General	19
Funds	20
Regulations	20
Human resources	21
Accounting	21
Hospital Revenue	21
Distribution of Funds	23
Estimated and actual revenues	25
Hospital Unit Cost	25
Ratio between Tariff and Unit Cost	26
Comparison of Hospitals Unit Cost	27
Hospital Revenues through Insurance	30
Inpatient services cost structure	32
<i>ABILITY OF THE COMMUNITY TO FINANCE HEALTH SERVICES</i>	33
East Java and Bali	33
West Sumatra	40
General Conclusion	41
<i>ABILITY AND WILLINGNESS OF THE COMMUNITY TO PARTICIPATE IN HEALTH INSURANCE</i>	42
Methodology	42
Bali	43
East Java	43
Public opinion concerning Health Insurance	43
<i>SUMMARY AND CONCLUSION</i>	44
General Description	44
Quality of Hospital Services	45
Organisation and Management	46
Hospital Cost and Finance	47
Ability of the community to pay for health services	50
Community ability and willingness to participate in Health Insurance	50
<i>INTERVENTION ALTERNATIVES</i>	52
<i>SUMMARY OF THE DISCUSSION ON PROBLEMS AND INTERVENTION MEASURES FROM THE HOSPITAL SEMINAR HELD AT BUKITTINGGI.</i>	56

<i>ACKNOWLEDGEMENTS</i>	58
<i>BIBLIOGRAPHY</i>	59

I

INTRODUCTION

The Hospital Sector Project Implementation Unit has compiled the results of the Hospital Diagnosis Study Seminar held in Bukittinggi, West Sumatra in the following report. The findings contained in the report are intended to facilitate authorities of the Ministry of Health and other authorities who are interested in the hospital services sector, to analyze and utilize the findings in order to elevate the level of quality care in the years to come.

I would like to express my thanks and appreciation to the author on his success in compiling the summary.

Jakarta, 15 - 12 - 1989

**Director, Hospital Sector
Project Implementation Unit**

(Dr. Soedibjo Sardadi MPH)

II

P R E F A C E

Until the present, government hospitals have been regarded as institutions which have as their main function the delivery of health care which is of acceptable quality and at the same time affordable to the community. Government subsidies has been one of the financial consequences of this policy. It is due to this socially oriented concept that organisation and structure of hospitals do not emphasize the financial efficiency and independency but are more intended to facilitate their health delivery functions. It is quite understandable that in these circumstances cost awareness and cost consciousness does not develop in hospital personnel. To convert hospitals from a socially oriented institution into a financially more efficient one will therefore constitute a major policy change which requires a thorough knowledge of the present state of hospitals.

The Ministry of Health in co-operation with USAID has undertaken a survey of twelve hospitals located in the provinces of Bali, East Java and West Sumatra to obtain data on these hospitals and gain insights into problems which exist and can hamper future efforts to transform hospitals into financially efficient and independent units.

The purpose of this paper is to summarize the findings of this survey and to inform the reader on problems which are suitable to interventions, and those that are intended to improve hospital performance.

Jakarta, 31 October 1989

Prof. DR. Rukmono

Consultant.

ORGANISATION OF STUDY

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Main Contractors

International Science and Technology Institute Inc Dr.Thomas R.D'Agnes,
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2. Binaman Utama, Jakarta

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STUDY CLASSIFICATION

Objectives

To assess the impact on hospitals if changes were introduced to promote operational efficiency and cost recovery and reduce dependence of government subsidy.

Implementation

The implementation of the study was carried out by the following independent contractors :

1. PT BINAMAN UTAMA, responsible for the West Sumatra study
2. Productivity & Quality Management Consultants (PQM), responsible for the East Java and Bali studies

Coverage

The study will cover the following hospitals, and their surrounding communities :

East Java Province :

- | | | |
|------------------------------|----------------------|--------|
| 1. RSUD Saiful Anwar Class B | RS Pendidikan Malang | (RSSA) |
| 2. RSUD Probolinggo Class C | RS Probolinggo | (RSPR) |
| 3. RSUD Bangil Class D | RS Bangil | (RSBA) |
| 4. RSU Panti Waluyo Private | RS Malang | (RSPW) |

Bali Province :

- | | | |
|-----------------------------|------------------------|--------|
| 1. RSUP Sanglah Class B | RS Pendidikan Denpasar | (RSSI) |
| 2. RSUD Tabanan Class C | RS Tabanan | (RSTA) |
| 3. RSUD Gianyar Class D | RS Gianyar | (RSGI) |
| 4. RSU Surya Husada Private | RS Denpasar | (RSSH) |

West Sumatra Province :

- | | | |
|-----------------------------|-------------------|--------|
| 1. RSUD A. Muchtar Class B | RS Bukittinggi | (RSAM) |
| 2. RSUP Bukittinggi Class C | RS Bukittinggi | (RSBT) |
| 3. RSUD Pd. Panjang Class D | RS Padang Panjang | (RSPD) |
| 4. RSU Ibnu Sina Private | RS Bukittinggi | (RSIS) |

- * Syaiful Anwar Hospital is used as a teaching hospital for the Faculty of Medicine, Brawijaya University.
- * Sanglah Hospital is used as a teaching hospital for the Faculty of Medicine, Udayana University.
- * Achmad Muchtar Hospital has not been granted official status as a teaching hospital but is being used to a large extent as a teaching facility by the faculty.

Approach.

To be able to implement the study systematically, the material has been divided into four sub-topics :

- Quality of hospital services.
- Hospital management and organisation
- Hospital cost and finance
- Ability of the community to pay hospital cost

In the first three sub-topics : structure, process and outcome approach have been applied.

Methodology

The study has been carried out based on primary and secondary data. Primary data has been collected through questionnaires and interviews with patients, members of the community, hospital officials and workers.

GENERAL PICTURE OF A HOSPITAL

Location of hospitals under study

The class B, C and Private hospitals under study in West Sumatra are all located in the town of Bukittinggi, with a population of approximately 70,000 persons. This caused overlapping in the operational coverage of the three hospitals.

In East Java and Bali, the class B and private hospital are situated in one town : Malang and Denpasar. Both towns are much bigger than Bukittinggi. These factors caused less overlapping of the operational coverage of hospitals in Malang and Denpasar in comparison to Bukittinggi.

Source of Patients

Generally patients come from the neighbourhood of the hospitals. In East Java and Bali more than 90 % of the patients come from the "kabupaten"¹ where the hospital is situated or from the adjacent "kabupaten". In West Sumatra about 80 - 100 % of the patients come from places within less than 33 km radius.

The catchment area of patients of class B hospitals are usually larger than those of class C and D hospitals.

Patients coming from far away places are few; in Achmad Muchtar Hospital (class B, Bukittinggi) for example there are 2 patients out of 74 patients in the survey who come from Jambi, which is 579 km from Bukittinggi.

The source of patients is influenced by the availability and structure of rail and road transportation existing in each region. Saiful Anwar Hospital (Class B, East Java) for example, has some of its patients come from Blitar and Pasuruan which are relatively distant places from the hospital but are conveniently located near rail and road stations.

Morbidity and Mortality of Frequently Occurring Diseases In Class B Hospitals In This Study :

The Morbidity and Mortality of frequently occurring diseases in Class B Hospitals are presented below :

¹ Note : 'Kabupaten' means District

Morbidity:

- Gastro-enteritis in all Class B Hospitals.
- Respiratory infection in RSSA (East Java) and RSSL (Bali).
- Pulmonary Tuberculosis in RSSA (East Java).
- Intra-cranial Injuries in all Class B Hospitals.
- Septicemia in Neonates and Children in KSSL (Bali).
- Cataract incidence in all hospitals.
- Tonsillitis in all hospitals.
- Typhoid in RSSA (East Java) and RSSL (Bali).

Mortality

- Deaths due to Pulmonary Tuberculosis in RSAM (West Sumatra).
- Deaths caused by rabies in RSAM (West Sumatra).
- Stillbirths in RSSL (Bali).
- Typhoid deaths in RSAM (West Sumatra) and RSSA (East Java).
- Deaths due to neonatal tetanus and septicemia in RSSA (East Java).
- Deaths caused by liver cirrhosis in RSAM (West Sumatra).

Capacity and Utilisation of Hospitals

From tables No.1A, 1B, 1C the following conclusions can be drawn :

- Bed Occupancy Rate (BOR) in hospitals under study is not high; in government hospitals it is in the range of 41.3 - 79.1 %.
- The Average Length of Stay in class B hospitals is longer than in class C and D and private hospitals.
- Volume of activities in class B hospitals is greater than in other hospitals.
- BOR in private hospitals is not particularly high. In fact it is relatively low in Bali and West Sumatra.

