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Planning for Hospital Financial
Systems Under Lembaga Swadana
No. 33
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**PLANNING FOR HOSPITAL FINANCIAL SYSTEMS
UNDER LEMBAGA SWADANA**

**No. 33
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TABLE OF CONTENTS

LIST OF ACRONYMS	iii
LIST OF FOREIGN WORDS	v
EXECUTIVE SUMMARY	vii
I. INTRODUCTION	1
II. HOSPITAL DECENTRALIZATION -- A POINT OF REFERENCE	3
A. Overview	3
B. Private Sector Involvement	3
C. Private Sector Development of Alternative Methods for the Financing and Delivery of Health Care	3
D. Lembaga Swadana	4
E. Cooperatives	4
F. Considerations which Related to Financial Systems	4
III. STATUS REPORT AND ACCOUNTING SYSTEM DEFINITION	5
A. Status	5
B. Definition of the Accounting System	5
IV. ORGANIZATION, THE CRITICAL FACTOR	7
A. The Critical Factor	7
B. Revenue Sources	7
C. How Will the Accounting Function be Performed?	8
D. Summary Thoughts	8
V. FINANCIAL SYSTEMS DEVELOPMENT PLANNING	9
A. Overview	9
B. Hospital Selection Process for Implementing the Financial Systems	9
C. Type of Implementation Team	9
D. How Many Hospitals for First-Round Implementation?	9
E. What Should First-Round Installation Include?	10
VI. GENERAL DEVELOPMENT STEPS	11
VII. PRICING CONSIDERATIONS -- GENERAL OBSERVATIONS	13
VIII. SYSTEMS INTEGRATION	15
A. Overview	15
B. Relationships	15
C. Summary Thoughts	16

LIST OF ACRONYMS

CFE	Current Fund Equity
GOI	Government of Indonesia
HMOs	Health Maintenance Organizations
HSFP	Health Sector Financing Project
IFE	Invested Fund Equity
IPA	Individual Practice Association Model
ISTI	International Science and Technology Institute Inc.
LTCs	Long-term Consultants
MIS	Management Information Systems
PIO/H	Project Implementation Office/Hospitals
PQM	Productivity and Quality Management Consultants
USAID	United States Agency for International Development
VIP	Very Important People

LIST OF FOREIGN WORDS

Kanwil	Regional level
Apotiks	Drug store
Lembaga Swadana	Term given to the process of decentralizing Indonesia's government hospital system

EXECUTIVE SUMMARY

A. Background

Under a subcontract with the International Science and Technology Institute, Inc., (ISTI) the author, a health financial specialist with Health Management Group, Ltd., has been assisting the Project Implementation Office/Hospitals (PIO/H) of the hospitals portion of the United States Agency for International Development (USAID) sponsored Health Sector Financing Project (HSFP) in Indonesia.

One of the major events of our time is the transformation of Eastern Europe and the Soviet Union from centralized economic systems to decentralized systems. We often speak of socialism and capitalism in absolute terms when in reality no real-world country has ever fit perfectly into any one of these categories. In reality, every country is a "mixed system". Nevertheless, it is clear that countries having predominantly decentralized market economies have the highest living standard. It is within this context that many countries of the world are reviewing their "mixed economies" and moving towards more decentralization.

Indonesia has made a commitment to decentralize its government hospital system. The term given to this concept is Lembaga Swadana. This concept would authorize government hospitals to retain tariffs for operational and maintenance purposes and not submit them to the exchequer as they are presently required to do. Other government regulations would be relaxed allowing hospital administrators to use more effective management practices to run their hospitals.

B. Private Sector Decentralization Strategies

Private sector involvement could be an important decentralization strategy for the Government of Indonesia (GOI). With a growing and aging population the government by itself will be hard pressed to provide for future hospitals and equipment requirements. Participation by private firms could reduce the anticipated government capital shortfall.

Another government strategy for decentralization would be to encourage private sector development of alternative methods for the financing and delivery of health care. These methods would include managed health care systems, Health Maintenance Organizations (HMOs) and other schemes, as well as indemnity or private insurance. This strategy would help to ensure that Indonesia would derive the benefits of a competitive and pluralistic system of health care.

To be on an equal footing when negotiating with the private sector, the Ministry of Health (MOH) should have at its disposal financial information that only a modern accounting system can provide.

C. MOH Decentralization Strategy – Lembaga Swadana

Lembaga Swadana is the cornerstone of the government strategy to decentralize its public hospitals. It will completely change the nature of financial and management information needs. Lembaga Swadana is the catalyst behind the development of a double entry accrual accounting system.

D. Infrastructure

Lembaga Swadana, in order to function effectively, must be supported by a proper foundation or infrastructure. The infrastructure has not yet been built and therefore cannot support Lembaga Swadana. The infrastructure for our purpose can be described as having four legs; organization, expertise, social financing and systems.

Organizational changes at every level -- hospital, provincial/Kanwil, MOH -- are necessary in order to provide the first leg of the infrastructure. At the hospital level, organizational changes will mostly be in the

form of role changes. The roles, responsibility and authority of managers and supervisors will be different under Lembaga Swadana. Performance and financial results will become the measures of success.

At the level above hospitals, a different type of organizational structure will be needed. The hospital director will need to report to a higher authority in order to be held accountable for the performance of his hospital on a continuing basis. At present this type of organizational structure does not exist.

Another organizational issue relates to smaller class C and D hospitals. It may not be cost effective for each hospital to provide staff for its own accounting department. One way to solve the problem would be to change the organization. An accounting/data processing center would be established at a provincial or regional-level (Kanwil) to perform the data processing function for all MOH hospitals within its geographical area. (Parenthetically, in earlier Health Management Group consultancies related to this project, Dr. Paul Zukin and the present consultant noted the importance of better relating the primary health care system to hospitals. While this topic is not the focus of the present endeavor, its importance is not to be underestimated.)

A final issue relates to the use of sources of revenue. At present, each revenue or subsidy received from the government must be segregated and can only be spent for specific items. This means that a critical piece of medical equipment could be out of service for lack of maintenance funds while a surplus may exist in another fund. In order for Lembaga Swadana to work, the regulation governing the segregation of revenues must be set aside. The medical director must be able to use the various revenue sources without restriction in order to manage his hospital efficiently. Further, without the freedom to use revenue sources efficiently, there would be little need of installing a double entry accrual accounting system.

Expertise is the second leg of the infrastructure which must be built in order to support Lembaga Swadana. A much higher level of expertise, particularly in the areas of management and finance, will be needed. The success of hospital operations will be measured according to how well it performs. Each supervisor or manager will be held accountable for his performance, whatever measures of performance are used – e.g., cost-effectiveness, outcomes of care, patient satisfaction, etc. Cost will become an important measure of how well hospital resources are being utilized.

A new, and as yet undefined area of expertise will be needed. This new area can be described as marketing expertise. Under Lembaga Swadana, hospitals will have an incentive to increase tariffs. Pricing strategies will need to be developed. Perhaps even social financing schemes will be initiated by hospitals in the form of prepayment arrangements with local companies or groups.

Whatever form this marketing effort takes will require a new area of marketing expertise that does not now exist. Where this expertise should reside -- at the hospital, regional/Kanwil or MOH level -- is a question that needs to be addressed. It appears unreasonable to expect hospital administrators to develop this type of specialized expertise on their own.

Social financing is the third leg of the infrastructure. In order for hospitals to carry out their function as providers of health care, a strong social financing system will be needed. Social financing will play a pivotal role in financing quality care and making it accessible to those people who cannot afford to pay for hospital services.

A strong relationship exists between the unit costs which are being developed for hospital use and premiums or pricing strategies to be developed for social financing purposes. Both unit costs and pricing strategies will be derived from the accounting system now being developed. For this reason, hospitals and social financing systems should work closely together to develop an accounting system that will meet both of their needs.