Table No.1A
Capacity and Utilisation of Hospitals 1988 EAST JAVA */

ACTIVITIES	RSSA (B)	RSPR (C)	RSBA (D)	RSPW (Priv)
<i>IN PATIENT ACTIVITIES</i>				
Beds	791.0	178.0	77.0	245.0
Bed Occupancy Rate	65.7 %	61.0 %	70.3 %	69.6 %
Average Length of stay (days)	8.7	5.0	3.7	7.4
Total Length of Stay (days)	189,700	39,655	19,747	62,279
<i>OUT-PATIENT ACTIVITIES</i>				
Total amount of visits	292,949	34,769	76,273	38,371
Average Visit per Day	803	95	209	105

*/ Source : Hospital Reports
BOR : Bed Occupancy Rate

Table No.1B
Capacity and Use of Hospitals, Bali 1988 */

ACTIVITIES	RSSL (B)	RSTA (C)	RSGI (D)	RSSH (Priv)
<i>IN-PATIENT ACTIVITIES</i>				
Beds	664.0	130.0	94.0	65.0
Bed Occupancy Rate	60.7 %	78.3 %	79.1 %	32.8 %
Average Length of stay (days)	7.6	5.3	4.2	4.1
Total Length of Stay (days)	147.094	7.168	27.141	7.771
<i>OUT-PATIENT ACTIVITIES</i>				
Total amount of visits	177.876	46.355	52.065	2.297
Average Visit per Day	487	127	143	6

Table No.1C
Capacity and Use of Hospitals, West Sumatra 1988 */

ACTIVITIES	RSAM	RSBT	RSPP	RSIS
<i>IN-PATIENT ACTIVITIES</i>				
Beds	439.0	68.0	62.0	132.0
Bed Occupancy Rate	57.0	57.0 %	41.3 %	54.8 %
Average Length of stay (days)	10.7	6.0	3.5	5.0
Total Length of Stay (days)	72,609	12,616	9,345	2,869
<i>OUT-PATIENT ACTIVITIES</i>				
Total amount of visits	122,185	40,903	18,724	28,776
Average Visit per Day	466	136	99	196

*/ Source : Hospitals Reports

Referral process

To obtain a picture of the referral process, the following data is provided :

Table No. 2
Percentage of patients referred to and accepted by the hospitals

RECEIVING HOSPITALS	From PUSKESMAS % of total visits	Other Sources % total visits	Source Not Mentioned % of total visits
<i>EAST JAVA</i>			
RSSA class B	5.20	2.50	92.30
RSPR class C	5.00	0.20	94.80
RSBA class D	0.30	0.70	99.00
RSPW private	0.05	5.00	94.95
<i>BALI</i>			
RSSL class B	4.50	1.20	94.30
RSTA class C	1.00	0.02	98.98
RSGI class D	1.80	0.95	97.25
RSSH private	0.00	0.00	00.00
<i>EAST SUMATERA</i>			
RSAM class B	23.8	11.9	64.30
RSBT class C	5.9	17.9	76.20
RSPP class D	2.0	6.0	92.00
RSIS private	4.5	15.2	80.30

In East Java and Bali (Table No.2) referral from the Puskesmas to all hospitals is very low except from the Puskesmas to hospitals class B and from the Puskesmas to RS Probolinggo which are higher but still low.

In West Sumatra the percentage of patients referred to hospitals is rather high. The referral process in West Sumatra is sufficiently significant that when interventions are implemented, attention should be directed to the influences effecting referral. For this purpose the characteristics and principles of the referral process of the hospitals under study in West Sumatra should be evaluated in further detail.

QUALITY OF HOSPITAL SERVICES

Facilities

Generally government hospitals already possess the equipment, ability and technical knowledge to provide general health services although the equipment is still very simple in class C and D hospitals.

Essential services are often hampered because of poor maintenance and logistic procurement of chemical supplies and spare parts for diagnostic equipment.

Attention should be paid to the synchronization between the provision of manpower and equipment. For instance in one class B hospital there is up-to-date angiography instruments which cannot be used because there is a lack of knowledge and experience in use of this sophisticated piece of medical technology.

An important finding of this study is that management capability determined the coordination of the services. An example is the long pre-operation length of stay which in class B hospitals varies from 5.8 to 9.4 days, which shows a lack of co-ordination between the supporting services such as laboratory, radiology, nursing rooms and operation rooms.

Among the hospitals under study none has implemented preventive maintenance.

In West Sumatra none of the hospitals under study possess a mortuary.

Manpower

Two standards of manpower are currently being used : i.e. MOH Decree No. 262 and ISN, which are both considered to be inadequate by the directors of the hospitals under study. A single standard should therefore be determined.

Attention should be paid to a satisfactory composition and qualifications of manpower both medical and non-medical. For instance in West Sumatra class B and C hospitals already possess operation rooms but there is no data on the availability of anaesthetists. This is a bit strange because in RSIS (a private hospital in Bukittinggi) three anaesthetists are working part-time. In the class C hospital in Bukittinggi there is a radiological machine not being used because there is no trained radiotechnician available.

All the private hospitals employ doctors part-time who, in many instances also work in government hospitals.

All hospitals employ a great number of honorarium-paid workers.

Medical Records

Medical record data are still incomplete, i.e., there are often no records of previous diseases of patients or working diagnosis. An attempt was made to appraise the quality of services for certain diseases (tracer conditions). This effort failed due to incomplete medical records.

The quality of medical records is deficient and cannot be used as an evaluatory tool to check the quality of medical services in hospitals.

Patient Satisfaction

With regard to patients satisfaction concerning hospital services, there are two main observation :

- 1. In East Java and Bali patient satisfaction concerning the ability of doctors is higher among non medically insured patients than among insured patients. This may be caused by a difference in services towards medically-insured patients.**
- 2. In West Sumatra it was found that the community's perception of the hospitals is lower than that of the patients themselves. It is presumed that negative rumours concerning hospitals circulate in the community which in reality are not experienced by the patients.**

It would be helpful in such a situation that the media and the Public Relation Section of hospitals play an important role to correct the image of the hospital as viewed by the community.

HOSPITAL ORGANIZATION AND MANAGEMENT

Organization Structure

The organizational structure of government hospitals is determined by the Ministry of Health Decree Number 134/1985. This decree emphasizes the social function of a hospital i.e. to deliver health care services of good quality at tariffs affordable to the community. It does not however facilitate financial efficiency of the hospitals.

The other factor that hinders efficient management is that the medical department of a teaching hospital is used as a teaching center for the medical faculty. The existing problem of such a relationship is that there are no clear cut working relations between hospital management and members of the medical faculty. These difficulties are compounded by the different interests and priorities of hospital management in comparison to those voiced by the faculty of medicine.

The study found that some hospitals introduced structural changes not contained in MOH Decree No. 134, with the purpose of overcoming existing shortcomings and problems. For instance, RS Saiful Anwar (class B, Malang) created a Logistics Section to facilitate the central purchase of goods. There are also several hospitals that delegate the purchase and sale of drugs to the hospital cooperative organisation, to ensure the purpose of procuring drugs and to avoid submitting the proceeds to the Government Treasury. This enables management to use the funds for operational purposes and thereby promote the welfare of hospital employees.

In the Bukittinggi conference it was stated that due to manpower shortage, one person is frequently assigned to more than one structural position. It is feared that an official who has been entrusted with several functions at the same time, will not be able to fulfill his task in a satisfactory manner.

Compensation System

The compensation system in government hospitals does not effectively motivate an individual to work better. This is caused by the fact that the incentive given is not based on the evaluation of work performance but more on one's level and position. For instance, an official who is provided with a house, considers it to be his right and not as a motivator to work more conscientiously in the future.

Among the hospitals under study only RS Ibnu Sina (Private, Bukittinggi) gave incentives to its employees based on the evaluation of their work performance.

In government hospitals the para-medics, in addition to their salary, receive an incentive based on a certain percentage of the honorarium of doctors from VIP and 1st. class patients.

Doctors attached to government hospitals receive non-material compensation in the form of a "practice licenses". Private hospitals make use of this practice by accepting them as "part-time" doctors, with the result, that much of the time of government doctors is relegated to working for private hospitals.

In East Java and Bali (Table No.3) it was found that doctor's satisfaction of the salary system is higher in private hospitals in comparison to government hospitals.

Table No. 3
Percentage of doctor satisfaction with existing salary system.

East Java							
RSSA (B)	35.9 %	RSPR (C)	28.6 %	RSBA (D)	36.4 %	RSPW (Priv)	59.4 %
Bali							
RSSL	10.6 %	RSTA (C)	7.1 %	RSGI (D)	38.5 %	RSSH (Priv)	83.3 %

Results from the hospital survey in West Sumatra indicated that employees of RS Ibnu Sina a private hospital at Bukittinggi, showed the greatest satisfaction in the existing incentive system.

In East Java and Bali most government doctors also work in other hospitals with the percentage ranging 63.6 % - 92.9 % . No data is available for doctors in West Sumatra, but it is assumed that there is no difference in the work situation.

Aim, strategy and work-plan formulation process

Policies, strategies and decisions regarding hospitals are heavily influenced by external parties namely : the local government (Pemda), the regional health office local (Kanwil) and the local health office (Dinkes).

The decisions on strategies and finalized work-plans by these external bureaucratic organizations hinder the management decisions on crucial activities of the hospital.

Decision making process

The strategic decision making processes and the formulation of definite aims, objectives and policies of hospitals are heavily influenced by outside third party officials namely the local government (Pemda) and the Ministry of Health.

Tactical decisions are mainly formulated by the hospital management and its managerial staff.

Technical and medical decisions are generally delegated to the medical staff of the respective departments. In teaching hospitals the delegation of authority is to the Faculty of Medicine. Interests and priorities of the medical faculty usually conflict with the decision making process of the hospital director.

Management and quality of services

It has been mentioned earlier that managerial performance determines the quality of services. This study found that the pre-operative length of stay forms a sensitive indicator to measure the capability of hospital services management. It was concluded that the longer the pre-operative length of stay the less effective was the coordination between the supporting units such as: laboratory, radiology, nursing services and operating rooms (see Table no.5).

The level of sanitation can also be used as an indicator for managerial performance. It should be noted that in government hospitals, progress in the field of the cost recovery has to date not been included as an indicator to measure managerial success. The result is that cost consciousness of government hospitals officials is either absent or has failed to develop adequately.

Level of absenteeism

All hospitals under this survey control their employees through a roll-call system. Only one hospital, RSIS (private, Bukittinggi) carries out a follow-up system which applies sanctions on defaulters ie., namely the salary of the employees is deducted accordingly to the number of days absent.

Data available from West Sumatra, indicate a rather high degree of absenteeism in RSAM (class B, Bukittinggi) 7.7 % and RSPP (class D, Padang Panjang) 7.6 %, whereas the absenteeism in RSBT (class C) and RSIS (Private) was about 2.7 %.

The level of doctors absenteeism in RSAM (class B) was high and has been estimated to be about 46 %.

The high level of absenteeism contributes to a decrease in the productivity of hospitals. This matter should therefore be addressed as a priority.

Employee Satisfaction

In East Java and Bali it was found that employees were satisfied with their jobs but not with their salaries. In the private hospital at Denpasar (RS Surya Husada) the employees were dissatisfied with the lack of opportunity for future career development. This was also noted amongst employees in the private hospital at Bukittinggi namely at RSIS - (Class B Hospital). This may be one of the major factors that contribute to the high rate of employee transfers from the RSIS hospital to vacant posts at the government hospital.