Information systems is the fourth leg. Lembaga Swadana will generate the need for information that does not now exist. Financial information will be particularly important. Unit costs will be needed to measure the performance of each department in the hospital. A double entry accrual accounting system is now being developed to provide the accounting and cost information that the hospitals will require.

Other information systems will be needed. Hospital statistics such as patient days, doctor office visits, average length of stay, imaging and lab procedures, etc., are needed in order to calculate unit costs. Medical records and other medical systems will need upgrading in order to measure the quality of care that is provided.

The output of the various information systems should be combined in various ways to form management reports. For instance, it would be misleading to report hospital unit costs by themselves. They should always be related to measurements of quality of care and accessibility of care. By this type of reporting, a decrease in unit costs would not be achieved by lowering quality and accessibility of medical care.

E. Summary

The Government of Indonesia has made a decision to decentralize its hospitals. Lembaga Swadana is the term that has been given to this process. A great amount of preparation will be necessary to develop an infrastructure before Lembaga Swadana can become a reality. The organization itself, at every level, will require fundamental changes. New skills, expertise and knowledge will be needed in order to successfully manage and operate a public hospital system in a Lembaga Swadana environment. Social financing and the hospital project should be more closely coordinated. A double entry accrual accounting system is now under development in preparation for early implementation. It is important that the organization be changed, and expertise and social financing developed prior to the time the accounting system is implemented. The accounting system should be designed to support the new organization. Until people have been trained to use the information that will be generated by the new accounting system, there will be little need for that system. This change in emphasis will require a change in priorities.

Note: A few days prior to the consultant's departure, meetings were held that addressed the concerns in this report. It is anticipated that the subject priority changes will be made.

I. INTRODUCTION

The scope of work for the PIO/Hospitals's consultant was as follows:

- For August 1 to 30, 1990:
 - Evaluate and/or modify accounting and budgeting process existing in selected hospitals during pre-implementation phase;
 - Evaluate contractor models of the financial systems installed in selected hospitals and if necessary, draw up a parallel system for the pilot implementation;
 - Offer advice on the Management Information Systems (MIS) for financial data;
 - Analyze and draw up inferences from data generated by the new system;
 - Assist LTCs in the interpretation of financial data for managerial purposes;
 - Help in strategic planning and risk analysis for the implementation phase; and
 - Submit a temporary report at the time of departure and final version within five (working) days of leaving the country.

This report responds to the scope of work and evaluates the accounting, budget and ability to pay systems now being developed by Productivity and Quality Management Consultants (PQM). No models of financial systems had been installed in selected hospitals during the period of this consultancy although such models were largely developed and discussed, critiqued in depth by the consultant, and were accepted in general by senior hospital personnel of the MOH at a seminar held in August 1990. In addition, the report covers policy analysis and implication of the financial data to be generated along with help in strategic planning and risk analysis of the intervention phases.

The report begins by establishing a point of reference, the need to decentralize MOH hospitals, which is the catalyst driving the development of a modern management information system.

The next subject is a brief status report followed by a definition of the accounting system being designed.

Next, emphasis is given to the organizational changes that will likely be needed to accommodate Lembaga Swadana. This is followed by a discussion of system development planning. Important issues are identified and development steps are listed.

A brief section on pricing considerations follows with some ideas on how this subject can be addressed once unit costs are developed.

The final section shows how financial systems relate to other components of the Health Sector Financing Projects, particularly social financing, quality of care and hospital information systems.

II. HOSPITAL DECENTRALIZATION – A POINT OF REFERENCE

A. Overview

One of the most important happenings of our time is the rapid transformation of Eastern Europe and the Soviet Union from centralized command economic systems to decentralized market economic systems. The fact that countries which have decentralized market economies develop strong economies and high living standards has become an irresistible attraction for those people living in countries having centralized command type economies.

We often speak of socialism and capitalism in absolute terms when in reality no real-world country has ever fit perfectly into any one of these categories. In reality, every country is a "mixed system". Nevertheless, it has become abundantly clear that countries having predominantly decentralized market economies have the most powerful economies and the highest living standards. It is within this context that countries the world over are reviewing their "mixed economies". Many are taking steps to move towards decentralization as a means to strengthen their economies and provide a more abundant life for their people.

B. Private Sector Involvement

Private sector involvement as part of the Indonesian Government strategy for decentralization can have important benefits as follows:

- An infusion of capital investment from the private sector by the sale of government assets and/or the provision of new facilities and equipment. This may be particularly important in the not too distant future. With a growing and aging population a substantial amount of capital investment will be necessary for additional hospitals and equipment. The government may be hard pressed to generate these funds by itself and will need private sector participation;
- Fewer government employees would reduce payroll costs and pension liability;
- Introduction of new and improved technology and expertise; and
- An addition to the tax base resulting in higher tax receipts.

C. Private Sector Development of Alternative Methods for the Financing and Delivery of Health Care

It is unlikely that there is a single best system for providing health care to a nation as large and diverse as Indonesia. It is therefore less risky for the government to encourage private sector development of alternative risk sharing delivery systems including:

- Managed prepaid health care organizations commonly referred to as Health Maintenance Organizations (HMOs). There are four classic models:
 - Staff Model;
 - Group Model;
 - Network Model;
 - Individual Practice Association Model (IPA);
- Cooperative based schemes;
- Community based schemes;

- Employee based schemes; and
- Private Insurance, also called "indemnity" health insurance.

Under competitive conditions the market could then do what it does best, sort out the winners from the losers. Under these conditions, costs would be reduced and quality improved.

The people of Indonesia will be well served by having a competitive health care environment -- a pluralistic system -- rather than gambling on a single delivery system which would serve the total needs of this vast nation.

D. Lembaga Swadana

Lembaga Swadana was recently formulated by the Ministry of Finance and discussed by the MOH in its 1990 Workshop. According to this concept, Lembaga Swadana would authorize government hospitals to utilize revenues (tariffs) directly for operational and maintenance purposes and not submit them to the exchequer as they are now required to do. Other government regulations would also be relaxed allowing hospitals to govern their own affairs according to sound management practices.

E. Cooperatives

For a number of years a few hospitals have been utilizing hospital-related cooperatives for a limited number of applications. This is of particular interest because cooperatives and Lembaga Swadana, except for ownership, share many of the characteristics; for example, they can retain their revenues and govern the enterprise according to modern management practices. The following are examples of cooperatives which are currently active.

Apotiks (drug stores) located in hospitals which operate 24 hours per day carry a full line of drugs which are purchased from private vendors.

The health program utilized by MRI Imaging Co., is a novel application of a cooperative. An outside investment group retains ownership and calculates the tariffs which are approved by the government. The surplus (profit) will be shared by the investor group, cooperative and the government.

Two Very Important People (VIP) wards were financed by bank loans.

F. Considerations which Related to Financial Systems

Private for-profit firms are likely to have a somewhat different view than the MOH as to what makes private sector options attractive. Businesses want their risks indemnified, their development costs subsidized, and they want a share of the savings. A careful project appraisal from the government's point of view will be needed to ascertain whether or not private sector involvement will yield significant savings and/or other benefits once all these costs are calculated.

In order to be on an equal footing when negotiating with the private sector, the MOH must have financial information that only a modern accounting system can provide.

Lembaga Swadana will completely change the nature of financial and management information that will be needed in managing government hospitals. Moving from a regulated hospital environment to one that rewards personal initiative will require performance and financial information that only a modern accounting system can provide.

The next section is a status report and a description of the type of double entry accrual accounting system being developed.