Level of human resources productivity

Conclusions from the compiled data in chart no. 4A, 4B, 4C shows, that among government hospitals the ratio between the number of outpatients and the total number of employees was the highest in class D hospitals, when compared to other government hospitals.

In private hospitals in East Java and Bali, the ratio between outpatients and employees was small. This was caused by the small number of outpatients in mentioned private hospitals.

On the contrary in the private hospital in West Sumatra (RSIS) the ratio between the number of outpatients and employees was high, because the number of outpatients was large.

Table No. 4A
Patients/Empolyees Ratio

RATIO	EAST JAVA			
	RSSA (B)	RSPR (C)	RSBA (D)	RSPW (PRIV)
Outpatients/Employees	190.0	152.5	501.8	17.3
Inpatients/Employees	15.2	43.1	35.3	13.4
Patient days/Employees	118.3	173.9	129.9	104.1
Number of Employees	1,639	228	152	598

Table No. 4B
Patients/Employees Ratio

RATIO	BALI			
	RSSL (B)	RSTA (C)	RSGI (D)	RSSH (PRIV)
Outpatients/Employees	139.3	202.0	312.0	21.3
Inpatients/Employees	16.5	32.2	40.8	7.6
Patient days/Employees	115.8	162.3	165.5	34.4
Number of Employees	1,277	229	164	82

Table No. 4C
Patients/Employees Ratio

RATIO	WEST SUMATRA			
	RSAM (B)	RSBT (C)	RSPP (D)	RSIS (PRIV)
Outpatients/Employees	281	261	330	302
Inpatients	16	15	32	31
Patient days/Employees	170	91	117	154
Number of Employees	428	162	78	188

Pre-Surgery Length of Stay

Table No.5
Pre-Surgery Length of Stay (Days)

HOSPITAL	Elective Appendectomy	Inguinal Hernia
<u>EAST JAVA</u>		
1.RS.SANWAR (B)	5.9	5.8
2.RS.PROBOLINGGO (C)	-	2.5
3.RS.BANGIL (D)	-	-
4.RS.PANTI WALUYO (Private)	1.9	1.1
<u>BALI</u>		
1.RS.SANGLAH (B)	-	7.2
2.RS.TABANAN (C)	-	2.0
3.RS.GIANYAR (D)	-	-
4.SURYA HUSADA (Private)	-	0.8
<u>WEST SUMATRA</u>		
1.RS.A.MUCHTAR (B)	5.3	9.4
2.RS.BUKITTINGGI (C)	1.2	1.4
3.RS.PADANG PANJANG (D)	-	-
4.RS.IBNU SINA (Private)	1.3	0.6

Note : the pre-surgery length of stay in class B hospital is longer than in other hospitals (Table No. 5).

HOSPITAL COST AND FINANCE

General

The financing of government hospitals basically follows the general financing principles of any other government services division. The fact that a hospital can function as a dynamic production organization is not reflected in its financing pattern. At present financial statements from government hospitals expose the latter as cost centers rather than revenue generating organizations.

The funds of government hospitals (especially Regional Government Hospitals) are obtained from several sources such as APBN (National Budget), APBD (Regional Budget), SBBO, SDO, BANTPRES (Presidential Assistance), INPRES (Presidential Instructions). Each funding agency has their own budgetary, expenditure, managerial and supervisory policies.

Such a complex financing pattern makes efficient planning and management difficult and the optimal use of funds from these sources by hospital management impossible.

Other negative contributing factors :

- Transfer of budget allocations is not easily possible. The end results are that, at the end of the fiscal year there may be a remainder in one of the budget allocations which cannot be used to cover a shortage in another allocation section.
- The direct use of revenues to cover cost deficiencies is not allowed because the revenues according to ICW regulations should be submitted to the State Treasury immediately.

The above findings indicate that the financing of government hospitals is not in accordance with hospital operational needs.

A major problem caused by the deficient accountancy and financial management system of government hospitals, is that the required information needed to evaluate, observe and supervise hospital operations are not available.

The above depicted shortages are the result of the general philosophy of government hospitals at present, namely, to provide easily available health services of good quality for their respective communities. Whereas the financial burden is expected to be overcome by government subsidy.

Funds

As previously stated the funds received by hospitals come from several sources (Table No. 6) which then have to be separately accounted for to each source.

The accounting process must be in accordance with existing regulations, so it must be "formally" correct whereas little attention is paid to its proper format. This situation does not facilitate optimal efficiency of budget utilization.

General hospitals usually experience funds limitation. The result is that when planning the budget the hospital management has to take into consideration the "ceiling" applied to them, thus compromising operational requirements.

Table No. 6 shows that government hospitals in Bali received funds for development from two sources namely APBN (National Budget) and the APBD (Regional Budget). Funds for development coming from several sources must be well coordinated because development increases operational costs which are limited.

Regulations

ICW regulations compel Government hospitals to submit their revenues to the State Treasury thus depriving hospitals the right to reserve funds from the revenues they receive from the community, which can be used for operational costs of the hospitals. The result is that the activities of the hospital services which have a tendency to change cannot be funded in a satisfactory manner.

To "avoid" ICW regulations many hospitals carry out extra-structural activities. For example the supply of drugs by a cooperative system responsible to the hospital management does not need to submit its earnings to the State Treasury.

The regulations that govern management of the state budget is carried out on a cash basis. This type of set-up does not enable hospitals to evaluate, monitor or plan their financial services.

Another central policy decision applied to hospitals is the regulation of tariffs. All increases in tariffs must be approved by the regional government before it can be implemented in the hospitals. This contributes to the autonomy woes of the hospital and its management staff.

Human Resources

The qualifications of the hospital financial management staff are insufficient; this is due to the fact that hospital financial management is yet to be considered as a specialized department.

In all private hospitals under study the financial system has been set up with the assistance of an outside financial expert, a public accountant. Although the system used in private hospitals is simple, in general it is more advanced than that seen in government hospitals.

Accounting

In general, accounting in the finance sector is elementary (raw data) and just sufficient for the purpose of routine reports sent to the source of the fund. This is done by a treasurer who is not a regular hospital employee and not attached to the hospital but to the Regional or Local Health Office.

In small hospitals (class C and D) the hospital management still has an opportunity to manage the hospital's internal financial system, but in big hospitals (class B) the management should be assisted by a sophisticated computerized management system. This is due to the large number of activities and having to report to several funding sources and interested organizations outside the hospital.

Hospital Revenues

Table No. 6 shows the structure of hospital revenues. From the table the following matters can be concluded :

1. Government hospitals are subsidized through several channels (National Budget, Regional Budget, SBBO, SDO, Presidential Assistance, Presidential Instructions). Besides subsidy, government hospitals also receive revenue from services provided to the community. There are direct revenues and those received through insurance (PHB, ASTEK, Jasa Raharja).
2. Class B teaching hospitals receive the largest subsidies namely : RSUD Saiful Anwar in East Java and RSUP Sanglah in Bali.
3. Government hospitals directly receiving revenues from health services are proportionally low, and stand around 15 %.
4. Revenues received from health services through insurance is also small, the largest revenue (2.7 %), was earned at RS Achmad Mochtar.
5. There are no records in private hospitals to record revenues received from insurance agencies.

Table. 6
DISTRIBUTION OF HOSPITALS REVENUES

Source of funds	EAST JAVA								BALI								WESTSUMATRA								
	SAIFUL ANWAR B.REGION		PROBO-LINGGO C.REGION		BANGIL D.REGION		PANTI WALUYO PRIV.		SANGLAH B.REGION		TABANAN C.REGION		GIANYAR D.REGION		SURYA HUSADA PRIV.		ACHMAD MOCHTAR B.REGION		BUKT TINGGI C.REGION		PADANG PANJANG D.REGION		IBNU SINA Priv.		
	mill	%	mill	%	mill	%	mill	%	mill	%	mill	%	mill	%	mill	%	mill	%	mill	%	mill	%	mill	%	
USER FEES Freq.	817	10.3	227	28.2	49	16.9			95.4	662	13.8	73	11.7	45	9.3	674	100	223	10.5	71	17.4	20	12.9	1.123	99
Nat. Budget -Routine			85	10.6	46	15.6	1,988	60.5	3,199	64.8	55	8.8							329	81.4					
-Developmt.							1,205	36.7	832	17.3	11	1.7	10	2			450	21.3							
Reg. Budget -Routine	5,495	69.7	385	47.8	75	25.5					343	55	344	71.6			817	38.7			119	76.6			
-Developmt.			21	2.6	14	4.6			40	0.8	44	7.1	16	3.4											
SBBO - SDO	1,034	13.1	39	4.8	18	6.2					39	6.2	30				574	27.2			14	9			
Pres. Asst.																									
Pres. Inst.	355	4.5	9	1.1	84	28.6					37	6.0	23	4.7							0.5	0.3			
Insurance (PHB, ASTEK Jasa-Rahardja)	193	2.4	19	2.4	6	2.2			99	2.1	15	2.4	3	0.7			45	2.2	5	1.2	2	1.2			
Others			20	2.5	1		95	2.9	60	1.2	7	1.1	10	2.1									15	1	
TOTAL	7,894	100	805	100	293	100	3,288	100	4,812	100	624	100	480	100	674	100	2,109	100	405	100	155	100	1,138	100	

Distribution of Funds

From Table No. 7 : Use of Funds, the following conclusions can be drawn :

1. **Class B Government teaching hospitals receive the largest amount of subsidies.**
2. **The percentage of expenditures for salaries and allowances in government hospitals are much higher than in private hospitals (the possibility is that this might be due to under-recording of doctors fees in private hospitals). The compensation of government employees is relatively low with the number of staff in government hospitals being proportionally larger than those in private hospitals.**
3. **Medical remuneration is much higher in private hospitals than in government hospitals both in percentages and real numbers. This may reflect that medical remuneration for medical staff (doctors) in private hospitals is generally higher.**
4. **RS Saiful Anwar Class B hospital in East Java accounted for the highest maintenance cost (9.9 %). Maintenance costs of hospital facilities are a major burden to hospitals and should be increased in future annual budgets.**
5. **Survey results from private hospitals showed that surpluses in the budget was highest (55.2 %) in RS Ibnu Sina hospital in West Java. This was due to low (7.2 %) material costs (including drugs) and patients paying for their prescription drugs.**

Table 7
DISTRIBUTION OF FUNDS (Rp.000.000).