III. STATUS REPORT AND ACCOUNTING SYSTEM DEFINITION

A. Status

The terms of the PQM contracts covering the accounting and budgeting systems were reviewed with the consultant. Several milestones in the contract, including presentations and preliminary reporting have been met. It appears PQM is progressing according to schedule and should submit the final report on time, by the end of September 1990.

In general, the contracts specify that the PQM will document the existing systems, provide a structure for the proposed systems, train personnel for a trial run, evaluate the trial run and present a final draft and final report. In addition, PQM has been asked to present examples of the system's output.

It should be noted that the system design will be only conceptual in nature and will not be a tested model ready for implementation.

B. Definition of the Accounting System

At this point, it may be helpful for the reader to be aware of the nature of the accounting system being developed. The system is referred to as a double entry accrual accounting system. The terms "double entry" and "accrual" have rather precise meanings as follows:

1. Double Entry

This term is based on the fundamental accounting equation:

$$\begin{array}{l} \text{Assets (A)} \quad = \quad \text{Liabilities (L) + Equity (E)} \\ \text{Assets} \quad = \quad \text{Liabilities} \quad + \quad \text{Current Fund Equity (CFE)} \quad + \quad \text{Invested Fund Equity (IFE)} \end{array}$$

The double entry system takes its name from the fact that every transaction, equal debit and credit entries are made. Thus, to the fundamental accounting equation, we add another equality:

$$\text{Debits} = \text{Credits}$$

The self-balancing nature of these two basic accounting equations ensures that errors such as unbalanced entries, transposition or other errors will be detected during the accounting cycle. It also offers the assurance that once an accounting entry is made, it will not be simply overlooked because each account becomes an essential link in the overall system of accounts.

2. Accrual

A simple but fundamental idea of modern accounting is the accrual concept and particularly the emphasis on expense measurement. Essentially the expense focus means that accounting should measure the cost of resources consumed. Resources are recorded when used rather than when payment is made.

This principle is the foundation of a unit cost system which is the ability to match resource usage with its corresponding cost. Also, an accrual accounting system allows revenues and expenses to be matched according to when they occur. This enables the organization to make cash flow projections to ensure that financial resources are available when they are needed.

IV. ORGANIZATION, THE CRITICAL FACTOR

A. The Critical Factor

At present, an accounting and budget system is being developed in preparation for early implementation. The ultimate success of these financial systems will primarily rest on one factor, whether or not they will be used. To be used, the systems must satisfy the information, operational, financial etc., needs of the organization for which they are being designed -- Lembaga Swadana.

Lembaga Swadana will affect both the hospital and government organization as follows:

1. Hospital Organization

A double entry accrual type accounting system requires a higher level accounting staff than most hospitals have now. An effort should be made to recruit graduate accountants and upgrade existing staff by implementing training and education programs. The accounting or finance manager should become a key player in the management organization.

The hospital director should also undergo training and education. His management role must significantly change under Lembaga Swadana. Financial skills must be developed in order for him to function where performance becomes the measure of success.

The remaining leadership of the organization, including everyone holding a supervisory position, must be indoctrinated with the notion that Lembaga Swadana will be a watershed event. Only those who can adapt to a performance based system will prosper and progress.

2. Government Organization

Lembaga Swadana will not only cause change at the hospital organizational-level but local, provincial and MOH levels as well.

Questions to be answered prior to the implementation of an effective modern financial system include: "Who is in charge?" "Who will the hospital report to?" and "Who will hold the hospital director accountable for performance?" Some higher authority must consistently and routinely receive summarized financial management information from each hospital under its jurisdiction in order to evaluate performance. Without accountability and a reporting relationship between a hospital and a higher authority, the best financial system will fail for lack of attention.

At present, it is not clear how the higher supervisory-level staff of organizations will be structured and function.

B. Revenue Sources

Currently, there are several sources of government revenues (subsidies) which flow to a hospital. The present cash basis accounting system records the revenue and then accounts for how each revenue source is spent. By regulation, each revenue can only be spent for specific items and the revenues can not be co-mingled. This means that a critical piece of medical equipment could be out of service for lack of maintenance funds while a surplus existed in another fund.