HOSPITAL	TOTAL INCOME	%	Pay and Allow	%	Medical Incent.	%	Adm Cost	%	Material	%	Maintenance	%	Others	%	Development	%	Transf to Govt	%	Total Expend.
EAST JAVA																			
RS.UD.SAIFULANWAR	7.894	100	2.161	27	62	1	756	10	2.836	36	779	10	31	0,4	355	5	913	12	7.894
RS.UD.PROBOLINGGO	805	100	254	32	14	2	12	2	250	31	2	0,3	8	1	21	3	244	30	805
RS.UD.BANGIL	293	100	135	46	2	1	8	3	70	24	13	4	0,5	0,2	14	5	51	17	293
RS.PANTI WALUYO	3.288	100	398	12	1.205	37	27	1	1.238	38	32	1	150	5			237	7	3.288
B A L I																			
RS.UP.SANGLAH	4.811	100	1.735	36	87	2	77	2	1.195	25	121	3	3	0,1	872	18	721	15	4.811
RS.UD.TABANAN	624	100	306	49	8	1	13	2	134	22	48	8	3	0,5	35	6	76	12	624
RS.UD.GIANYAR	480	100	171	56	4	1	11	2	98	20	39	8	3	0,7	10	2	45	9	480
RS.SURYA HUSADA	674	100	42	6	233	34	16	2	186	28	13	2	83	12	24	4	77	11	674
WEST SUMATERA																			
RS.UD.ACH.MOCHTAR	2.109	100	444	21	105	5	50	2	721	34	164	8	12	0,6	450	21	162	8	2.108
RS.UD.BUKITTINGGI	405	100	128	32	21	5	14	4	145	36	38	9		7			55	14	405
RS.UD.PD.PANJANG	155	100	89	57	4	3	8	5	30	19	4	3	0,4	0,3			19	13	155
RS.IBNU SINA	1.139	100	206	18	158	14	18	2	82	7	4	0,3	27	2			629	55	1.139

Notes:

1. In RS.Ibnu Sina utilisation of funds from "other" sources amounting to Rp.15.247, is not shown in the balance sheet.
2. Private hospitals do not submit revenues to gov't. and these are stated in their financial balance sheet as surplus.

Estimated and Actual Revenues

Actual revenues received by government hospitals in this study were always lower than the estimated budget (Table No. 8).

Cost recovery could be increased by bridging the gap between estimated and actual revenues received by hospitals.

Table No. 8

Estimated and Actual Revenues for 1988/1989 in Rp.000,-

HOSPITALS		ESTIMATED REVENUES	ACTUAL REVENUES	REVENUES NOT RECEIVED	%
		Rp.000,-	Rp.000,-	Rp.000,-	
<u>East Java</u>					
RS.Saiful Anwar	(B)	937,081	816,844	120,237	12.8
RS.Probolinggo	(C)	259,960	244,633	15,327	5.9
RS.Bangil	(D)	66,867	50,589	16,278	24.3
<u>Bali</u>					
RS.Sanglah	(B)	981,740	721,243	270,497	27.1
RS.Tabanan	(C)	128,072	72,934	55,138	43.1
RS.Gianyar	(D)	55,911	44,795	11,116	19.9
<u>West Sumatra</u>					
RS.A.Mochtar	(B)	511,687	222,451	289,236	56.5
RS.Bukittinggi	(C)	70,625	70,454	171	0.2
RS.P.Panjang	(D)	24,315	20,002	4,313	17.7

Hospital Unit Cost

The determination of unit cost in government hospitals is not possible because the accountancy and financial management systems have not been structured around cost centres.

The result is that the information needed to calculate unit cost is not available but has to be collected from various sources scattered throughout the hospital.

To determine unit cost, one has to determine cost centers and then allocate the hospital costs to each cost center. By using the "step down" method for allocations, the non revenue producing centers are then transferred to revenue producing centers.

This study has used certain preliminary assumptions to explain missing data. But, these assumptions are neither uniform or standardised, and unit costs calculated on such assumptions can only be used in a limited manner.

Ratio between tariff and unit cost

1. In all government hospitals under survey in East Java and Bali the tariffs of the polyclinic are well below the unit cost (table No. 9).
In West Sumatra this difference is further decreased because, entry fee and drugs costs have been included in the tariffs (table No. 9).

Table No. 9

Example :

Ratio of difference between tariff and unit cost in class B hospital general polyclinic.

HOSPITAL	TARIFF	UNIT COST	RATIO TARIFF/UC
RS.S. Anwar <u>East Java</u> (B)	Rp. 350	Rp.5,805	6 %
RS.Sanglah <u>Bali</u> (B)	Rp. 400	Rp.4,394	9 %
RS.A.Mochtar <u>West Sumatra</u> (B)	Rp.1,850	Rp.5,948	31 %

Note : UC = Unit Cost (calculated with drugs and depreciation)

2. In class B government hospitals the difference between tariff and unit cost of first class nursing tariff is small but in the lower classes (class II and III) the difference is greater. This means that there is already a kind of "cross subsidy", available in a limited way, as the number of services in VIP and class I is relatively low (table No. 10). In no instance do those tariffs exceed unit cost.

Table No. 10

Example

Ratio of difference between tariff and unit cost in in-patient services in RS A. Anwar (B), East Java

NURSING CLASS	TARIFF	UNIT COST	RATIO TARIFF/UC
VIP	Rp. 17,500	Rp. 19,889	88.0 %
I	Rp. 5,000	Rp. 21,015	23.8 %
II	Rp. 3,000	Rp. 21,226	14.1 %
III A	Rp. 750	Rp. 20,845	3.6 %
III B	Rp. 500	Rp. 19,924	2.5 %

3. The difference between tariff and unit cost for laboratory services is not as large as that seen for services in the polyclinic. In RS Probolinggo class C, (East Java) the tariff is higher than the unit cost (Table No. 11)

Table No. 11

Example

Ratio of difference between tariff and unit cost of laboratory services

HOSPITAL	TARIFF	UNIT COST	RATIO TARIFF/U.C
<i>EAST JAVA</i>			
RS.SANWAR (B)	Rp. 1,000	Rp. 1,039	96.2 %
RS.PROBOLINGGO (C)	Rp. 1,250	Rp. 563	222.0 %
RS.BANGIL (D)	Rp. 750	Rp. 1,512	49.6 %
<i>BALI</i>			
RS.SANGLAH (B)	Rp. 450	Rp. 540	83.3 %
RS.TABANAN (C)	Rp. 600	Rp. 891	67.3 %
RS.GIANYAR (D)	Rp. 300	Rp. 466	64.4 %

In general the same difference between tariffs and unit costs apply to hospitals under survey in West Sumatra.

4. In East Java and Bali the ratio between tariff and unit cost of radio diagnostic services is generally satisfactory. In RS Sanglah the tariff (Rp.7.500) is two and a half times the unit cost (Table No. 12).
5. Data on radio therapy is only available from RS Sanglah (class B) in Denpasar. The ratio between tariff and unit cost is low accounting for 5.3 % (Table No. 12).

The above conclusions should be considered from the fact that revenues of the government hospitals under survey are generally quite low (20 % of the budget), except in RS Probolinggo (class C, East Java), where it is 30.6 % of the budget.

Comparison of Hospitals Unit Cost (Table No. 13).

1. General outpatient unit cost in class B hospitals is higher than in other hospitals, private hospitals included.
2. Emergency services unit cost in all class B hospitals is higher than class C, D hospitals.
3. Inpatient unit cost in class B general hospitals is higher than that in private hospitals, although the facilities (rooms, sanitation, etc.) are better in private institutions for the given class of hospital.
4. ICU - ICCU services unit costs in RS Achmad Mochtar (class B, Bukittinggi) are much higher than in other class B government hospitals and private hospitals in Bukittinggi.
5. Special operations unit costs in RS Achmad Mochtar are high.
6. Laboratory services unit costs in RS Bukittinggi are high.

TABEL No.12

Tarif and Unit Cost Ratio (calculated with drug and depreciation except in Private Hospitals, where ratio was calculated with drugs but without depreciation)

	CLASS B HOSPITALS									PRIVATE HOSPITALS								
	MALANG			DENPASAR			BUKITTINGGI			MALANG			DENPASAR			BUKITTINGGI		
	TARIF (Rp.)	UNIT COST	%	TARIF (Rp.)	UNIT COST	%	TARIF (Rp.)	UNIT COST	%	TARIF (Rp.)	UNIT COST	%	TARIF (Rp.)	UNIT CCST	%	TARIF (Rp.)	UNIT COST	%
OUTPATIENT	350	5,805	6,0	400	4,354	9,1	1,850	5,948	31,0	2,215	3,904	54,4	6,000	61,457	9,76	1,900	1,014	178,0
EMERGENCY	350	8,506	4,1	800	4,332	18,5	2,200	13,086	17,0							2200	2,191	100,0
INPATIENT CLASS VIP	17,500	19,889	88,0	23,000	27,310	84,2	15,000	27,283	55,0	55,000	26,981	203,8	60,000	127,806	47,0	25,000	16,984	174,0
CLASS I	5,000	21,015	23,8	14,000	16,657	84,0	8,000	20,508	39,0	27,500	15,391	178,8	40,000	118,200	33,8	20,000	14,039	142,0
CLASS II	3,000	21,226	14,1	4,600	12,922	35,6	4,500	16,530	27,0	13,750	11,119	123,7	25,000	113,753	22,0	4,500	10,041	45,0
CLASS III							1,000	15,375	7,0							1,000	8,118	12,0
CLASS IIIA	750	20,845	3,6	1,800	12,231	14,7				5,500	10,671	51,5	20,000	103,900	19,25			
CLASS IIIB	500	19,924	2,5	600	12,058	5,0				2,200	10,964	20,1	18,000	100,531	17,83			
ICU/CCU	52,500	18,128	289,6		15,389		4,500	200,574	2,0							15,000	40,360	37,0
OPERATION SPEC. OPER.		13,068		6,548	11,773	55,6		180,750			252,431							
MAJOR OPER.							106,774	90,395	118,0							196,225	286,200	69,0
MED. OPER.							48,572	25,559	190,0							133,070	71,550	186,0
MINOR OPER.							5,360	2,250	237,0							44,238	7,155	619,0
LABORATORY SOPH. LAB.	1,000	1,039	96,2	450	540	83,3				1,195	454	263,4						
MED. LAB.							6,539	23,834	27,0									
SIMPLE LAB.							1,133	18,079	6,0									
							265	894	30,0									
RADIO DIAGNOSIS SOPH. RADIOLOGY	1,500	2,768	54,12	7,500	2,992	250,7				14,896	7,235	205,9						
MED. RADIOLOGY							24,724	31,514	79,0							40,000	9,198	435,0
SIMPLE RADIOLOGY							6,752	10,505	64,0							35,000		
RADIO THERAPY				1,533	28,962	5,3	4,058	5,252	78,0							7,500	1,533	489,0
PHARMACY		896			11,832			515			11,532						367	

TABEL No. 13
UNIT COST OF GOVERNMENT HOSPITALS AND PRIVATE HOSPITALS 88/89 *

	EAST JAVA				BALI				WEST SUMATRA			
	RS.ANWAR	RS.PROBO-LINGGO	RS.BANGIL	RS. P.WALUYO	RS. SANGLAH	RS. TABANAN	RS.UD. GIANYAR	RS. HUSADA	RS.UD.A. MOCHTAR	RS.UP BUKITTINGGI	RS.UD.PD. PADANG	RS.IBNU SINA
	B.	C.	D.	Priv. -	B.	C.	D.	Priv. +	B.	C.	D.	Priv. +
	(Rp.)	(Rp.)	(Rp.)	(Rp.)	(Rp.)	(Rp.)	(Rp.)	(Rp.)	(Rp.)	(Rp.)	(Rp.)	(Rp.)
OUTPATIENT	5,808	4,351		3,904	4,394	2,868	2,486	61,457	5,948	2,838	2,039	1,014
EMERGENCY	8,506	4,637	1,319		4,332	5,711	3,817		13,085	5,503	9,006	2,191
INPATIENT												
CLASS VIP	19,889	8,917		26,981	27,310			127,806	27,283			16,984
CLASS I	21,015		5,290	15,397	15,557	9,539		118,200	20,508			14,039
CLASS II	21,226	8,845		11,119	12,922	10,111	10,373	113,753	16,530	18,523		10,041
CLASS III									15,375	16,527	7,976	8,118
CLASS IIIA	20,845	8,878	13,433	10,671	12,231	9,657	9,343	103,900				
CLASS IIIB	19,924		5,139	10,964	12,058	9,103	9,232	100,931				
ICU/CCU	18,128				15,389				200,574			
OPERATION	13,068	4,241	2,198	252,431	11,773	5,543	3,584					
SPEC.OPER.									180,790			
MAJOR OPER.									90,395	296,792		286,200
MED.OPER									25,599	74,198		71,550
MINOR OPER.									2,260	7,420	208,343	7,155
LABORATORY	1,039	563	1,512	454	540	851	466					
SOPH.LAB.									23,834	199,307		
MED.LAB									18,079	59,358	1,579	
SIMPLE LAB.									894	7,474	592	4,859
RADIO DIAGNOS.	2,763	10,820	7,433	7,235	2,992	4,614	7,492					
SOPH.RADIOLOGY									31,514			9,198
MED.RADIOLOGY									10,509	89,412		
SIMPLE RADIO.									5,252	44,706	19,132	1,533
RADIO THERAPY					28,962							
PHARMACY	896	2,022	96	11,532	11,832	278	391		616	440	413	307
MED.REHAS.	3,852				4,139				5,161			16,560

Unit cost for Husada Private without depreciation

Hospitals revenues through insurance

To obtain a picture of hospitals revenues through health insurance, the follow-data from West Sumatra is provided :

Table No. 14A
Patients and community participation in health insurance in West Sumatra

	INPATIENT	OUTPATIENT	COMMUNITY
Insurance members	52	85	136
Non-members	117	154	265
Percentage members :			
Non-members	44.4 %	55.2 %	51.3 %

Table No. 14B
Ratio between revenues through insurance and direct revenues in three government hospitals in West Sumatra

RESPONDENTS	RSAM	RSBT	RSPP
Revenues through insurance (% of total revenue)	2.7 %	1.2 %	1.2 %
Direct revenues (% of total revenue)	13.4 %	17.4 %	12.9 %
Direct insurance : (% of revenues through insurance)	20.1 %	6.9 %	9.3 %

From table no. 14A it can be concluded that the percentage of the ratio between insurance members and non-members is between 44.4 % and 55.2 %, whereas chart no. 14B shows that the percentage of the ratio between revenues through insurance and direct revenues is between 6.9 % and 20.1 % , which in comparison is below the percentage of the ratio between the number of insurance and non- insurance patients.

Data obtained from East Java and Bali (Table No. 15A and No. 15B) give the impression that as in the case of West Sumatra, the ratio between hospital revenues through health insurance and direct revenues is lower than the ratio between the number of insurance and non-insurance patients.

The reasons for low revenues through insurance compared to the ratio between insurance and non-insurance patients are not known. One possibility is that insurance patients are only treated in class III hospitals.

Table No. 15A

Ratio between insurance and non-insurance members and between revenues through insurance and direct revenues in three government hospitals in East Java.

RESPONDENTS	RSAA	RSPA	RSBA
Insurance member	82	68	59
Non-insurance members	162	123	139
Percentage = member: non-member	50.6 %	55.3 %	42.4 %
Revenues through insurance (% of entire budget)	2.4 %	2.4 %	2.2 %
Direct revenue (% of entire budget)	10.3 %	28.2 %	16.9 %
% of revenues through insurance : direct revenues	23.3 %	8.5 %	13.0 %

Table No.15B

Ratio between insurance and non-insurance members and between revenues through insurance and direct revenues in three government hospitals in Bali.

RESPONDENTS	RSSL	RSTA	RSGI
Number of respondents Insurance members	94	44	44
Number of respondents non-members	149	181	160
Percentage Members: non-members	63.1 %	24.3 %	27.5 %
Revenues through insurance (% of entire budget)	2.1 %	2.4 %	0.7 %
Direct revenues (% of entire budget)	13.8 %	11.7 %	9.3 %
% of revenues through insurance : direct revenues	15.2 %	20.5 %	7.5 %

Inpatient services cost structure

Table No.16
Inpatient services cost structure in East Java, Bali and West Sumatra

COMPONENT	EAST JAVA	BALI		WEST SUMATRA
	Govt.Hospitals Average (%)	Govt.Hospitals Average (%)	RSSH Priv. (%)	Average (%)
Doctors	12.12 %	3.0 %	23.3 %	32.9 %
Drugs (*)	36.22 %	34.4 %	21.8 %	24.6 %
Nusing services	20.08 %	24.0 %	23.8 %	20.5 %
Laboratory	5.04 %	6.1 %	10.7 %	2.7 %
Administration	0.39 %	2.6 %	2.1 %	6.3 %
Others	26.13 %	29.9 %	18.3 %	13.0 %
Total	100.0	100.0	100.0	100.0

(*) including the cost of drugs bought outside the hospital.

Table No. 16 shows that in hospitals in East Java and West Sumatra, the biggest costs are for doctors, drugs and nursing services

In Bali's government hospitals, drugs and nursing expenditures contribute to a large portion of total costs when compared with the costs for doctors.

From existing data in Bali it was found that the doctor's cost component in government hospitals under study is not yet uniform and are as follows :

- 0.0 % in RSUP Sanglah
- 19.8 % in RSUD Tabanan
- 0.3 % in RSUD Gianyar

THE ABILITY OF THE COMMUNITY TO FINANCE HEALTH SERVICES

East Java and Bali

To measure the ability of the community to pay, the latter is divided into three groups in accordance with World Bank criteria, and, are as follows :

1. 40 % of the community belonging to the lower income groups.
2. 40 % of the community belonging to the middle income groups.
3. 20 % of the community belonging to the high income groups.

Using the above World Bank formula the main findings of the study are shown in the following charts.

East Java

Table No. 17
Structure of patients

INCOME GROUPS	INCOME CLUSTERS	INPATIENTS		OUTPATIENTS	
		NUMBER OF RESPONDENTS	%	NUMBER OF RESPONDENTS	%
40 % (Low)	< 23,333	73	51.77 %	96	39.34 %
40 % (Middle)	23,333 - 43,333	31	21.99 %	79	32.38 %
20 % (High)	43,333 >	37	26.24 %	69	28.28 %
TOTAL		141	100.00 %	244	100.00 %

- Inpatient services in East Java are generally used by low income community individuals.

Table No. 18

Inpatient structure according to income groups in RS Saiful Anwar (B) and RS Panti Waluyo (Private)

INCOME GROUPS	INCOME CLUSTERS OF PATIENTS				
	INCOME CLUSTERS	RS.SAIFUL ANWAR (B)		RS.PANTI WALUYO (Priv)	
		NUMBER OF RESPONDENTS	%	NUMBER OF RESPONDENTS	%
40 % (Low)	< 25.000	36	73.47 %	5	17.24 %
40 % (Middle)	25,001 - 56,250	11	22.45 %	10	34.48 %
20 % (High)	56,251 >	2	4.08 %	14	48.28 %
TOTAL		49	100.00%	29	100.00%

In class (B) government hospitals (RSSA) inpatient services are more often used by patients from the low income groups compared to private hospitals which serve patients from the middle and high income groups.

Table No. 19

Outpatient structure according to income groups in RS Saiful Anwar (B) and RS Panti Waluyo (Private).