Under Lembaga Swadana, this type of restrictive accounting would be discontinued. A hospital may still have several sources of revenue but there will be no need to account separately for how each revenue source is spent. In other words, the revenue sources would flow into one "pot". It would be left to the discretion of the hospital director of how the co-mingled funds would be spent. He would be held accountable for the use of the co-mingled funds according to how well the hospital was meeting its performance standards and guidelines.

The present plan is to run the present and new accounting systems parallel for several years. It may take several years to set aside those regulations which require the segregation of revenue sources. If this proves to be the case, the management of hospitals will be severely limited. Without being able to co-mingle revenue sources, the hospital director can not be held accountable for the performance of his hospital.

C. How Will the Accounting Function be Performed?

For most hospitals, Class B and larger, it may be cost effective to have their own accounting staff. For the smaller C and D hospitals it may not be cost effective for each hospital to staff its own accounting department. The question then arises, how will the accounting function be accomplished? One alternative would be for an accounting/data processing center to be set up at a provincial or regional level (Kanwil) to perform the accounting function of all public hospitals within a particular geographical area. Here again, the organizational structure should be defined.

D. Summary Thoughts

Accounting and budget systems are being developed to serve the needs of Lembaga Swadana without knowing what form the Lembaga Swadana organization will take and when it will be established. The usual approach for installing information systems is to do so after user needs and the organizational structure and function are known. Also, a concentrated training and indoctrination program should be undertaken to prepare all employees regarding the challenges and advantages of the new systems. Designing and implementing new information systems is less risky when a more traditional approach is followed.

V. FINANCIAL SYSTEMS DEVELOPMENT PLANNING

A. Overview

By the end of September 1990, the final accounting and budget systems reports for public hospitals are to be submitted by PQM to the MOH. By that time the conceptual systems would have been tested at two hospital locations and procedures and guidelines would have been developed. Also, examples of the expected outputs will be presented.

B. Hospital Selection Process for Implementing the Financial Systems

After evaluation of the reports is completed the hospital implementation selection process should proceed and include the following considerations:

- The accounting staff should have sufficient training and expertise to be able to install and operate a modern accounting and budget system. The accounting manager should be a capable accountant and have an enthusiastic attitude;
- The hospital chosen should have a real need for a modern financial system. This would probably narrow the search to hospitals having cooperatives or other special needs. This would be particularly important if the Lembaga Swadana organization had not been established; and
- The hospital director should possess some special qualities. First, he should possess financial competence and understand the magnitude of the undertaking. He should be prepared to give his financial manager the support he will need, both in the short-term and on a continuing basis. Once the system is installed he should be prepared to use it, requiring monthly, quarterly and annual reports on a timely basis. He must be prepared to hold his staff accountable for performance as measured by the new financial system. This means a top to bottom ongoing education program that clearly illustrates how the new system will function and affect an employee's job and profession.

C. Type of Implementation Team

Another consideration is what type of team there should be to guide and assist the chosen hospitals to implement the new systems. Since the accounting system being installed is complex and will require additional development, a trained accountant with hospital experience should supervise the installation.

Systems implementation will be an ongoing process. After all hospitals have implemented the system, which may take several years, the systems will probably need to be enlarged and upgraded. This will most likely require a conversion to computers. Changing, upgrading and expansion will be a never ending process. The ideal situation would be to form a MOH implementation team at the outset in order to develop in-house expertise in financial systems. A less desirable method would be for outside contractors to handle installation. This latter method should be considered a temporary measure because of the ongoing need to have in-house financial system capability.

D. How Many Hospitals for First-Round Implementation?

The question now arises, how many hospitals should be chosen to participate in first-round implementation? Obviously, this depends to some extent on the number of trained hospital accountants that are available and the amount of administrative and financial support that the government is willing to commit to the project.