INCOME GROUPS	INCOME CLUSTERS OF PATIENTS				
	INCOME CLUSTERS	RS.SAIFUL ANWAR (B)		RS.PANTI WALUYO (Priv)	
		NUMBER OF RESPONDENTS	%	NUMBER OF RESPONDENTS	%
40 % (Low)	< 25.000	51	49.52 %	16	34.04 %
40 % (Middle)	25,001 - 56,250	36	34.95 %	20	42.55 %
20 % (High)	56,251 >	16	15.53 %	11	23.41 %
TOTAL		103	100.00%	47	100.00%

Outpatients services of government hospitals are for the major part used by patients from low income groups whereas in private hospitals there are many patients from the middle income groups.

Table No. 19A
Patients structure according to income groups in RS Probolinggo

INCOME GROUPS	INCOME CLUSTERS	INPATIENTS		OUTPATIENTS	
		NUMBER OF RESPONDENTS	%	NUMBER OF RESPONDENTS	%
40 % (Low)	< 22,000	16	48.49 %	16	33.33 %
40 % (middle)	22,001 - 39,500	11	33.33 %	12	25.00 %
20 % (High)	39,501 >	6	18.18 %	20	41.67 %
TOTAL		33	100.00 %	48	100.00 %

From Table no. 19A it can be concluded that in RS Probolinggo (class C) inpatient services are used by patients having a low income, whereas outpatient services are used proportionally by patients having a higher income.

Table No. 20
The average ability of inpatients to pay for medical expenses per family in three government hospitals in East Java

Income Group	Average Income Per/house Hold Permonth	Average FoodCost	Ability= Income- FoodCost	Average Input Cost PerPeriod	Cost Ability I	Ratio I	Expenses Outside Nursing Cost	Cost Ability II	Ratio II
(1)	(2)	(3)	(4)=(2)-(3)	(5)	(6)=(4)-(5)	(7)=(6):(4)	(8)	(9)=(8):(6)	(10)=(9):(4)
40% (lowest)	63,014.70	52,033.08	10,981.62	47,965.80	-36,984.18	3.37	10,386.29	-47,369.47	(4.31)
40% (middle)	109,523.0	72,807.69	36,615.39	99,986.53	-63,371.14	1.73	48,617.31	-14,753.83	(0.04)
20% (high)	198,318.43	97,777.77	100,541.63	71,426.38	29,115.25	0.29	3,933.33	33,048.58	0.33

The above table shows that low and middle income families paying for one inpatient episode can be difficult because the cost is larger than their ability (income - food cost).

Table No. 21

Average ability outpatient patients to pay for medical expenses per family in four hospitals in East Java.

Income Group	Average income per house hold per month	Average Food Cost	Average Ability for Medical Treatm	Average Outpatient Cost	Ratio Ability
(1)	(2)	(3)	(4) = (2)-(3)	(5)	(6) = (5):(4)
40% (Low)	65,585.42	51,322.92	14,262.50	5,873.69	0.41
40% (Middle)	138,056.33	93,815.19	44,241.14	4,847.59	0.11
20% (High)	269,315.22	110,985.51	158,329.71	10,712.32	0.07

The above table shows that house holds of all income groups can pay for out-patient cost, and that the potential ability (income - food cost) is higher than outpatient cost.

Bali

Table No. 22

Structure of patients according to income groups in four hospitals in Bali

Income Groups	INCOME GROUPOF PATIENTS				
	Income Clusters	INPATIENT		OUTPATIENT	
		Number of Respondents	%	Number of Respondents	%
40% (low)	< 24,999	47	36.43 %	100	38.17 %
40% (middle)	25,000 - 49,999	44	34.11 %	98	37.40 %
20% (high)	50,000 >	38	29.46 %	64	24.43 %
TOTAL		129	100.00 %	262	100.00 %

There is no basic difference between users of the in-patient and out-patient services. Hospital services are in general, used more frequently by the low income community groups

Table No. 23

In-patient structure according to income groups in RS Sanglah and RS Surya Husada.

Income Groups	INCOME GROUP OF PATIENTS				
	Income Clusters	RS Sanglah (B)		RS Surya Husada (Priv)	
		Number of Respondents	%	Number of Respondents	%
40% (low)	< 29,999	19	43.18 %	4	23.53 %
40% (middle)	30,000 - 59,999	14	31.82 %	5	29.41 %
20% (high)	60,000 >	11	25.00 %	8	47.06 %
TOTAL		44	100.00 %	17	100.00 %

In government hospitals there are more in-patients coming from low income community groups than in private hospitals. Patients from the high income group make up essentially the major portion of in-patients in private hospitals.

Table No. 24

Out-patient structure according to income groups in RS Sanglah and RS Surya Husada.

Income Groups	INCOME GROUP OF PATIENTS				
	Income Clusters	RS Sanglah (B)		RS Surya Husada (Priv)	
		Number of Respondents	%	Number of Respondents	%
40% (low)	< 29,999	39	38.80 %	6	26.09 %
40% (middle)	30,000 - 59,999	39	38.80 %	8	34.78 %
20% (high)	60,000 >	20	20.41 %	9	39.13 %
TOTAL		98	100.00 %	23	100.00 %

In government hospitals out-patients come from low income groups whereas in private hospitals the majority are from high income groups.

Table No. 25

Average ability of in-patient patients to pay for medical expenses per house hold in three government hospitals in Bali

Income Group	Average Income Perhouse Hold Permonth	Average Food Cost	Ability Medical Treatm	Average Medical Eponses	Expenses Ability I	Ratio I	Average Pre-Inp. Treatm	Expenses Ability II	Ratio II
(1)	(2)	(3)	(4)=(2)-(1)	(5)	(6)=(4)-(5)	(7)=(6):(4)	(8)	(9)=(8)-(6)	(10)=(9):(4)
40% (lowest)	83,080.00	67,888.89	15,391.11	40,802.11	-25,411.00	1.85	1,656.67	-35,067.67	(2.28)
40% (middle)	137,832.50	98,637.50	44,195.00	68,328.13	-44,131.13	1.00	38,065.00	-82,196.13	(1.88)
20% (high)	206,878.00	92,100.00	144,778.00	144,400.80	377.20	0.00	29,558.04	-29,180.94	(0.25)

Low and middle income families face difficulties to pay for in-patient expenses, because the expenses exceed their potential ability (income-food cost). The deficiency shown in ratio II is relatively small for high income groups.

Table No. 26

Average ability of outpatient patients to pay for medical expenses per family in four hospitals in Bali.

Income Group	Average Income per house hold per month	Average Food Cost	Average Ability for Medical Treatm	Average Outpatient Expenses	Ability Ratio
(1)	(2)	(3)	(4) = (2) - (3)	(5)	(6) = (5) : (4)
40% (Low)	81,876.02	63,413.87	18,462.15	9,979.08	0.54
40% (Middle)	146,965.59	89,881.71	57,083.88	23,502.69	0.41
20% (High)	257,734.69	104,729.59	153,005.10	9,817.35*)	0.06

*) The number is low, because the sample is small.

Chart No. 26 Shows that households from all income groups can pay for outpatient services expenses because the potential ability (income - food cost) is bigger than outpatient expenses.

Chart No. 26A The average ability of inpatient patients to pay for medical expenses per family in three government hospitals in East Java and Bali (including pre-inpatient medical expenses).

Income Group	RATIO INPATIENT EXPENSES : ABILITY	
	East Java	Bali
40 % Lowest	(4.31)	(2.28)
40 % Middle	(3.06)	(1.86)
20 % highest	(0.33)	(0.25)

The summary of chart no. 26A shows that in East Java inpatient patients from low and middle income groups find it difficult to pay for medical expenses. In Bali the same can be concluded with the addition that the highest income group pay more for inpatient expenses in comparison to their potential ability (income - food cost), but the difference is relatively small.

/Comparison of the use of private cars by patients and community in Malang and Denpasar.

Data in table No 27 is based on the assumption that the use of private cars by patients and the community be used as a standard of their socio-economic level.

Table No. 27
Malang.

WHAT IS USED	RS.SAIFUL ANWAR (B)		RS PANTI WALUYO (Priv)		MALANG COMMUNITY
	OUTPATIENT (%)	INPATIENT (%)	OUTPATIENT (%)	INPATIENT (%)	
Private car	1.90	2.00	8.70	27.70	8.79

Table No. 28
Denpasar

WHAT IS USED	RS.SANGLAH (B)		RS SURYA HUSADA (Priv)		DENPASAR COMMUNITY
	OUTPATIENT (%)	INPATIENT (%)	OUTPATIENT (%)	INPATIENT (%)	
Private car	3.06	11.60	38.50	31.60	14.66

The number of patients using private vehicles was significantly higher in the Malang and Denpasar private hospitals, in comparison to those of the government hospitals.

West Sumatra

The qualification used in West Sumatra to evaluate the ability of the community to bear services cost is different from that used in East Java and Bali.

The most important data collected in West Sumatra are as follows :

1. The average expenses paid by patients :

Inpatient patients Rp. 127,033.21

Outpatient Expenses Rp. 64,660.71

2. Saving of earnings :

Saving of family earnings was lacking among the respondents of the study and there is a large proportion of the community who seldom save money :

- Inpatient patients 62.3 %

- Outpatient patients 54.9 %

- Community Members 61.6 %

From the respondents who have savings, the amount saved is between Rp. 1,000 - Rp. 25,000.

3. Opinion of respondents about hospital cost

Table No. 29

Distribution of respondents on hospital cost opinion

Option on hospital cost	Inpatient patient Groups	Outpatient patient Groups	Community Groups
Cheap	26 %	27 %	28 %
Moderate	65 %	63 %	66 %
Expensive	9 %	10 %	6 %
Number of samples	175	239	380

Table No. 29 shows that respondents of the opinion that hospital cost is expensive and is in the region of 10 % from each group, and the rest are of the opinion that hospital cost is moderate or cheap.

General conclusion.

The general conclusion made by the implementing contractor is that :

- **In general the community of Bukittinggi find it difficult to pay for health care services.**
- **The community does not have sufficient savings, because the major portion of their income is used to buy food.**
- **The study shows that most respondents feel that they can pay for medical services.**

ABILITY AND WILLINGNESS OF THE COMMUNITY TO PARTICIPATE IN HEALTH INSURANCE

Methodology to estimate insurance cost.

Calculation of insurance cost for in-patient in Bali's low income group. The data used is as follows :

- Number of Citizens 1987	: 2,697,812 persons
- Number of nursing days	: 430,376 days
- 1 x inpatient cost	: Rp 40,802
- Average length of stay (ALOS)	: 6 days
- Family income per year	: Rp 996,960
- Number of members per family	: 5 persons

From the above data the following can be calculated :

- Average length of stay
 $430,376 : 2,697,812 = 0.16$ day per person per year
 $= 0.8$ day per family per year

- Inpatient cost
 $Rp\ 40,802 : 6 = Rp\ 6,800.33$ per day per person
 $0.8 \times Rp\ 6,800,33 = Rp\ 5,440.3$ per family per year

- Percentage of inpatient cost from income
 $(Rp\ 5,440.3 : Rp\ 996,960) \times 100\ \% = 0.55\ \%$

If the above method is used to calculate the insurance cost (leaving out administration costs), "burden" can be calculated by dividing annual insurance premium by annual income (table No 30).

Bali

Table No 30.

Insurance premium for inpatient services in Bali based on ALOS of 6 days in the government hospitals surveyed.

Income Groups	Annual Income (Rp)	Annual Insurance Premium (Rp)	"BURDEN" (%)
40 % (Low)	996,960	5,440.3	0.55 %
40 % (Middle)	1,653,984	11,776.6	0.71 %
20 % (High)	2,482,536	15,253.3	0.61 %

East Java

The population of East Java (1987) is 31.815.470 persons and the number of the nursing days 2,963,262 so that the average nursing day per person per year is 0.093. ALOS in East Java is about 6 days. If those figures are used to calculate the insurance premium, then the "burden" percent is obtained by dividing annual insurance premium by annual income.

Table No 31.

Insurance premium for inpatient services in the government hospitals in East Java.

Income Groups	Annual Income (Rp)	Annual Insurance Premium (Rp)	"BURDEN" (%)
40 % (Low)	765,168	3,717.3	0.49 %
40 % (Middle)	1,313,076	7,748.8	0.59 %
20 % (High)	2,379,828	5,535.5	0.23 %

Conclusion

- It is evident that both in East Java and Bali the insurance premium for all income groups is below 1 %. This is not an heavy burden, when compared to cash payments by people who are "forced" to obtain in-patient services in a hospital during bouts of illness.

Public opinion concerning health insurance

In East Java, Bali and West Sumatra the knowledge of community members (non health insurance participants) concerning health insurance is very limited so that it is difficult to offer any conclusions on their wishes and willingness to participate in any form of health insurance.

In West Sumatra it was reported that after having received an explanation on health insurance, 56.2 % of the respondent were interested in participating in such a programme.

SUMMARY AND CONCLUSION HOSPITAL STUDY RESULTS

GENERAL DESCRIPTION OF A HOSPITAL

Location of a hospital

In West Sumatra Class B, C and Private Hospitals are located in Bukittinggi, a relatively small town. The result is an overlapping coverage of areas by these three hospitals.

Source of patients

In general the patients come from an area not far from the hospital itself, that is from the "kabupaten" itself or from a neighbouring "kabupaten". Patients frequenting class B hospitals come from a larger area when compared to that of class C and D hospitals. Patients coming from far off areas are few.

In hospitals in East Java and Bali the referral process is poorly developed, so that almost all hospitals in the survey acted as a "Puskesmas" (Public Health Centre). In West Sumatra the referral process is well structured. It can be used as a resting area for future interventions.

Frequently occurring diseases

Gastro-enteritis followed by respiratory tract infections are the two most commonly occurring diseases in all types of hospitals in the study. Infectious diseases like typhoid and tuberculosis occur next on the list. There is a high incidence of intra-cranial injuries in the three provinces.

Rabies mortality fell into the category of the ten most frequently occurring deaths in the class B (RSAM) hospital at Bukittinggi.

Capacity and Utilization of Hospitals

The average BOR in government hospitals and private hospitals is moderate, ranging from 41,3 - 79,1 % . The BOR in government hospitals of West Sumatra is lower when compared to that in East Java and Bali. The average Length of Stay (ALOS) in class B hospitals is longer than in class C, D and Private hospitals.

QUALITY OF HOSPITAL SERVICES

Facilities

Government hospitals in general have the equipment, technical ability and knowlegde to be able to provide health services according to their class. The medical equipment available in class C and D hospitals is unsophisticated.

The above sèrvices are often disrupted by :

- inadequate maintenance facilities.
- poor co-ordination of manpower and equipment.
- lack of chemical supplies and spare parts for medical equipment

The study found that the quality of management also determines the quality of services in a significant manner.

Manpower

- The manpower standard used presently needs to be re-evaluated.
- The composition of medical personnel is not optimally balanced.
- Private hospitals employ many government hospital doctors as "part-time" staff.
- All the hospitals employ honorarium-payèd staff in large numbers.

Medical records

The quality of medical records is unsatisfactory.

Patient Satisfaction.

1. It was found in East Java and Bali that the level of doctor satisfaction by patients with health insurance is lower than that of patients who did not have health insurance.
2. It was found in West Sumatra that the evaluation of the services of a hospital by the community is lower than that of the patients themselves.

ORGANISATION AND MANAGEMENT

Organisational structure

The organisational structure of government hospitals is aimed at the main function of the hospital, namely the provision of health services within reach of the community, and do not pay attention to the existence of sectors/sub-sectors needed if the hospital is to be financially independent.

In teaching hospitals the medical departments of the hospital are simultaneously the teaching wards of the faculty of medicine. The working relationship between the staff of the medical faculty and the hospital is far from being satisfactory or well co-ordinated.

In a class B hospital in Bukittinggi many structural functions are done simultaneously by one person due to lack of staff.

Compensation system

The system of compensation in government hospitals is not based on the evaluation of work performance so that it doesn't motivate personnel to work harder. The honorarium of doctors in government hospitals is less attractive compared to that existing in private hospitals.

Aims and decision making formulation process

In the regions the aims and decision making formulation process is influenced by the regional government and its regulations. In teaching hospitals this process is influenced by the medical departments of the faculty of medicine. These outside influences limit the authority of the hospital administrator. Autonomous authority is essential for the management of a financially independent organisation.

Management and quality of services

The quality of management influences the quality of services to a large extent. If government hospitals are to become financially independent organisations, their officials should possess the required qualifications and skills of financial management.

Pre-operation length of stay

The pre-operative length of stay forms a sensitive indicator on the ability of management to coordinate the services of supporting units such as laboratory, radiology, etc. The longer the pre-operative length of stay, the lower is the level of coordination.

Level of Absenteeism

All hospitals under study use a roll-call system to control their staff, but only RSIS (Private, Bukittinggi) is implementing follow-up measures.

Staff Satisfaction

It can be said that in general government hospitals, employees are satisfied with their work but less satisfied with the payment they receive. In private hospitals the employees are less satisfied with opportunities to advance their career.

Human resources productivity level

The ratio between the number of outpatient patients and the number of employees is very high in class D government hospitals as compared to hospitals of any other class.

Note.

The problem of human resources productivity is serious, due the number of employees in government hospitals being large.

HOSPITAL COST AND FINANCE

General

- The organisational structure of government hospitals follows the financial principles of a government institution and is not based on the principle that a hospital is a revenue producing unit.
- Government hospitals are financed through various sources each following their own line of administration. This complicates co-ordinated planning, management and control.
- The regulations on funds utilization are rigid, namely the remainder of a budget allocation cannot be transferred to another service experiencing a deficit, except through a long procedure and with the agreement of the Minister of Finance. This leads to complications of the optimal and synhronized utilization of funds.

Funds

- The limitation of funds is the chief cause of why bottom-up planning cannot be fully implemented.
- There is a rather strange situation that exists and that although there is a restriction on operational funds, there is a source that provides alternative development funds which can automatically be used to increase the limited available operational funds.

Regulations

- A ICW regulations compel hospitals to submit their revenues to the Government Treasury.
- Hospitals cannot accrue funds for their fluctuating operational cost.
- Hospital revenues are not used to improve the status of its employees.
- There are regulations that insist on the accountancy and financial management of hospitals be on a "cash basis", thus causing hospitals difficulty to obtain vital information needed for planning, observation, control and evaluation of the performance of hospitals, especially in the finance sector.

Human Resources

- If hospitals are to operate efficiently and independently in the finance sector, the qualification of the latter's staff should be increased in areas of managerial knowledge, experience and skill.

Hospital Revenues

- Hospitals receive funds from various separate sources. This causes difficulties in synchronous planning and the optimal utilization of funds.
- Hospital revenues resulting from health services is still relatively low.
- Insurance revenues are lower than revenues obtained from hospital services.

Utilization of Funds

- Pay and allowances of employees in government hospitals are higher when compared to those of private hospitals.
- Medical remuneration (doctor's honorarium) in private hospitals is higher than that in government hospitals.
- At present the cost for the maintenance of medical facilities is not sufficient to meet the real need of the hospitals.

Ratio between projected and actual revenues

- In government hospitals the amount of projected revenues is always lower than the actual ones. In the RSAM, class B hospital of Bukittinggi the difference is put at 56.5 percent.

Unit cost

- The efforts to calculate the unit cost faces difficulties, because the needed information is not directly available and has to be collected from various sources scattered all over the hospitals. Thus, the missing information, has to be substituted by assumptions, the accuracy of which is questionable and should be further examined. Thus the obtained resultant unit cost values can only be used in a limited fashion.
- It can be said in general that tariffs applied in hospitals are still below unit costs.
- Inpatient unit costs in class B government hospitals is often higher than that of private hospitals whereas the facilities (rooms, comfort, sanitation, ect.) in private hospitals are better compared to those of the same class in government hospitals.

Percentage distribution of in-patient component cost

Expenses for doctor's, nursing services and drugs form in general the biggest inpatient cost component in West Sumatra and in RSSH (private) in Denpasar.