A natural tendency is to move quickly to get the job done, perhaps 15-20 installations during the first-round. The consultant believes this should be avoided for several reasons:

- It is important not to lose sight of the fact that the PQM project will produce a "conceptual" accounting system and not a system ready to implement;
- As discussed earlier, it would probably be difficult to identify 15-20 hospitals which are currently suitable for implementation; and
- It would require an extraordinary commitment in terms of money and manpower to conduct a first round implementation of 15-20 hospitals with an unproven system.

Far less risky would be the first-round implementation of no more than three carefully selected hospitals. Even this would be a formidable task. With an untested system there would be many corrections and changes to be made. The systems would have to be closely supervised and tested over a number of monthly accounting cycles before becoming operational. However, once the systems became operational they could be readily duplicated at other hospitals.

E. What Should First-Round Installation Include?

One final consideration is what the first-round system installation should include? Should it stop with the accounting and budget system or should it extend further?

MOH officials repeatedly have emphasized the need for unit cost information. Although a double entry accrual accounting system provides a foundation from which unit costs can be derived, another step is necessary in order to produce unit costs on a timely and routine basis. This is to develop a method of allocating indirect costs to revenue producing centers ("step down method"). It is therefore proposed that this next step be taken to produce unit costs as part of the first-round implementation package. The first-round package would then include:

- Double entry accrual accounting system;
- Budget system; and
- Cost accounting (step down) system.

VI. GENERAL DEVELOPMENT STEPS

Assuming a decision is made for first-round implementation of three hospitals the following general steps are suggested as a reasonable schedule to follow. Of course, the preparation of a much more detailed schedule will be necessary to plan for the actual implementation.

<u>Step</u>	<u>Description</u>	<u>Outputs</u>
1.	Develop operational cost allocation model.	Unit costs and per diem costs.
2.	Form implementation team.	Teams formed should be comprised of experienced MOH accountants.
3.	Further develop and implement accounting, budget and unit cost systems in three carefully selected hospitals.	Budget vs. actual expense comparisons, balance sheet, income statement, receivable and accounts payable statements, source and application of funds, unit costs, per diem costs, tariff and insurance premium calculations and many more applications as needed.
4.	Implement in other MOH hospital.	Operational financial systems that are reproducible at other hospitals.
5.	Payroll System	Employee time distribution that distinguishes between hours paid and hours worked.
6.	Develop marginal cost, present value and cost-benefit expertise.	Sophisticated pricing/tariff strategies and a wide range of financial analysis and studies.

Beginning with step three, the major benefits of a financial system will become a reality. Steps one to three may take several years to fully implement. It is likely that upon, or prior to, completion of the implementation phase, growth in demand will justify the conversion from a manual to computer system. Improving and expanding applications will be a never ending process. This is why step two, formation of an MOH implementation team, is important. Accounting and information systems require great expertise which should be developed in-house from the beginning.

Step five would improve the accuracy and usefulness of unit costs as a productivity and performance measure. A new payroll system would measure actual hours worked which would become the denominator for calculating costs.

A discussion of step six is beyond the scope of this project. Suffice it to say that development of this expertise is the natural outgrowth of having a financial system. This expertise will become a valuable and indispensable service as decentralization progresses.

VII. PRICING CONSIDERATIONS – GENERAL OBSERVATIONS

A discussion of pricing at this point is premature. However, since this is currently a popular subject, a few comments may be appropriate.

At present, it is difficult to talk about pricing because the foundation of any pricing scheme rests on unit costs. It is impossible to rationally price goods or services without first knowing its cost.

Another current popular subject is, "ability and willingness to pay" for health care services. There are limited funds available for conducting health care studies. It is the consultant's opinion that conducting ability and willingness to pay for studies in Indonesia will result in less than fruitful results. The money for such studies could be put to better use.