In government hospitals in Bali the cost for nursing services and drugs are large but doctor costs appear to be small.

Revenues through insurance

- The ratio between revenues received through insurance and direct revenues is smaller than the ratio between insured patients and non-insured patients.

THE ABILITY OF THE COMMUNITY TO PAY FOR HEALTH SERVICES

East Java

- There is a tendency that government hospitals are used by low-income members of the community whereas private hospitals are frequently used by the high-income population.
- It is hard for the low and middle income households to pay in-patient cost whereas outpatient cost can still be overcome.
- General hospitals are mostly used by low and middle-income groups of the community.
- It is time that the social financing system be introduced to overcome inpatient cost for low and middle-income groups of the community because these groups are unable to pay cash for in-patient cost.

West Sumatra

The method of the study used in West Sumatra differs from that used in East Java and Bali, and thus the results have been put forward separately.

Nonetheless the results in general support the conclusions obtained from East Java and Bali. The conclusions in West Sumatra are :

- The community in the Bukittinggi region find it difficult to pay for health services, especially in-patient cost.
- The community does not have enough savings, because the biggest part of their income is used to buy food, without the consideration of other existing needs.
- A large part of the community considers hospital cost to be cheap or moderate.
- It is time to implement the social financing system to overcome in-patient cost which can prove to be an extensive financial burden in the future.

COMMUNITY ABILITY AND WILLINGNESS TO PARTICIPATE IN HEALTH INSURANCE

- It has been found that in East Java, Bali and West Sumatra, in-patient cost forms a burden mainly for the low and middle income community groups.

If inpatient cost is distributed among the entire population, the insurance premium to be paid by one family is estimated to be affordable.

Insurance premium for inpatient services in East Java and Bali is estimated as follows (without administration cost) :

INCOME GROUPS	PERCENTAGE FOR INCOME	
	EAST JAVA	BALI
40 % (Low)	0.49 %	0.55 %
40 % (Middle)	0.59 %	0.71 %
20 % (High)	0.23%	0.62 %

Premium amounting to less than 1 % of the income as compared to cash payment is not considered as a burden.

Conclusions from the study in West Sumatra :

- The community in the Bukittinggi region finds it hard to pay for health services especially in-patient cost.
- The community does not have enough savings, because the major portion of their income is used to buy food.
- A significant part of the community considers hospital cost to be cheap or moderate.

Both in East Java, Bali and West Sumatra, the knowledge of the community concerning health insurance is marginal, making it difficult to estimate the community's willingness to participate in any kind of health insurance.

In West Sumatra after having been informed about the concept of health insurance, an estimated 56.2 % of the respondents were attracted to participate in such a program.

INTERVENTION ALTERNATIVES

The findings put forward in this summary automatically leads to concepts on "intervention" which can be implemented to change a hospital from a health care delivery institution into a more financially independent one, namely a socio-economic institution.

The concepts put forward below are only meant to point in the direction that can be taken to achieve that aim. The implications of the proposed interventions has not been discussed.

QUALITY OF SERVICES

1. ***Facilities***

To equip hospitals with facilities and pre-facilities in accordance to the needs of each class of hospital.

2. ***Maintenance***

To improve the maintenance of the facilities. Strategic committees should be set up to plan a preventive maintenance system in hospitals.

3. ***Manpower***

To compile and determine one single manpower standard for each hospital class.

4. ***Manpower adaptation***

Based on the manpower standard there should be an adaptation, re-education, re-allocation and development of manpower.

5. ***Evaluation of quality of services***

To develop medical records, medical services and the therapy standards to enable the evaluation of medical services in accordance with each class of hospital.

6. ***Medical Records***

A uniform medical records system is to developed, and a built- in monitoring system should be introduced into this new system.

7. ***Control of the quality of services***

To implement a system to monitor and evaluate patient satisfaction.

8. ***To improve the coordination between services***

Improved coordination between services (laboratory, radiology, nursing, administration, etc.) should be encouraged, so that services as a whole will be more efficient and the pre- operative length of stay can be shortened.

9. *To carry out medical audit*

Medical audits should be carried out periodically, to help evaluate the quality of services, and to cut down on post-operative complications and nosocomial infection rates.

10. *Diversification and rationalisation of services*

Diversification and rationalisation of services are necessary to conform with existing and future demands.

HOSPITAL ORGANISATION AND MANAGEMENT

1. *Organisational structure*

This should be adjusted with the function of a hospital more as an independent organisation especially in the finance sector. The establishment of sectors and sub-sectors i.e., Public Relations, Social Marketing and Accountancy.

2. *Management autonomy*

Hospitals should be exempted from ICW regulations and other decisions. Hospital managers should be given more autonomy over hospital generated revenues.

3. *Cooperation between teaching hospitals and faculties of medicine*

At present the Function Implementation Unit (FIU) in a teaching hospital is simultaneously the laboratory of the faculty of medicine. The working relationship between the staff of the faculty and that of the hospital should be reorganized and well co-ordinated. This would help to reduce conflicts between the two groups.

4. *Authority of the hospital management*

The hospital manager must be given authority in accordance with his duty, and, responsibility in managing the hospital as a socio-economic institution. This includes the authority to :

- To decide on hospital staff
- To decide on the development of programs based on the health services needs of the community

5. *Incentive for hospital staff*

Part of the hospital revenues should be allocated as incentives for hospital staff(including doctors) and should be linked to their work performance.

6. *Control of employees*

The control process should be improved and linked to a system of sanctions and incentives.

7. *Establishment of committees*

The establishment of pharmacy, medical audit and cost containment committees that can contribute positively and constructively to the running of the hospital as a financially independent organization.

HOSPITAL COST AND FINANCE

1. *Funding of Hospitals*

To strive for a consolidated hospital cost system that is coordinated at the central level and hospital level. The coordination should cover routine funds, developmental funds and hospital costs and revenues.

2. *Hospital Budgeting*

The application of a more flexible budget system, which integrates costs and revenues, and is based on the bottom-up needs of the hospital.

3. *Regulations*

Hospital should be exempted from ICW regulations.

4. *Hospital Human Resources*

To equip hospital officials with financial and accountancy skills.

5. *Hospital Financial and Accountancy System*

To apply an accrued managerial finance and accountancy system. This system should function parallel with the existing reporting needs. In large hospitals this system should be computerized.

6. *Hospital Financial Profile*

To improve the efficiency of the use of routine and development budget funds and to tighten the control of hospital revenues received directly or through insurance.

7. *Cost Management*

- to carry out cost containment in order to decrease direct costs.
- to improve the utilization of facilities to decrease indirect cost.
- rationalisation of hospital services activities (ie., additions or, reduction of services and manpower), and the efficiency-adjustment between services and demands.

ABILITY AND WILLINGNESS OF THE COMMUNITY TO BEAR HOSPITAL COST

1. ***To popularize and implement the health insurance system***
It is necessary to set up a large campaign in this respect since the knowledge of the community about health insurance is almost non-existent.
2. ***Selective tariff adjustment***
Tariffs should be applied to selective departments, for example, the out-patient department which caters to a large clientele. All tariff increases must be accompanied by an improvement in the quality of those services.
3. ***The use of generic drugs***
A campaign should be conducted among the community as well as among doctors to popularize the use of generic drugs. Drugs form a big percentage of inpatient cost, thus the use of generic drugs can considerably lower the costs.
4. ***Social Marketing and Public Relations***
Public Relations should be added to the activities of a hospital so that its image can be improved with the community.

**SUMMARY AND CONCLUSIONS DRAWN
AT THE SEMINAR ON HOSPITALS
HELD IN BUKITTINGGI *)¹**

Problems encountered

1. Quality control of health services by hospitals is non-existent.
2. Medical records available at present in hospitals cannot be used to evaluate the quality of services.
3. Many hospital facilities do not function at optimal levels, because the maintenance and repair services available to those facilities are inadequate.
4. The attitude, behaviour and environmental situation in general hospitals cannot support the function of the hospital as a socio-economic organisational unit which emphasizes production activities.
5. The organisation and structure of general hospitals implemented at present is intended to promote their ability to render health services but at the same time do not facilitate their financial performance.
6. Hospital staff are not aware of the relationship that should exist between tariff and revenues.
7. The cash-basis accountancy system of hospitals at present is not in accordance with the development of hospitals into a socio-economic unit.
8. Government general hospitals tend to provide services to patients coming from low and middle income groups of the community.
9. Hospital management does not possess the authority necessary to manage resources efficiently.

1 *)

A hospital seminar was held in Bukittinggi from 20 to 24 August 1989. On that occasion the implementing contractors presented the findings of the study. Based on the problems they encountered, the existing problems and the steps for interventions as mentioned above have been formulated by a team led by Dr. Boedhihartono MHA, Directorate of General and Teaching Hospitals.

Agreed-on steps

1. There should be written procedures manual for medical records management and its implementation strictly enforced.
2. There should be a written standard on the need for : staff, medical services, therapy, equipment, etc.
3. Adjustments and improvements in the Decree of the Minister of Health No. 134/1978, so that the organisational structure and the management of general hospitals can support the function of a hospital as a socio-economic unit.
4. A review and adjustment should be made in the of regulations and rules which governs : the status of hospitals, the working relationship between hospital and medical faculty, financial management (ICW), incentives for hospital employees including doctors and the authority of hospital directors.
5. The implementation of an accrual accountancy system in hospitals accompanied by the appointment and improvement of the finance management staff according to system's requirements.
6. The application of a budget and cost planning system for regional general hospitals which can guarantee the integration of budget resources and the needs of service units.
7. To carry out various follow-up studies in connection with hospital tariffs, the calculation of unit cost, the standard indicators of the ability of the community to pay for hospital services, the change in the legal status of hospitals, the implementation of a social financing system, etc.
8. Enforce the use of generic drugs.
9. Organize a pilot project to test these interventions in the hospitals at Bali, East Java and West Sumatra before the same interventions are implemented in all hospitals in Indonesia. It is also proposed that the results of this pilot project be compared with pilot tests carried out in region III for development of East Indonesia.

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