The following is a less expensive and straight-forward method for developing pricing strategies:

- Receive from MOH a clear policy on pricing with specific objectives. For instance, is it the objective of the government to maximize revenue, maximize utilization, maximize access to care, capture market share or a combination of these factors?
- Develop unit costs for each service where a price is needed;
- Determine marginal costs for each revenue/cost center differentiating between fixed and variable costs;
- Determine what non-governmental hospitals are charging for similar services;
- When the above have been accomplished, devise a pricing strategy for a trial run;
- After a trial run, allow the market in the local area to tell us whether the pricing strategy was appropriate; and
- Adjust pricing according to market conditions and the pricing strategy to be followed.

This method has the advantage of being based on solid factors: government policy, fully allocated costs, marginal cost considerations and the market. This would eliminate the need for depending on surveys and studies which have questionable value.

Again, the above discussion is premature since unit costs are lacking. However, pricing strategy has a high priority. It would be a good idea to develop pricing expertise and unit costs concurrently in order that pricing strategies can be established at the earliest possible time.

VIII. SYSTEMS INTEGRATION

A. Overview

At present, the following systems/projects/activities in relation to government hospitals are being developed or are underway:

- Medical Records;
- Hospital Information System;
- Accounting System;
- Budget System;
- Ability and Willingness to Pay;
- Hospital Standards;
- Pharmacy Standards;
- Hospital Organization; and
- Formulation of New Hospital Legislation and Regulation.

B. Relationships

The focus of this report is the accounting and budget systems. These two systems are directly and indirectly related and dependent on the seven other hospital-related endeavors. Conversely, these seven other endeavors are directly or indirectly dependent on the accounting and budget system. As a result of these relationships, the success of the accounting and budget systems will depend on how well they are integrated with the other endeavors. In previous sections of the report, ability and willingness to pay, hospital organization, and formulation of new hospital legislation and regulation were discussed as they related to integration with the financial system. The following is a discussion of other relationships.

1. Financial System – Quality of Care

Quality of care encompasses several subjects: medical records; hospital standards and pharmacy standards; use of resources; effectiveness and outcomes of care; patient satisfaction; etc.

It is not appropriate to report financial or cost information without relating it to quality of care and to make value judgements therefrom. For instance, it would be possible for a hospital to achieve lower unit costs by reducing quality of care. Therefore, unit costs and quality of care should always be related so that at least a minimal acceptable quality of care (level to be defined in advance) is achieved with an acceptable level of resources used.

2. Financial System – Hospital Information System

One of the outputs of a hospital information system is performance equated in terms of some unit of measure such as:

- Number of patient days;
- Number of doctor office visits;

- Number of prescriptions;
- Bed occupancy rate;
- Number of operations;
- Number of employees;
- Average length of stay; and
- Others.

Unit costs are a combination both of financial and hospital information systems. The unit cost system usually provides the numerator and the hospital information system the denominator as shown in the example below.

$$\frac{\text{Nursing Costs}}{\text{Patient Days}} = \text{Unit Cost}$$

3. Financial Systems – Social Financing

In order for hospitals to carry out their function as providers of health care a strong social financing system will be needed. Social financing will play a pivotal role in financing quality care and making it accessible to those people who cannot afford to pay for hospital services.

A strong relationship exists between the unit costs which are being developed for hospital use and premiums or pricing strategies to be developed for social financing purposes. Both unit costs and pricing strategies will be derived from the accounting system now being developed. For this reason, hospital and social financing task forces should work closely together to develop an accounting system that will satisfy both of their needs.

C. Summary Thoughts

All systems -- financial, hospital information, quality of care, and others -- comprise what is commonly referred to collectively as a "Management Information System" or MIS. They are all related. The output of one system component may become the input for another or may be combined to calculate unit costs or other reports.

The objective of MIS is to produce "management reports". Management reports are designed to meet the information needs of the user. For instance, the nursing director and the medical director of a hospital and the Directorate General of Medical Care should receive management reports designed specifically for their individual use.